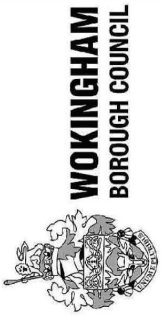
# Standard Drawings

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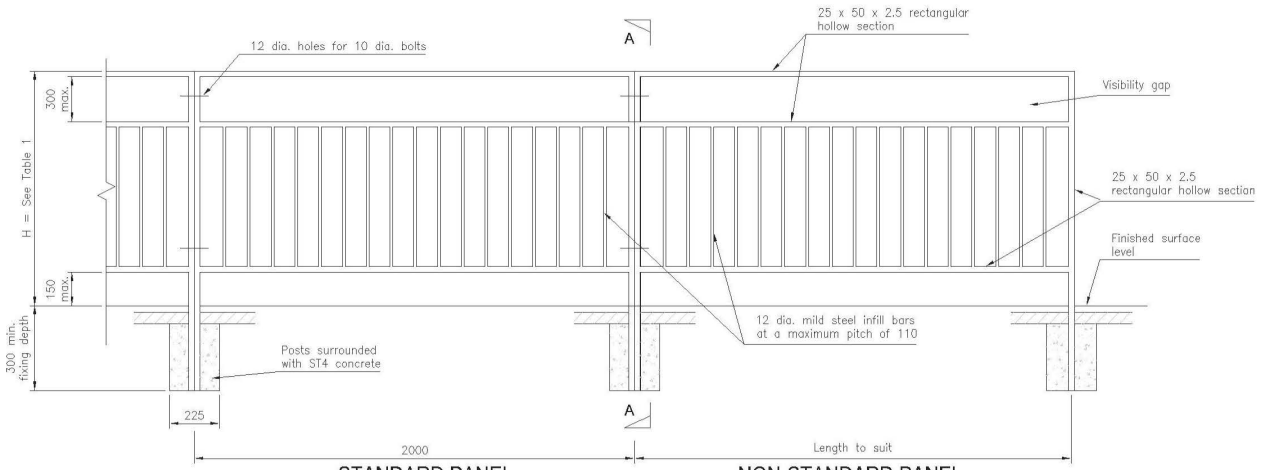
# SCHEDULE OF STANDARD DRAWINGS

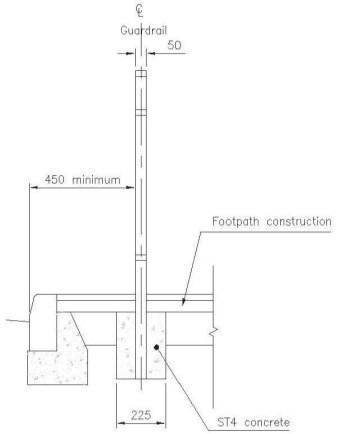
1. These Standard Drawings are copyright of the Engineer and may not be changed in any way without prior approval.
2. The Standard Drawings shall be read in conjunction with Design Guide and all relevant current Codes of Practice.
3. The appropriate details must be selected and have the approval of the Engineer before inclusion in the contract documents.
4. All non-standard details must be approved.

| DRAWING No. | DRAWING TITLE | ISSUE |
|---|---|---|
| **FENCING** | | |
| WSD/400/1 | Pedestrian Restraint System | JULY 2007 |
| WSD/400/2 | Tubular Guardrailing | JULY 2007 |
| WSD/400/3 | General Arrangement of Vista Rail | JULY 2007 |
| **DRAINAGE AND SERVICE DUCTS** | | |
| WSD/500/1 | Pipes Under Paved Areas | JULY 2007 |
| WSD/500/2 | Pipes and Filter Drains Under Verges | JULY 2007 |
| WSD/500/3 | Service Ducts | JULY 2007 |
| WSD/500/4 | Road and Footpath Gully Details | JULY 2007 |
| WSD/500/5 | Catchpit Type 1 Precast Concrete Construction Cover to sump 1.2m –3.0m | JULY 2007 |
| WSD/500/6 | Catchpit Type 2 Precast Concrete Construction Cover to sump 3.0m –5.0m | JULY 2007 |
| WSD/500/7 | Catchpit Type 3 Brickwork Construction Cover to sump up to 1.2m | JULY 2007 |
| WSD/500/8 | Soakaway – Precast Concrete Construction | JULY 2007 |
| WSD/500/9 | Lined Ditches and Outfalls | JULY 2007 |
| WSD/500/10 | Headwall Type 1 Brick – Upstream of Pipe | JULY 2007 |
| WSD/500/11 | Headwall Type 2 Brick – Downstream of Pipe | JULY 2007 |
| WSD/500/12 | Headwall Type 3 – Bagwalling | JULY 2007 |
| WSD/500/13 | Jointing Chambers for Traffic Signal and Street Lighting Cables | JULY 2007 |
| **CARRIAGEWAY CONSTRUCTION** | | |
| WSD/900/1 | Minor Access Roads, Accessways, Mews and Housing Squares | JULY 2007 |
| WSD/900/2 | Major Access Roads and Intermediate Access Roads (Less than 250 commercial vehicles per day | JULY 2007 |
| WSD/900/3 | Carriageway Haunching | JULY 2007 |
| WSD/900/4 | Lyout of chicane with buildouts and central islands | JULY 2007 |
| WSD/900/5 | Ronafix pavement construction | JULY 2007 |

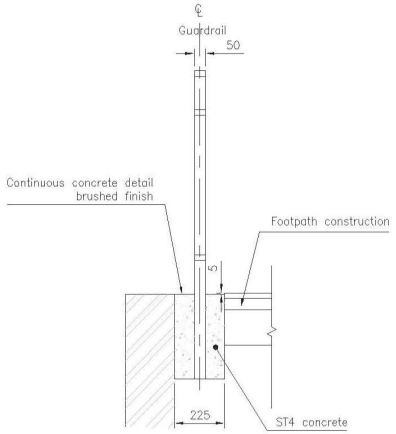
| DRAWING No. | DRAWING TITLE | ISSUE |
|---|---|---|
| **KERBS, FOOTWAYS AND PAVED AREAS** | | |
| WSD/1100/1 | Kerbs and Channels | JULY 2007 |
| WSD/1100/2 | Vehicular and Pedestrian Crossovers | JULY 2007 |
| WSD/1100/3 | Cycleways and Shared Facilities | JULY 2007 |
| WSD/1100/4 | Concrete Paviors and Flags and Signal Controlled Crossing Points | JULY 2007 |
| WSD/1100/5 | Traffic Islands | JULY 2007 |
| WSD/1100/6 | Roundabout Central Island – Hard Landscaping | JULY 2007 |
| WSD/1100/7 | Lay-by – Concrete and Block Paving Construction | JULY 2007 |
| WSD/1100/8 | Steps and Ramps | JULY 2007 |
| WSD/1100/9 | Road Hump – Flexible Construction | JULY 2007 |
| WSD/1100/10 | Road Hump – Block Paving Construction | JULY 2007 |
| WSD/1100/11 | Gateway to Shared Access | JULY 2007 |
| WSD/1100/12 | Speed Control Feature | JULY 2007 |
| WSD/1100/13 | Footways, Cycleways and Verges | JULY 2007 |
| WSD/1100/14 | Installation of Bollard base | JULY 2007 |
| WSD/1100/15 | Speed Cushion Detail | JULY 2007 |
| WSD/1100/16 | Footway/Cycleway Extension | JULY 2007 |
| **TRAFFIC SIGNS** | | |
| WSD/1200/1 | Traffic Signs Foundation Details | JULY 2007 |
| WSD/1200/2 | Traffic Signs, School Warning signs Removed | JULY 2007 |
| WSD/1200/3 | Typical Junction Layout | JULY 2007 |
| WSD/1200/4 | | |
| **ROAD LIGHTING** | | |
| WSD/1300/1 | Column and Feeder Foundation Details, Cabling and Jointing | JULY 2007 |
| WSD/1300/2 | Illuminated Bollard Foundation Details | JULY 2007 |
| **ELECTRICAL WORKS** | | |
| WSD/1400/1 | Typical Column/sign Wiring Details | JULY 2007 |
| WSD/1400/2 | Termination Types – Type A, B, C, and D | JULY 2007 |
| WSD/1400/3 | Termination Types – Type E, F, G, and H | JULY 2007 |




STANDARD PANEL NON-STANDARD PANEL




SECTION A-A




SECTION A-A
Guardrail across ditch headwall

TABLE 1 Minimum height of pedestrian restraint
(See Notes 4&5)

| USE | HEIGHT 'H' mm |
|---|---|
| Pedestrian | 1000 |
| Cyclist | 1000 |
| Equestrian | 1800 |

Drawing Number
# WSD/400/1

Notes

1. All dimensions in millimetres.
2. Guardrail design and siting shall comply with BS 7818:1995.
3. Type, style and Class of barrier will vary with location and use. Class 2 is minimum standard permissible. In some circumstances railings providing enhanced visibility will be required, ref WSD400/3.
4. Height of barrier will vary with location.
5. Use of pedestrian restraint systems on bridges must be approved by the Engineer.
6. All guardrails shall have a hot dip galvanised finish to BS 729 1995. Where coloured railings are specified they shall be plastic coated – Painting is not permitted.
7. All bolts, nuts and washers shall be stainless steel.
8. The guardrail shall be erected according to the manufacturers instructions.
9. The guardrail shall be fabricated to suit the layout and levels and be erected true to line and level throughout its length.
10. For all changes of direction of guardrails and for radii less than 30m the intermediate panels shall be specially fabricated.
11. Panels must be tilted for gradients up to 1:6. For steeper gradients the panels must be stepped.
12. Where brickwork or blockwork thickness is in excess of 225 the panels may be incorporated into the construction or grouted into suitably prepared holes. Details must be submitted for approval.
13. Visibility railings are to be used on the approaches to junctions and at crossing locations. Length of panels will vary due to site conditions.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDAYED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
PEDESTRIAN RESTRAINT SYSTEM

Drawing No.
WSD/400/1

Revision
A B

Scale NOT TO SCALE
Date JAN 04
Drawn MS
Checked MP Ltd
Approved CF



H:Standards Details/WSD/4001

Drawing Number
WSD/400/2

Notes

1. All dimensions in millimetres unless stated otherwise.
2. Guard railing design and siting to BS 7818:1995
3. Tubing to be steel complying with BS 1387:1995.
4. Fittings to be purpose made of malleable iron or aluminium with case hardened screw fitting tightened with a hexagonal key.
5. Railings to be galvanised or powder coated, they may be painted white only with the prior approval of the Engineer.
6. Minimum setback from the carriageway shall be 450mm. Siting of guardrailing to be agreed with the Engineer prior to works commencing.

Do not scale this drawing

| Rev. | Date | | Checked |
|---|---|---|---|
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Client
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Project
STANDARD DRAWINGS

Title
TUBULAR GUARDRAILING

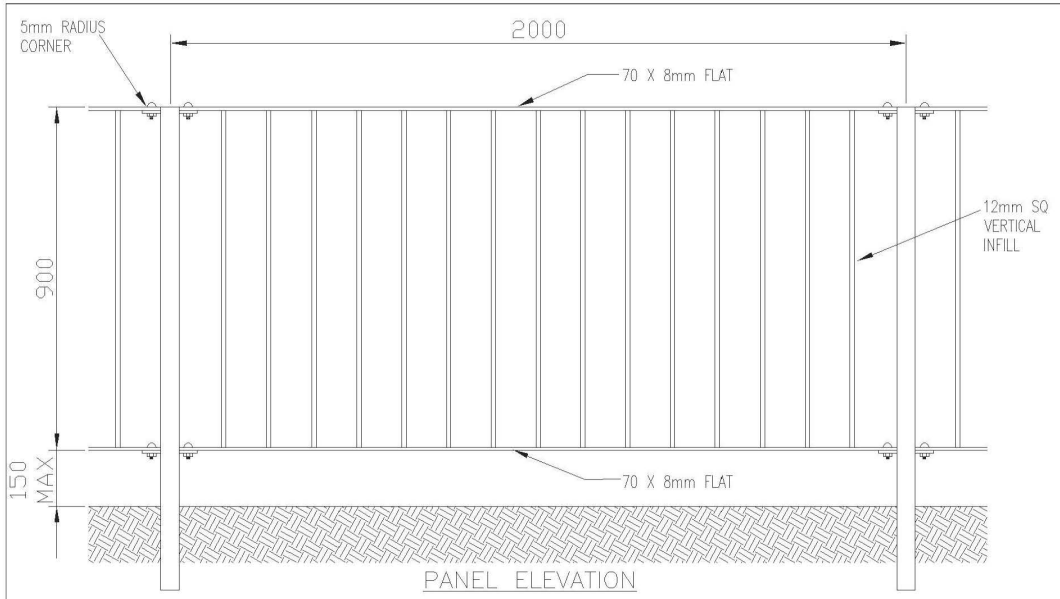
Drawing No.
WSD/400/2

Revision
A B

Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF

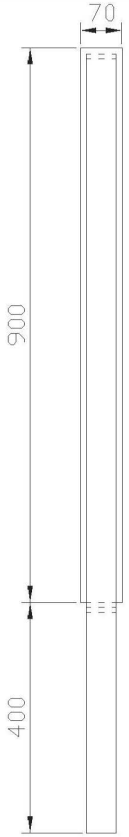


H:Standards Details/WSD/4002



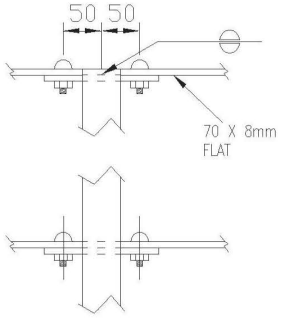

PANEL ELEVATION

| PANEL REFERENCE | PANEL CONSTRUCTION | OPITMUM SIGHT ANGLE | WHERE USED |
|---|---|---|---|
| S1 | | LESS THAN 2.5° | Offside guardrails. High speed. |
| S2 | | 2.5° TO 5° | Straight roads. Moderate speeds. |
| S4 | | 5° TO 14° | Bends. Slow speeds. |
| S8 | | MORE THAN 14° | Bellmouths, Sites where visibility is not the main requirement. |




POST DETAILS

M10 DOME HEAD CARRIAGE BOLT LOCATED IN SQUARE HOLE & SUPPLIED C/W FLAT WASHER & NYLOC NUT FOR VANDAL RESISTANT CONNECTION.




CONNECTION DETAILS

SPECIFICATION

MATERIAL – BSEN 10025
FINISH – HOT DIP GALVANISED TO BS 729



ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED

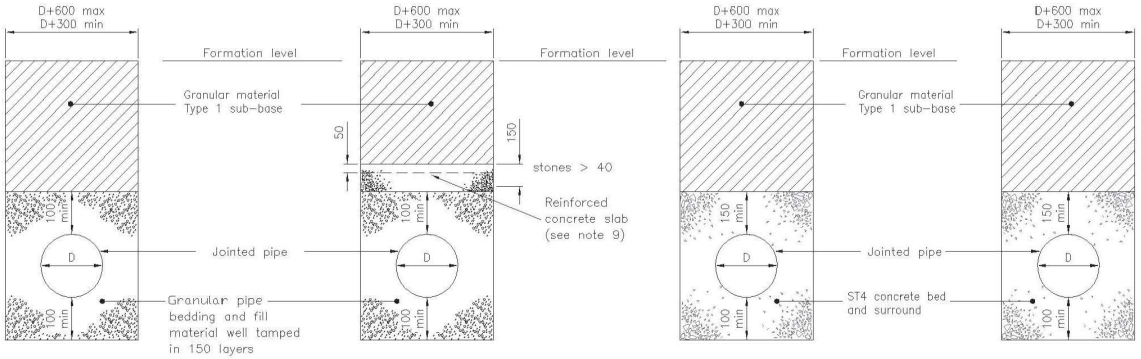
Further Notes are shown on Drawing WSD/400/1

| Version | Originated by and date | Checked by and date | Approved by and date |
|---|---|---|---|
| A | JW 30.05.07 | T.M.G 30.05.07 | T.M.G 30.05.07 |

PATENT No: 1585 498

WOKINGHAM BOROUGH COUNCIL

| | | | |
|---|---|---|---|
| Client | WOKINGHAM BOROUGH COUNCIL | Date | 30.MAY.2007 |
| Project | STANDARD DRAWINGS | | |
| Drawing Title | HIGH VISIBILITY PEDESTRIAN GUARDRAIL | | |
| Purpose | INFORMATION | Draft ● / Issue | Scale N.T.S |
| Issuing Office | WOKINGHAM | Drawing Number | Version |
| Telephone | 0118 973 7300 | WSD/400/3 | A |




**CARRIAGEWAY DRAIN TYPE D1 ALL PIPES**

More than 1200 cover
Bedding Factor 2.2

**CARRIAGEWAY DRAIN TYPE D2 PVCU**

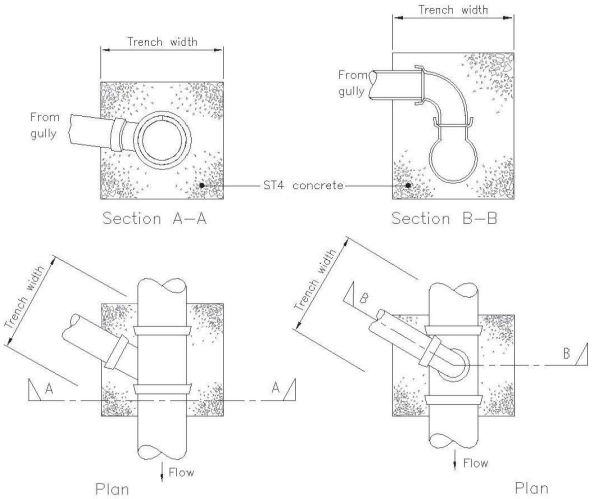
Less than 1200 cover

**CARRIAGEWAY DRAIN TYPE D3 CONCRETE, CLAY OR PVCU**

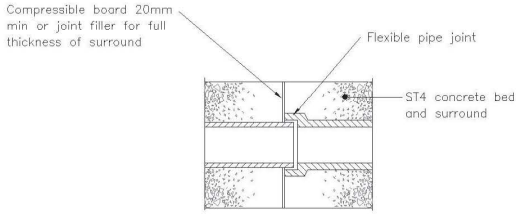
Less than 1200 cover
Bedding Factor 2.6

**FOOTWAY / CYCLEWAY DRAIN TYPE D4**

Less than 1200 cover
Bedding Factor 2.6




GULLY CONNECTION DETAILS (see note 12)




FLEXIBLE JOINT FOR CONCRETE SURROUND
(Reinforced slab similar)

Safe supporting strength of pipe $Ws = \frac{Wt\ Fm}{Fs}$

Where
Wt = Crushing strength – see British Standards
Fm = Bedding Factor
Fs = Factor of Safety = 1.25

Drawing Number
# WSD/500/1

Notes

1. All dimensions are in millimetres
2. Water Authorities Association guide Sewers for Adoption applies except where modified by this drawing.
3. Pipes shall be :
   Vitrified clay pipes to BS 65:1991 and BS EN 295
   Concrete pipes to BS 5911,
   PVCU pipes to be externally rib reinforced to BS EN 1401–1:1998 SDR 34 min.
4. Minimum cover without concrete protection is 1200 Concrete protection to terminate at suitable pipe joint.
5. Flexible joints must be provided in concrete bed and surround or reinforced slab

CONCRETE AND CLAY PIPES

6. Determination of pipe and bedding combinations shall be in accordance with DMRB 4.2.5 HA 40/01
7. If maximum trench width is exceeded it may be necessary to increase the strength of the pipe

PVCU PIPES

8. PVCU Pipes must be laid in accordance with BS 5955 PART 6:1980 and comply with WIS (Water Industry Standard) No4–31–05.
9. RC 30 concrete slab with A193 (or equivalent) mesh reinforcement may be used as alternative to concrete surround with the approval of the Engineer. Mesh to be laid top and with a cover of 50mm.

ALL PIPES

10. Pipe and bedding must be adequate for the worst conditions and materials must not be changed between chambers.
11. Minimum pipe diameter to be 225 for carrier drains.
12. Saddle connections may only be used with the approval of the Engineer.
13. Carrier drains will not normally be permitted in footways or cycleways.
14. Existing carriageway shall be reinstated in accordance with HAUC Specification for Reinstatement of Openings in Highways.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
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| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client
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Project
STANDARD DRAWINGS

Title
PIPES UNDER PAVED AREAS

Drawing No.
WSD/500/1

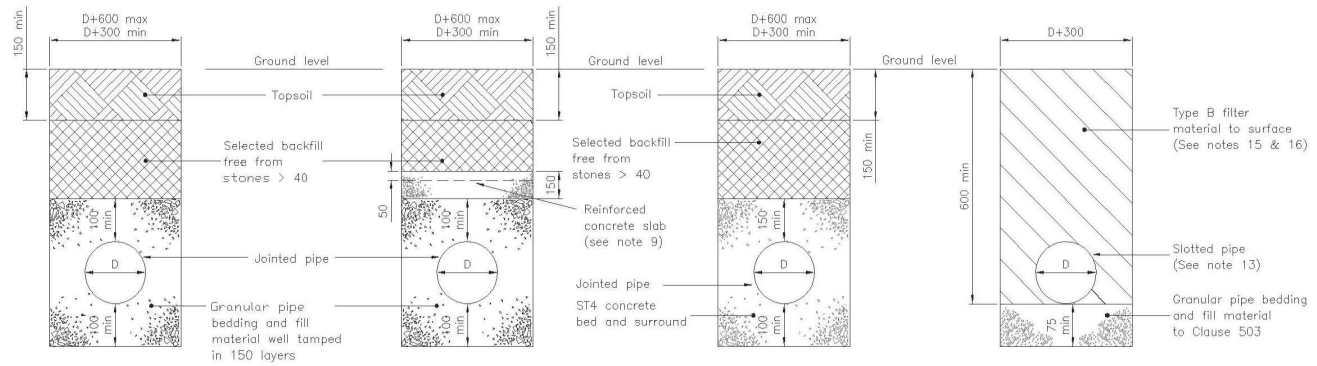
Revision
A B

Scale NOT TO SCALE | Date JAN 04

Drawn RWJY | Checked PARKMAN | Approved SP



H:Standards Details/WSD/5006




**DRAIN TYPE D5**
**ALL PIPES**

More than 900 cover
Bedding Factor 2.2

**DRAIN TYPE D6**
**PVCU**

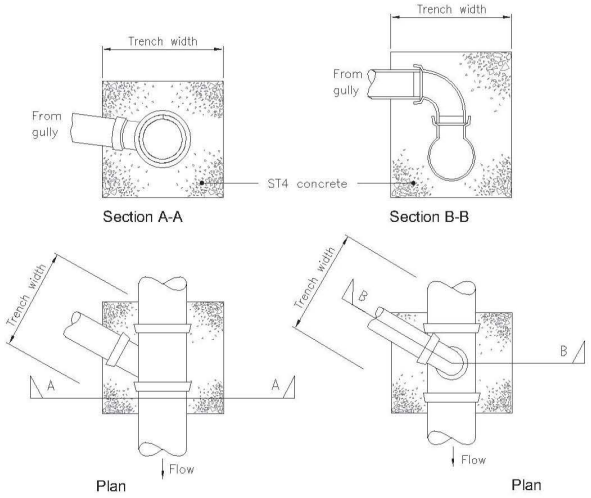
Less than 900 cover

**DRAIN TYPE D7**
**CONCRETE, CLAY AND ALTERNATIVE FOR PVCU**

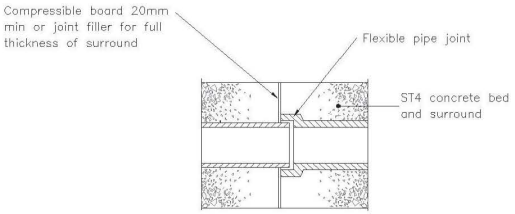
Less than 900 cover
Bedding Factor 2.6

**DRAIN TYPE D8**

Filter drain
Bedding Factor 2.2




GULLY CONNECTION DETAILS (see note 12)




FLEXIBLE JOINT FOR CONCRETE SURROUND
(Reinforced slab similar)

Safe supporting strength of pipe $Ws = \frac{Wt\ Fm}{Fs}$

Where
Wt = Crushing strength – see British Standards
Fm = Bedding Factor
Fs = Factor of Safety = 1.25

Drawing Number
**WSD/500/2**

Notes

1. All dimensions are in millimetres.
2. Water Authorities Association guide Sewers for Adoption applies except where modified by this drawing.
3. Pipes shall be :
   Vitrified clay pipes to BS 65 1991 and BS EN 295
   Concrete pipes to BS 5911:2002
   PVCU pipes to be esternally reinforced to BS EN 1401–1:1998.
   SDR (highway drainage) 34 min
   SDR (land drainage) 41 min
4. Minimum cover without concrete protection is 900 Concrete protection to terminate at suitable pipe joint.
5. Flexible joints must be provided in concrete bed and surround or reinforced slab.

CONCRETE AND CLAY PIPES

6. Determination of pipe and bedding combinations shall be in accordance with DNRB 4.2.5 HA 40/01.
7. If maximum trench width is exceeded it may be necessary to increase the strength of the pipe.

PVCU PIPES

8. PVCU Pipes must be laid in accordance with BS 5955 PART 6:1980 and WIS (Water Industry Standard) 4–31–05
9. RC 30 concrete slab with A193 (or equivalent) mesh reinforcement may be used as alternative to concrete surround with the approval of the Engineer. (See Type D6 detail). Mesh to be laid top with a cover of 50mm.

ALL PIPES

10. Pipe and bedding must be adequate for the worst conditions and materials must not be changed between chambers.
11. Minimum pipe diameter to be 225 for carrier drains.
12. Saddle connections may only be used with the approval of the Engineer.
13. Slotted pipes to be laid with slots upwards unless otherwise directed.
14. Filter drain trenches may only be covered by topsoil where approved by the Engineer.
15. Filter material must be separated from surrounding soil by a geotextile filter membrane.
16. Narrow filter drains or fin drains must be used to drain the sub–base where necessary. They must be installed in accordance with the D.E.T.R requirements.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: PIPES AND FILTER DRAINS UNDER VERGES

Drawing No. WSD/500/2

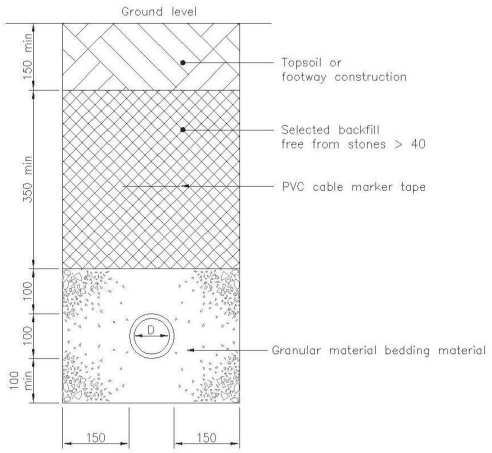
Revision: A B

Scale NOT TO SCALE | Date JAN 04

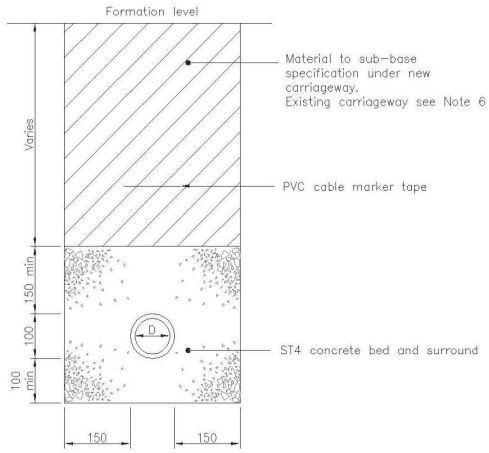
Drawn RWJY | Checked PARKMAN | Approved SP



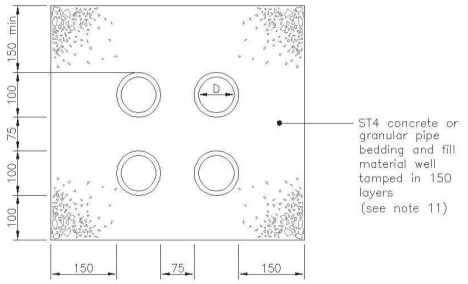
H:Standards Details/WSD/5002



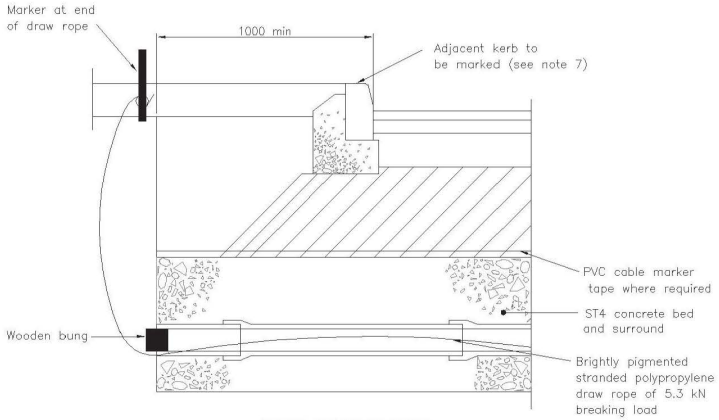

VERGE or FOOTWAY
More than 600 cover




CARRIAGEWAY
(and verge or footway where depth of cover less than 600)




TYPICAL LAYOUT FOR 4-WAY DUCTS
6-way layout similar




DETAIL AT END OF DUCT
UNDER CARRIAGEWAY

Drawing Number
# WSD/500/3

Notes

1. All dimensions are in millimetres. Outside of Pipe to be used for clearance dimensions
2. Pipes shall be :
   Vitrified clay to BS 65:1991 and BS EN 295
   Glass reinforced plastic to BS 5480:1990
   PVCU ducts to BS 4660:2000 and a British Board of Agrément Certification in accordance with Electricity Board Council ESI 12–24 or equivilant satisfying they are a permitted alternative to MCDHW table 5/2,
   Bends branches and couplers to BS EN 1401:1998
   SDR 41 min.
3. The position of duct routes and the number of ducts in each trench must be shown on the 'As Built' drawings.
4. Ducts under embankments shall extend 1000 beyond the toe of embankment.
5. Internal diameter of all service ducts shall be 100 unless otherwise stated.
6. Existing carriageway shall be reinstated in accordance with HCD Specification for Reinstatement of Openings in Highways.
7. The line of all duct road crossings must be marked with a suitable physical marker.
8. Orange ducts to be used for street lighting and traffic signal cables.
9. PVC cable marker tape to be used all underground services. Marker tape to identify service type.
10. Concrete protection required to ducts under carriageway and where depth of cover is less than 600.
11. Concrete protection required to ducts in verge or footway where depth of cover is less than 600.
12. Flexible joints must be provided in concrete bed and surround or reinforced concrete.
13. With Prior approval of Engineer, where additional protection to cables is required, a concrete slab may be used to protect cables in a carriagway crossing. 150mm thick with a single layer of A193 mesh laid top with 50mm cover to re–bar. Concrete grade C30 min.

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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: SERVICE DUCTS

Drawing No. WSD/500/3

Revision: A B

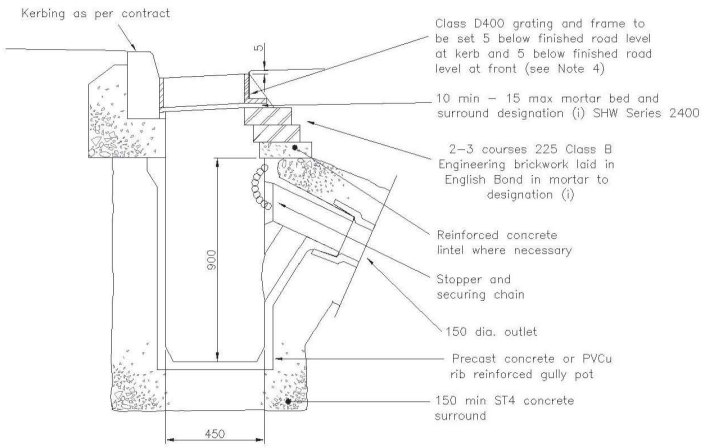
Scale: NOT TO SCALE

Date: JAN 04

Drawn: RWJY | Checked: MP Ltd | Approved: CF



H:Standards Details/WSD/5003



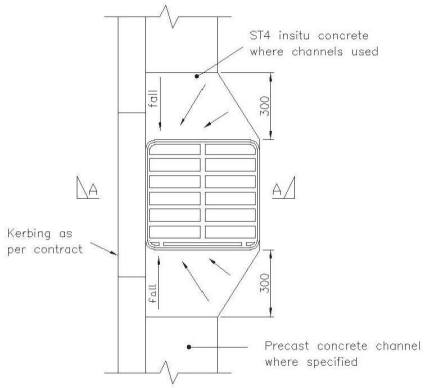

Section A–A

PREFORMED TRAPPED GULLY POT

TYPE 1 – 450 dia x 900 deep

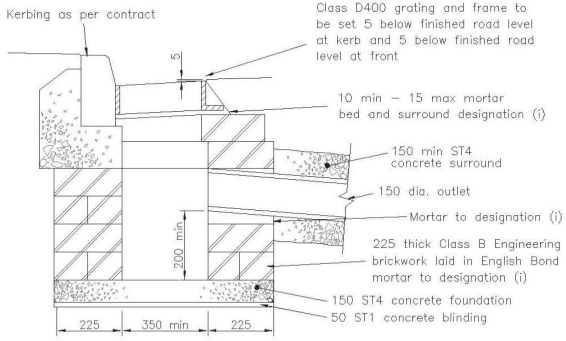
TYPE 2 – 375 dia x 750 deep

(See Notes 2 and 3)




Plan

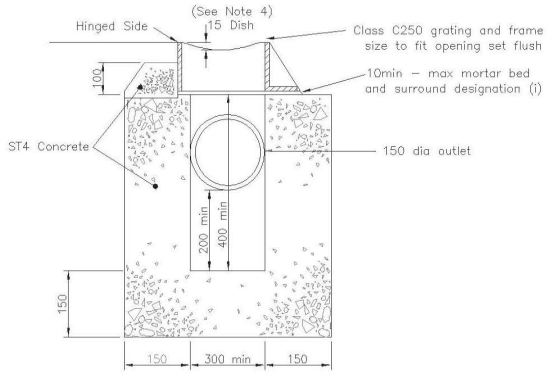
Gully detail where channel blocks are used




BRICK GULLY

TYPE 3 (see Note 3)

Shown with carriageway grating




CAST INSITU CONCRETE GULLY

TYPE 4 – (see Note 3)

Shown with footway grating

Drawing Number

WSD/500/4

Notes

1. All dimensions are in millimetres
2. Gully pots shall normally be:
   Concrete to BS 5911 part 230
   Vitrified clay to BS 65 and BS EN 295
   PVCU UltraRib to BS 4660 and BS EN 1401:1998
   Pots shall be:
   450 dia. x 900 deep in carriageways
   375 dia. x 750 deep in footways
3. Brick gullies and cast – insitu concrete gullies may only be used with the approval of the engineer where space is limited.
4. Gratings and frames to be to BS EN124 1994.
   Ref. Class D400 Trafficked areas.
   Ref. Class C250 footways only.
   Large gratings may only be used by the approval of the engineer.
   Dished gratings permissible in footways only.
5. All gratings to be Kite Marked and coated with a protective coating in accordance with BS EN 124: 1994.
6. Hinged captive gratings must be used.
7. End hinged gratings must be set with hinge towards approaching traffic.
8. Slots in gratings shall not be parallel to the direction of the traffic.
9. Bricks to be Engineering Class B to BS 3921.
10. A maximum of 25mm overhang permitted on each course of brick corbelling.
11. Reinforced concrete gully cover slabs to BS 5911 Part 230 or reinforced concrete lintels must be used where brick corbelling gives insufficient to support frame.
12. Connections to carrier drains to be by means of 'Y' junctions.
13. Finish to internal concrete to be F1 on formed surfaces and U2 on unformed surfaces.
14. Polyester, epoxy or ultra–rapid hardening cementatious mortar systems shall be used in making up and bedding ironwork in carriageways to be opened to traffic within 2 days.
15. Brick gullies must only be used where the use of prefabricated pots is impossible.
16. Each gully must have a separate connection to the carrier drain or chamber.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
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WOKINGHAM BOROUGH COUNCIL

Project

STANDARD DRAWINGS

Title

ROAD AND FOOTPATH GULLY DETAILS

Drawing No. WSD/500/4

Revision A B

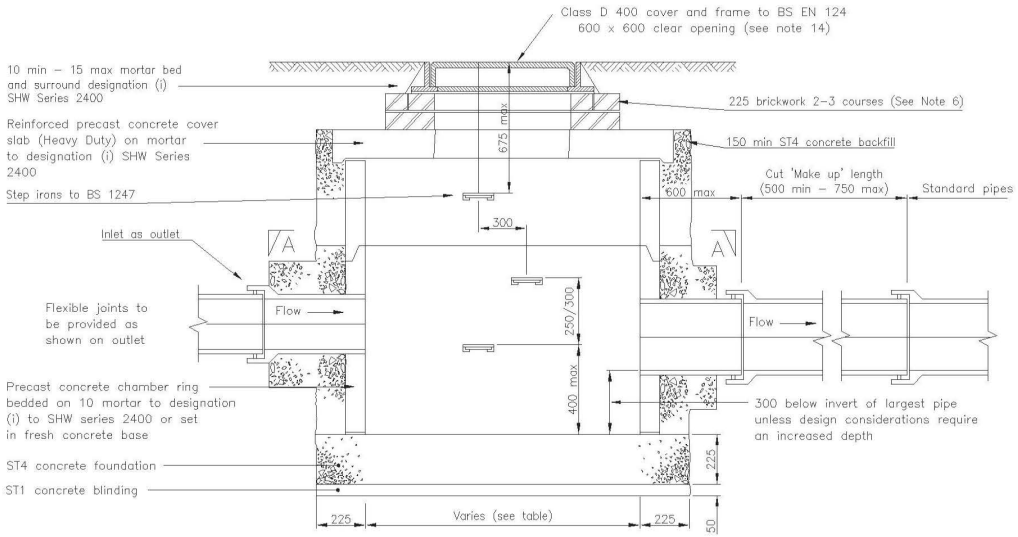
Scale NOT TO SCALE

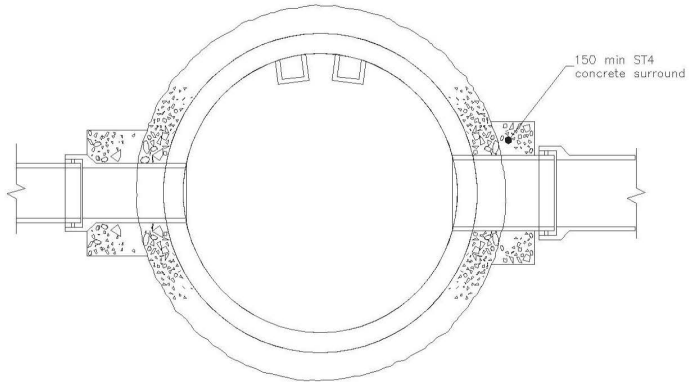
Date JAN 04

Drawn RWJY | Checked MP Ltd | Approved CF



H:Standards Details/WSD/5004




Section A-A

| Internal diameter of chamber | Diameter of largest pipe in chamber |
|---|---|
| 1200 | Less than 375 |
| 1350 | 375 – 450 |
| 1500 | 500 – 700 |
| 1800 | 750 – 900 |

CATCHPIT SIZES

Drawing Number
WSD/500/5

Notes

1. All dimensions are in millimetres
2. Water Authorities Association guide Sewers for Adaption applies except where modified by this drawing.
3. Cover and frame to be Class D400 Badgemarked, HD, and Kitemarked and have a protective coating complying with BS EN 124: 1994.
4. Catchpits to be positioned so that no part of the structure is under the kerb.
5. Entrance to catchpits to be positioned with consideration for safety.
6. Bricks to be Engineering Class B to BS 3921 laid in English Bond in mortar to designation (i) SHW Series 2400.
7. Precast concrete chambers shall comply with BS 5911 Part 200:1994 and BS5911–3:2002.
8. Mortar to designation (i) SHW Series 2400 or a proprietary sealant shall be used in all joints between precast concrete units.
9. Finish to internal concrete to be F1 on formed surfaces and U2 on unformed surfaces.
10. All voids beneath the catchpit structure shall be backfilled with ST1 concrete.
11. Ends of pipes shall be neatly built into the chamber and finished flush with mortar to designation (i) SHW Series 2400.
12. The nearest joints to chamber shall not be restricted by concrete
13. Safety chains or grills must be provided where pipe diameter exceeds 600. Ref HCD F28, steel BS 970
14. Surface level tolerance +0 –3 in paved areas +0 min. –25 max. in verges.

Do not scale this drawing

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Project
STANDARD DRAWINGS

Title
CATCHPIT TYPE 1
Precast Concrete Construction
(Permitted Range of Depths-Cover to sump 1.2m-3.0m)

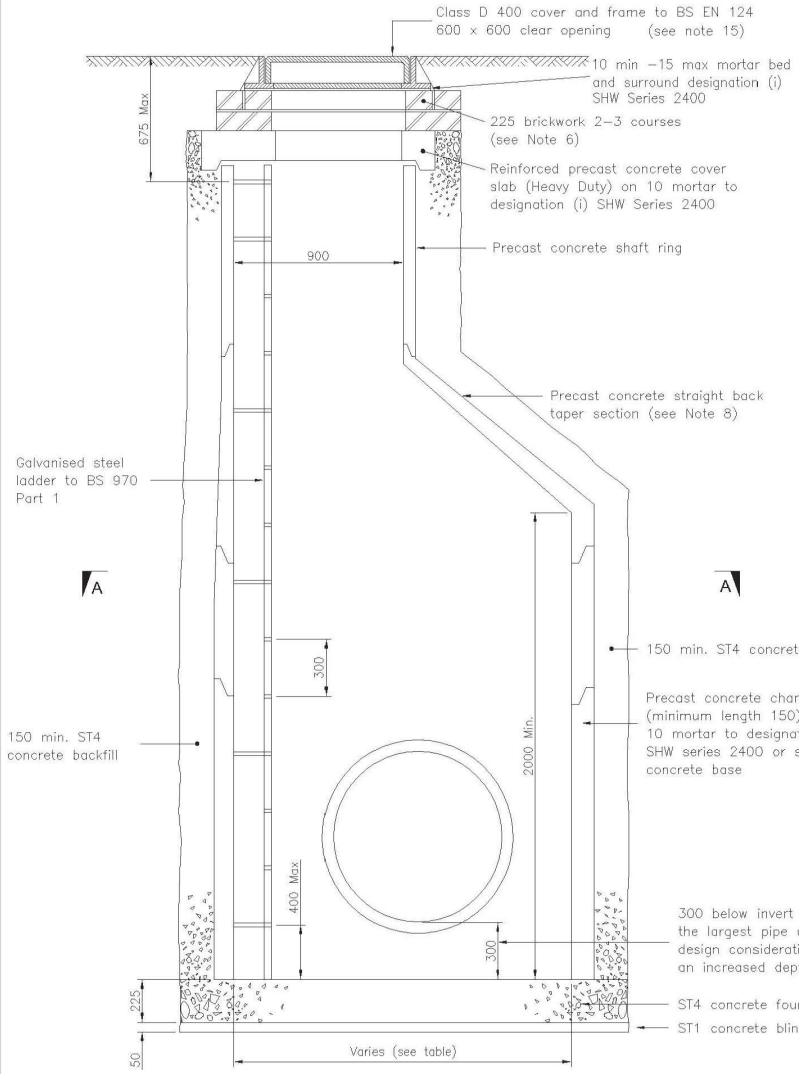
Drawing No.
WSD/500/5

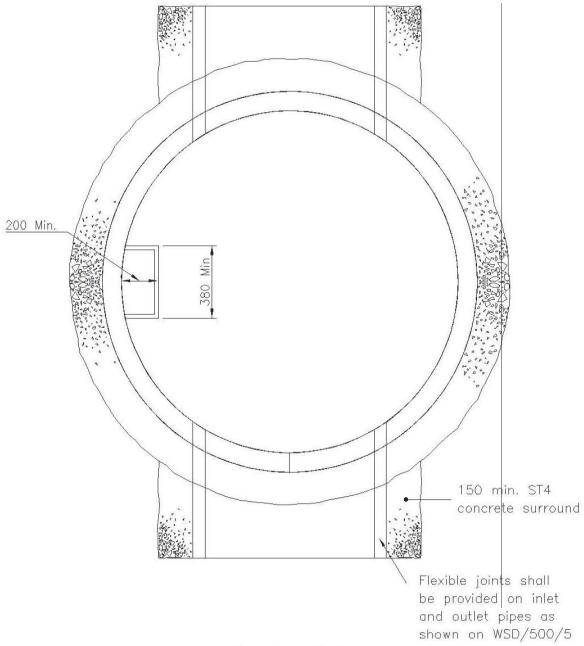
Revision
A B

Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



H:Standards Details/WSD/5005




Section A-A

| Internal diameter of chamber | Diameter of largest pipe in chamber |
|---|---|
| 1200 | Less than 375 |
| 1350 | 375 – 450 |
| 1500 | 500 – 700 |
| 1800 | 750 – 900 |

CATCHPIT SIZES

Drawing Number
WSD/500/6

Notes

1. All dimensions are in millimetres
2. Water Authorities Association guide Sewers for Adoption applies except where modified by this drawing.
3. Cover and frame to be Class D400 Badgemarked, HD, and Kitemarked and have a protective coating complying with BS EN 124: 1994.
4. Catchpits to be positioned so that no part of the structure is under the kerb.
5. Entrance to catchpits to be positioned with consideration for safety.
6. Bricks to be Engineering Class B to BS 3921 laid in English Bond in mortar to designation (i) SHW Series 2400.
7. Precast concrete chambers shall comply with BS 5911 Part 200:1994 and BS5911–3:2002.
8. Precast concrete heavy duty cover slabs may be used in place of straight back tapers.
9. Mortar to designation (i) SHW Series 2400 or a proprietary sealant shall be used in all joints between precast concrete units.
10. Finish to internal concrete to be F1 on formed surfaces and U2 on unformed surfaces.
11. All voids beneath the catchpit structure shall be backfilled with ST1 concrete.
12. Ends of pipes shall be neatly built into the chamber and finished flush with mortar to designation (i) SHW Series 2400.
13. The nearest joints to chamber shall not be restricted by concrete
14. Safety chains or grills must be provided where pipe diameter exceeds 600. Ref HCD F28, steel BS 970
15. Surface level tolerance +0 –3 in paved areas +0 min. –25 max. in verges.

Do not scale this drawing

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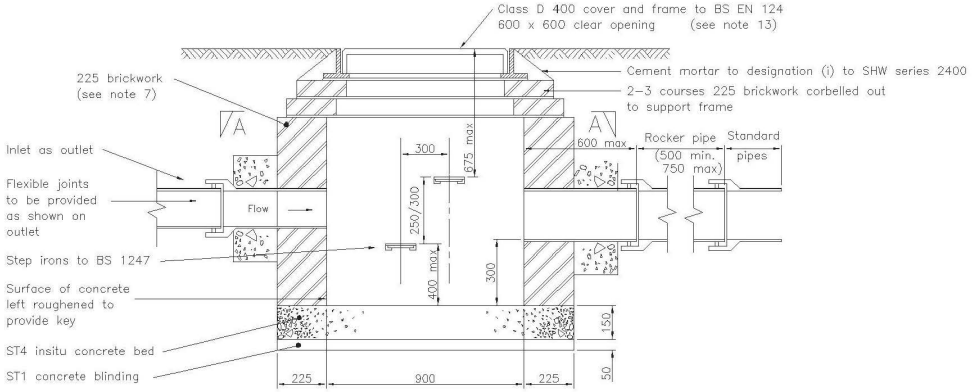
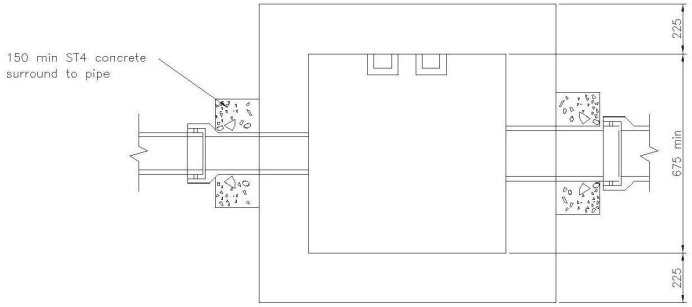
Project
STANDARD DRAWINGS

Title
CATCHPIT TYPE 2
Precast Concrete Construction
(Permitted Range of Depths-Cover to sump 3.0m-5.0m)

Drawing No. WSD/500/6
Revision A B

Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF




Section A-A

| Minimum internal dimensions of chamber | Diameter of largest pipe in chamber |
|---|---|
| 675 x 900 | 300 or less |

CATCHPIT SIZES

Drawing Number
WSD/500/7

Notes

1. All dimensions are in millimetres.
2. Water Authorities Association guide Sewers for Adoption applies except where modified by this drawing.
3. Rectangular catchpits may only be used where pipes enter and leave on the same axis. The pipe run must be parallel to the longer wall.
4. Cover and frame to be Class D400 Badgemarked HD and Kitemarked and have a protective coating complying with BS EN 124: 1994.
5. Catchpits to be positioned so that no part of the structure is under the kerb.
6. Entrances to catchpits to be positioned with consideration to safety.
7. Bricks to be Engineering Class B to BS 3921 laid in English Bond in mortar to designation (i) SHW Series 2400.
8. Finish to internal concrete to be F1 on formed surfaces and U2 on unformed surfaces.
9. All voids beneath the catchpit structure shall be backfilled with ST1 concrete.
10. Ends of pipes shall be neatly built into the chamber and finished flush with mortar to designation (i) SHW Series 2400.
11. The nearest joints to chamber shall not be restricted by concrete.
12. All pipes to be protected as shown on WSD/500/1 and WSD/500/2.
13. Surface level tolerance +0 −3 in paved areas. +0 min −25 max in verges.

Do not scale this drawing

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Project
STANDARD DRAWINGS

Title
CATCHPIT TYPE 3
Brickwork Construction
Permitted Depth-Cover to Sump up to 1.2m

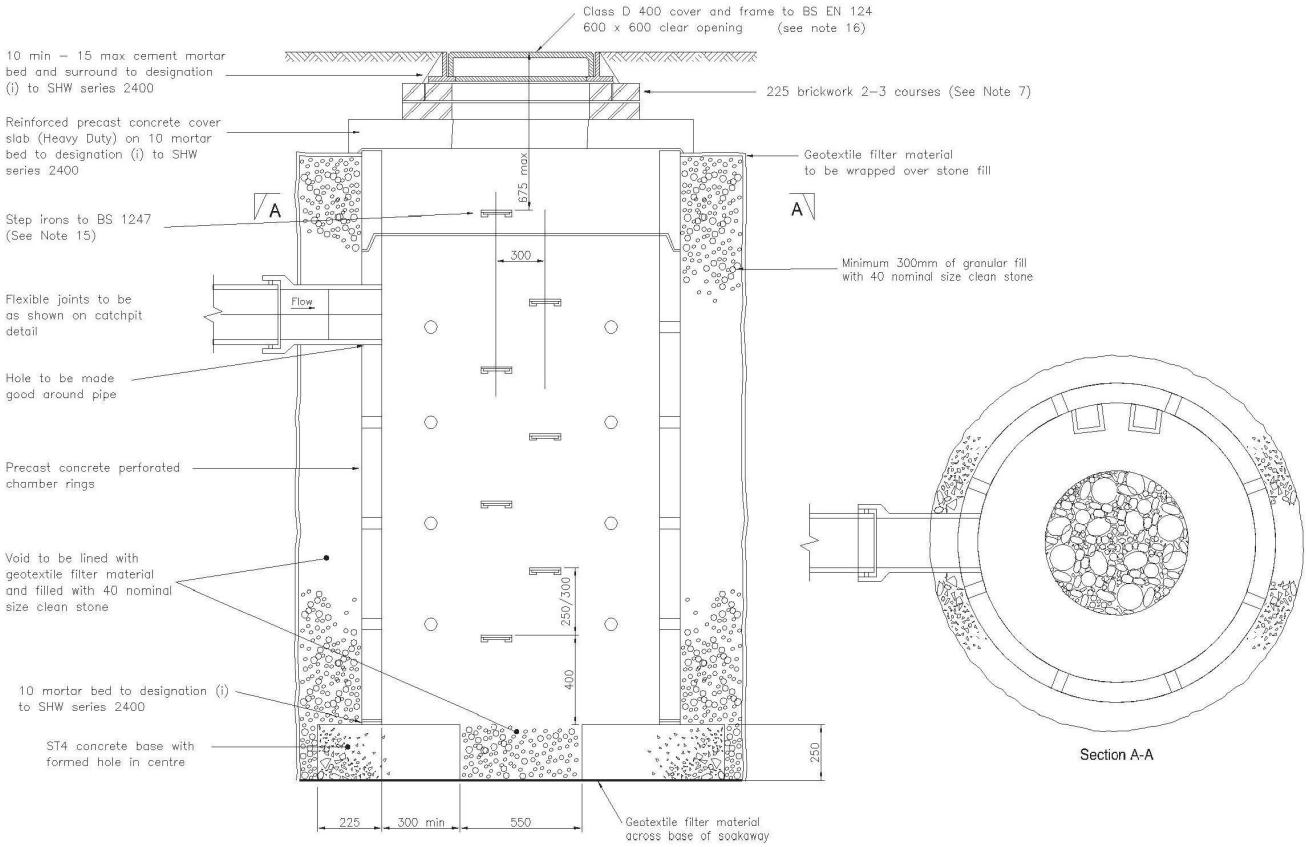
Drawing No.
WSD/500/7

Revision
A B

Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



H:Standards Details/WSD/5007




Drawing Number
## WSD/500/8

Notes

1. All dimensions are in millimetres.
2. Chamber size to be the largest possible in the area available.
3. Storage capacity to be based on 100% run–off from surrounding impermeable area.
4. Soakage tests in accordance with BRE Digest 365:1991 are required prior to construction. Soakage rate for the trial to be three times the design rate.
5. No part of the soakaway may fall beneath the carriageway or footway.
6. Cover and frame to be Class D400 Badgemarked, HD, and Kitemarked and have a protective coating complying with BS EN 124: 1994.
7. Bricks to be Engineering Class B laid in English bond in mortar to designation (i) to SHW series 2400.
8. Precast concrete chambers shall comply with BS 5911 Part 200.
9. Perforations to be 40 dia at 450 centres.
10. Top ring may be unperforated.
11. Finish to internal concrete to be F1 on formed surfaces and U2 on unformed surfaces.
12. Ends of pipes shall be neatly built into chamber and finished flush with Class 1 mortar.
13. The nearest joints to chamber shall not be restricted by concrete.
14. Petrol interceptors may be required where soakaways are used.
15. Chambers more than 3m deep must be provided with galvanised ladders.
16. Surface level tolerance –15 min –50 max
17. Engineer to approve position when in proximity to private dwelling and any other structures

Do not scale this drawing

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Project
STANDARD DRAWINGS

Title
SOAKAWAY
Precast Concrete Construction

Drawing No.
WSD/500/8

Revision
A B

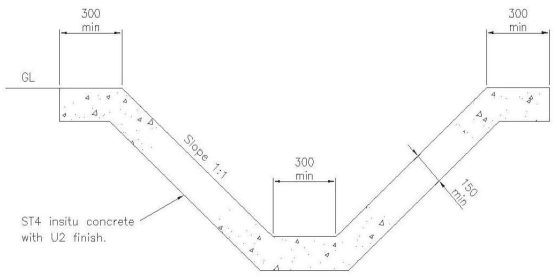
Scale NOT TO SCALE

Date JAN 04

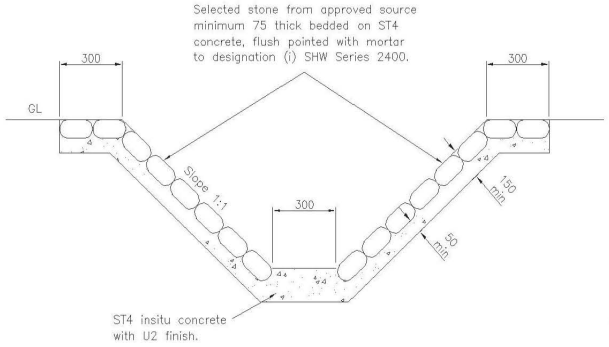
Drawn RWJY | Checked MP Ltd | Approved CF



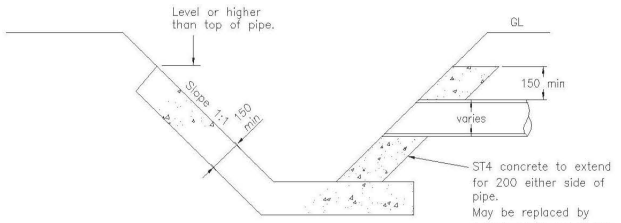
H:Standards Details/WSD/5008



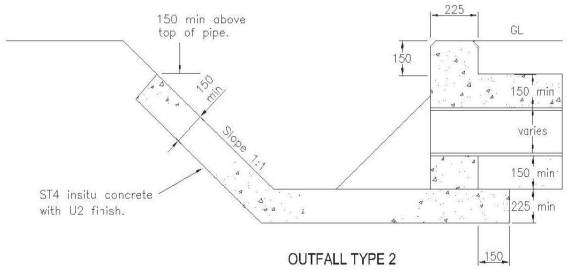

DITCH TYPE 1
CONCRETE LINING



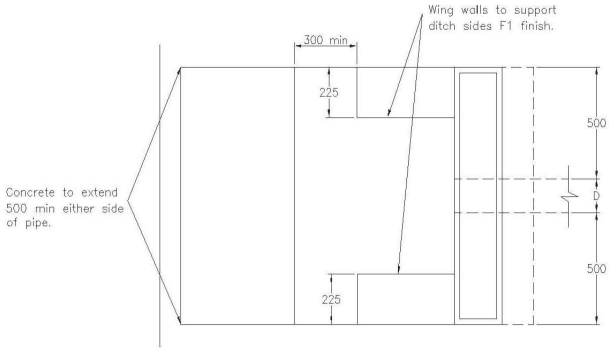

DITCH TYPE 2
RANDOM RUBBLE LINING




OUTFALL TYPE 1
for pipes < 225




OUTFALL TYPE 2
for pipes > 225




OUTFALL TYPE 2 - Plan

Drawing Number
WSD/500/9

Notes

1. All dimensions are in millimetres
2. Standard ditches are unlined with the same profile. Protection at outfalls is always required.
3. All work to existing ditches must have the consent of the EA Local Authority and the landowner.
4. Pre-cast concrete paving slabs to BS 7263:2001.
5. Formed surfaces to be Class F1 finish.
6. Unformed surfaces to be Class U2 plain finish.
7. Outfall Type 2 may be constructed in Class B engineering bricks laid in English Bond in mortar to designation (i) SHW Series 2400. Brickwork must be finished with a brick on edge coping.
8. Where existing ditch profile is uneven Type 1 granular material is to be laid and compacted prior to new lining.

Do not scale this drawing

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Project
STANDARD DRAWINGS

Title
LINED DITCHES AND OUTFALLS

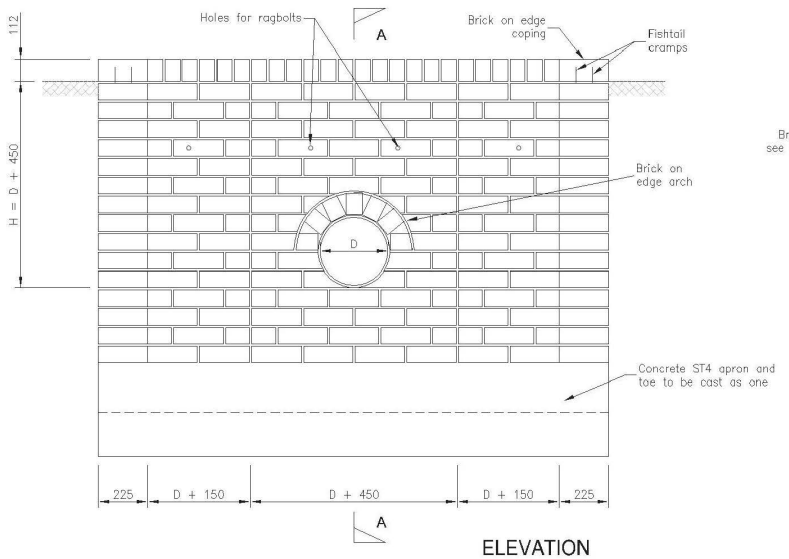
Drawing No.
WSD/500/9

Revision
A B

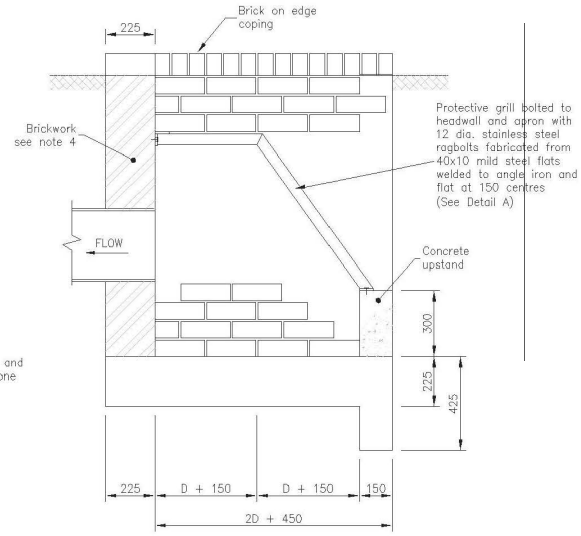
Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



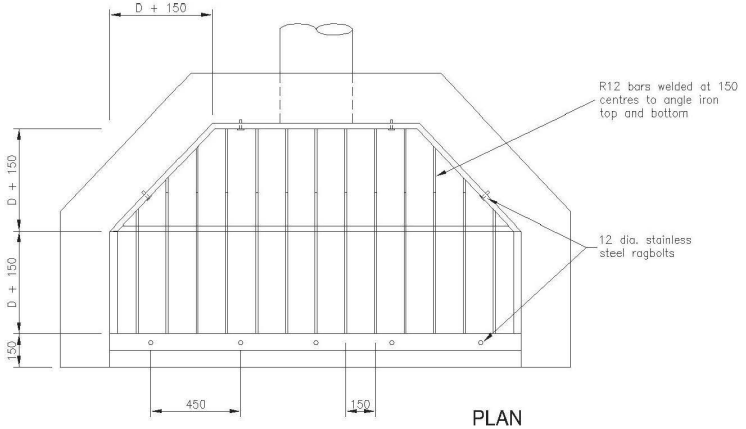
H:Standards Details/WSD/5009



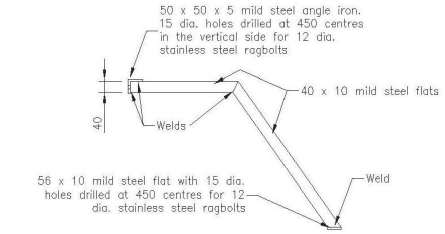

ELEVATION
(Grill omitted for clarity)




SECTION A-A




PLAN




DETAIL A
Prefabricated Protective Grill

Drawing Number
**WSD/500/10**

Notes

1. All dimensions are in millimetres unless shown otherwise.
2. Piping of ditches must have the consent of the EA and the landowner.
3. Brickwork constructed in English Bond in Class B engineering bricks to BS 3921 flush pointed with mortar to designation (i) SHW Series 2400.
4. Brickwork to be:
   225 Thick for H < 1.2m
   337 Thick for H > 1.2m
5. Bricks for the coping are to be solid Class B engineering.
6. Concrete to be grade ST4.
7. Unformed surfaces to be U2 plain finish.
8. Protective grills must be fitted where pipes over 300 dia. are accessible to children.
9. Grill assembly to have hot dip galvanised finish to BS 729 after fabrication.
10. Purpose made units may be used with the approval of the Engineer.

Do not scale this drawing

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Project
STANDARD DRAWINGS

Title
HEADWALL TYPE 1
Upstream from Pipe
Brickwork Construction

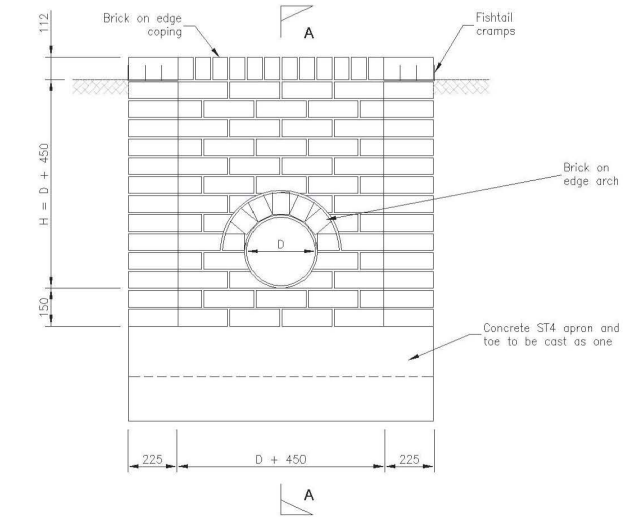
Drawing No.
WSD/500/10

Revision
A B

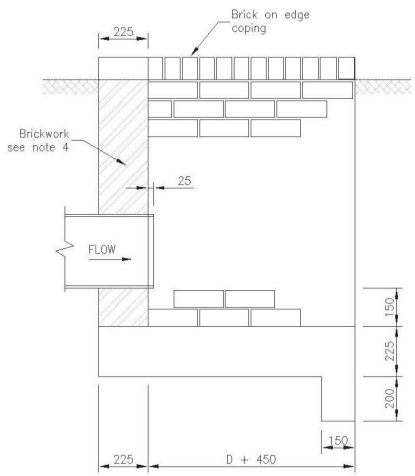
Scale N.T.S
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



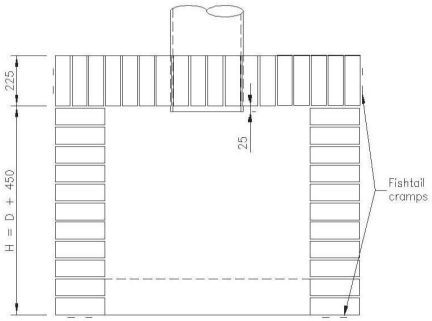
H:Standards Details/WSD/50010



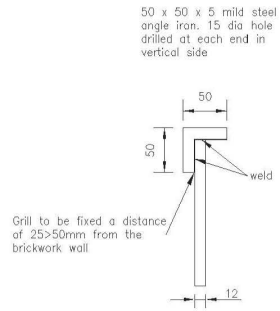

ELEVATION
(Grill omitted for clarity)



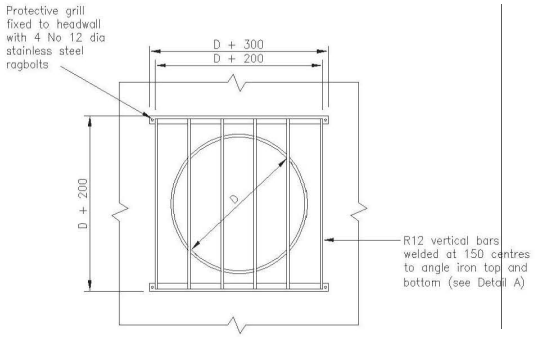

SECTION A-A




PLAN




DETAIL A
(bottom grill similar)




PROTECTIVE GRILL
(See Notes 7 & 8)

Drawing Number
**WSD/500/11**

Notes

1. All dimensions are in millimetres unless shown otherwise.
2. Piping of ditches must have the consent of the EA and the landowner.
3. Brickwork constructed in English Bond in Class B engineering bricks to BS 3921 flush pointed with mortar to designation (i) SHW Series 2400.
4. Brickwork to be:
   225 Thick for H < 1.2m
   337 Thick for H > 1.2m
5. Bricks used for the coping are to be solid Class B engineering.
6. Concrete to be grade ST4.
7. Unformed surfaces to be U2 plain finish.
8. Protective grills to be fitted as shown where pipes over 300 dia are accessible to children.
9. Grill assembly to have hot dip galvanised finish to BS 729 after fabrication.

Do not scale this drawing

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Client
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Project
STANDARD DRAWINGS

Title
HEADWALL TYPE 2
Downstream of Pipe
Brickwork Construction

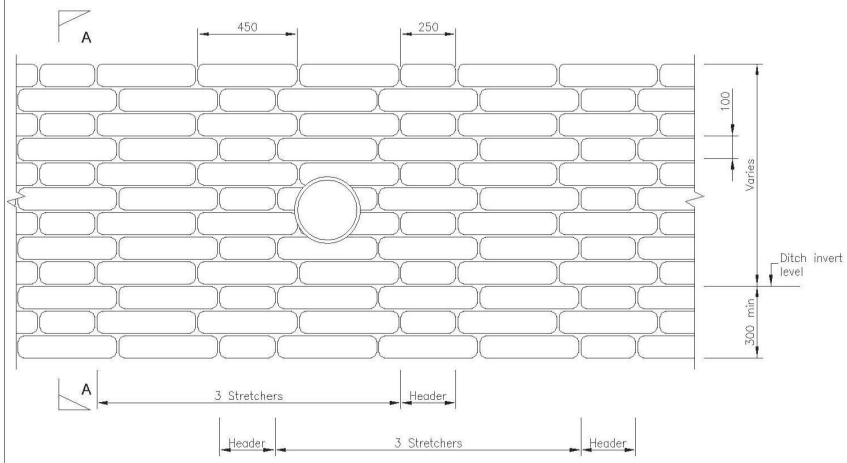
Drawing No.
**WSD/500/11**

Revision
A B

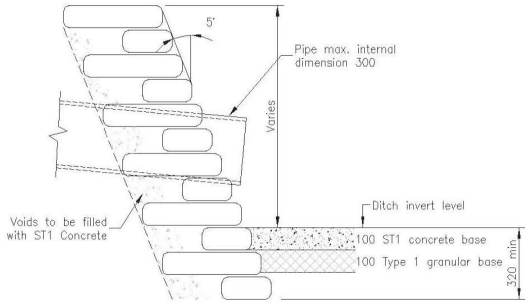
Scale N.T.S
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



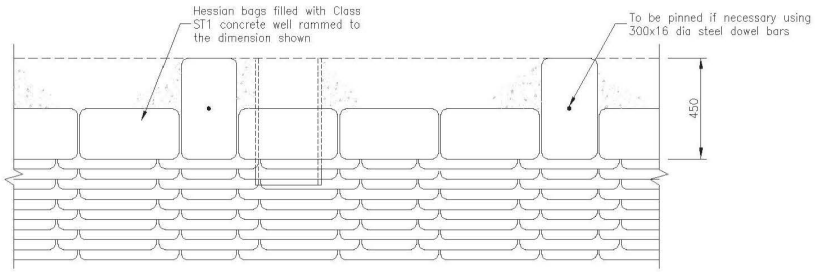
H:Standards Details/WSD/50011




ELEVATION




SECTION A-A




PLAN

Drawing Number
# WSD/500/12

Notes
1. All dimensions are in millimetres unless shown otherwise.
2. Bagwalling may only be used with the approval of the Engineer.
3. This construction may also be used for outfalls.
4. For outfall details see WSD/500/9.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FORTENDER | PKMN |

Engineering Services Section
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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: HEADWALL TYPE 3

Drawing No. WSD/500/12

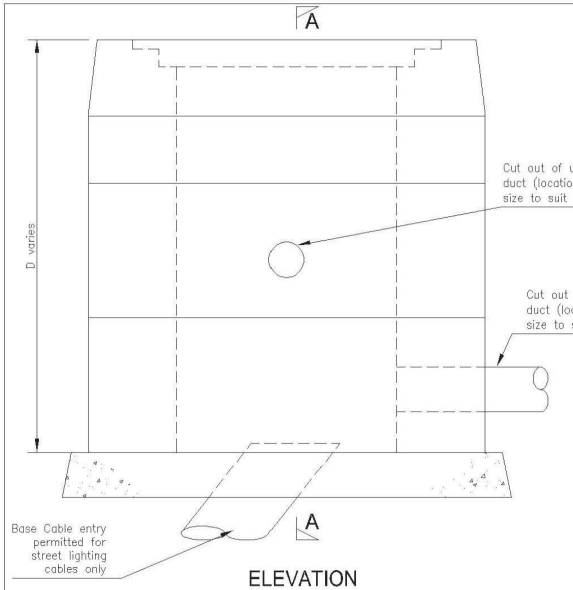
Revision: A B

Scale N.T.S | Date JAN 04

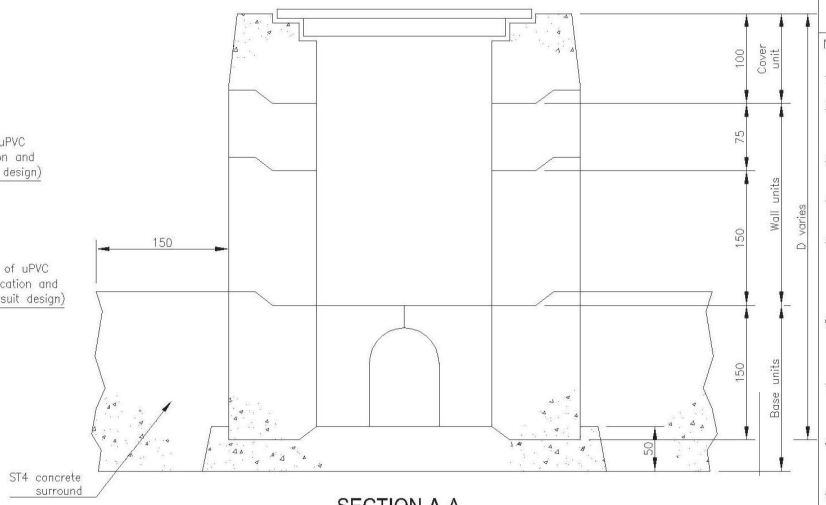
Drawn RWJY | Checked MP Ltd | Approved CF



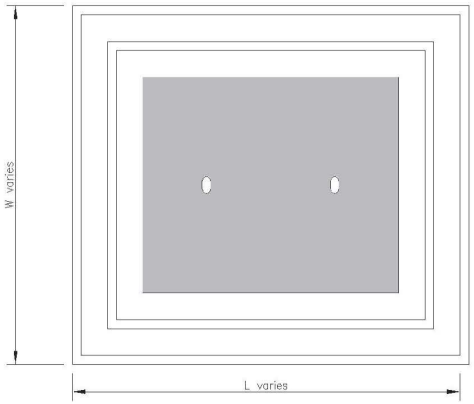
H:Standards Details/WSD/50012




ELEVATION



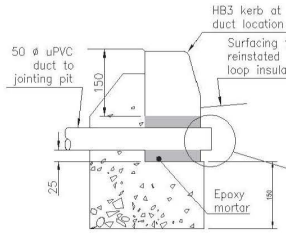

SECTION A-A



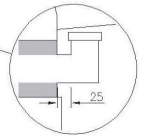

PLAN

| CHAMBER TYPE | | INTERNAL DIMENSIONS L | W | D | CONSTRUCTION (Codes of Glandel Units) Wall | Base | Cover and Frame | BADGE MARK |
|---|---|---|---|---|---|---|---|---|
| Street Lighting | D(1) | 430 | 280 | 475 | H/W/75 H/W/100 H/W/150 | V/B3/D or V/B4/D V/B5/D | V/C1/D 10T L/L | Street Lighting |
| | D(2) | 430 | 280 | 800 | | | | |
| Traffic Signals | E | 610 | 455 | 750 | V/W/E75 V/W/E100 V/W/E150 | V/B2/E | V/C1/E 10T L/L | Taffic Loop or Traffic Signals |
| | F | 685 | 455 | 850 | V/W/F75 V/W/F100 V/W/F150 | V/B2/F | V/C1/F | |
| | Sp | 1300 | 1000 | To suit | Brickwork see Note 4 | ST4 Concrete | HD 11.5 Ton | |

CHAMBER TYPES




DUCT CONNECTION TO TRAFFIC LOOP




DETAIL
(See Notes 9, 10 & 11)

Drawing Number
**WSD/500/13**

Notes

1. All dimensions are in millimetres
2. All chambers to be located in footway, traffic island, verge. The position of all chambers and ducts to be agreed with the Engineer.
3. Size of chamber used will depend on the depth and number of ducts to be accommodated.
4. Standard Units shall be as manufactured by Glandel Ltd, or similar approved.
5. Chamber Type Sp shall be constructed in English Bond Class B Engineering bricks to BS 3921. The courses shall be horizontal and perpends in vertical alignment. Joints shall not exceed 10 and shall be flush pointed internally as work proceeds.
6. Base units for all chambers may be replaced with cast-insitu ST4 concrete 150 thick. Formed surfaces to be Class F1. Unformed surfaces to be Class U2 plain finish.
7. All joints between chamber and ducts shall be made good with Class 1 mortar. The duct shall be surrounded by 150 thick min ST4 concrete.
8. Covers to be galvanised with an unlock and lift device and badgemarked Traffic Loop or Street Lighting as appropriate.
9. See WSD/500/3 for cable duct details.
10. Duct and box for traffic signal loops shall be manufactured and installed to the approval of the Engineer.
11. Where channel blocks are used the ducts shall extend to 25 in front of the face of the channel block.
12. For the installation of the duct connection to the traffic loop the HB3 kerb is to be 910mm long. No half or cut kerbs will be permitted.
13. An alternative to the Glandel Unit construction can be proposed by the contractor.
14. As stated in Appendix 5/2 of the contract 'Polypipe Civils Ltd' modular plastic type access boxes (or similar) are an alternative to the precast concrete type and must be installed to the only when loadings are B125 or less.

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Client: WOKINGHAM BOROUGH COUNCIL

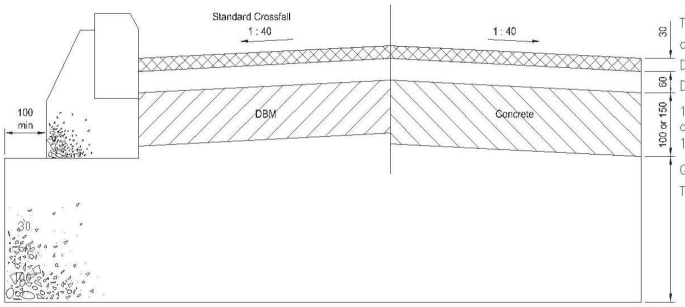
Project: STANDARD DRAWINGS

Title: JOINTING CHAMBERS
For Traffic Signal and Street Lighting Cables

| Drawing No. | Revision |
|---|---|
| WSD/500/13 | A B |
| Scale NOT TO SCALE | Date JAN 04 |
| Drawn RWJY / Checked MP Ltd | Approved CF |



H:Standards Details/WSD/50013




Thin surface course system to clause 942 (sse note 7)
or
Dense bitumen macadam surface course (10mm nominal size aggregate 100 pen binder)
Dense bitumen macadam binder course (20mm nominal size aggregate 100 pen binder)
100 Dense bitumen macadam base (28mm nominal size aggregate 100 pen binder)
or
150 Concrete base CBM3
Granular Sub–base material Type 1 (see Note 12)
Thickness dependent on CBR of sub–grade as below

| CDB of sub–grade % | <=2 | <=5 | <=15 | <=30 | >30 |
|---|---|---|---|---|---|
| Sub–base thickness mm | 550 | 350 | 200 | 150 | 0 |

Minimum total thickness 450 if sub–grade is frost susceptible

PAVEMENT CONSTRUCTION THICKNESS MUST BE SUITABLE FOR THE ANTICIPATED TRAFFIC LOADINGS AND LOCATIONS

NOTES:

1 Lower grade binders may only be used with the approval of the Engineer

2 Where the nominal size of the aggregate has not been specified the Developer shall comply with the particular requirements regarding depths of course and size of aggregates in the appropriate British Standard

3 When the surface course is not laid immediately after the binder course the binder course shall be blinded with coated grit complying with BS 4987.
Coated grit to be applied to the surface course where directed by the Engineer.

4 When the surface course is not laid immediately after the binder course, a tack coat complying with Class A1–40 or K1–40 of BS 434 Part 1 shall be applied at a uniform rate of spread of 0.35 l/m² or 0.55l/m² prior to laying the surface course

5 When the binder course is not laid immediately after the base, a tack coat shall be applied as above

6 The aggregate in surface course materials shall have a minimum polished stone value (PSV) of 50 and a maximum aggregate abrasion value (AAV) of 14 unless otherwise specified by the Engineer.

7 Thin surface course systems are a favoured alternative to macadam and are to meet requirements of MCDHW Clause 942.
Thickness can be reduced from 30mm as per manufacturers guidance.

8 Gravel aggregates will not be permitted in bituminious materials

9 Limestone aggregate will not be permitted in surface course material or binder course material which is to be trafficked

10 Sand fines will not be permitted in coated macadams

11 Coated macadam must comply with BS 4987 Part 1 1993 and be laid in accordance with BS 4987 Part 2 1993

12 If the Developer wishes to use a crushed rock, crushed slag, crushed concrete, broken brick or capping layer material which he considers may be suitable for the sub–base and complies in all respects to Type 1 sub–base except for the grading, the Developer shall demonstrate its suitability together with the compaction plant he proposes to use by completing a trial area. The Engineer reserves the right to reject any material which is outside the specified gradings and any costs in relation to trial areas, whether the material and the method of compaction is approved or rejected, shall be met by the Developer. The acceptance of a material outside the specified gradings will require a 150mm blinding layer of Type 1 material in order to reach the specified tolerances

13 Manhole covers should not be set until the roadbase is laid

14 The Developer may submit for the Engineer's approval an alternative design to the above pavement construction providing an end performance specification with a minimum design life of 20 years.

15 Hot Rolled Ashpalt will not generally be used. For the purposes of a carriageway reinstatement or patch repair the material will match the exisitng carriageway material and HRA can be used with the approval of the Engineer.

Drawing Number
WSD/900/1

Notes

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
PAVEMENT CONSTRUCTION THICKNESS
Minor Access Roads, Accessways, Mews Courts and Housing Squares

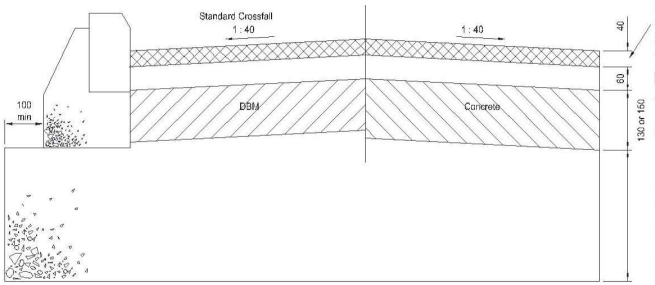
Drawing No.
WSD/900/1

Revision
A B

Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



H:Standards Details/WSD/9001




Thin Surface course sytem to Clause 942, thickness reduced as per manufactures specification
or
Rolled asphalt surface course with 20mm precoated chippings (50 pen binder)
or
Close graded bitumen macadam surface course (10mm nominal size aggregate 100 pen binder)
Dense bitumen macadam binder course (20mm nominal size aggregate 100 pen binder)
130 Dense bitumen macadam base (40mm nominal size aggregate 100 pen binder) or
150 Concrete base CBM3

Granular Sub–base material Type 1 (see Note 13)
Thickness dependent on CBR of sub–grade

| CDB of sub–grade (%) | <=2 | <=5 | <=15 | <=30 | >30 |
|---|---|---|---|---|---|
| Thickness mm | 750 | 500 | 225 | 150 | 0 |

Minimum total thickness 450 if sub–grade is frost susceptible
Surface course thickness may be increased to 45mm in cold weather conditions with the approval of the Engineer.
Binder course may then be reduced to 55mm.

PAVEMENT CONSTRUCTION THICKNESS MUST BE SUITABLE FOR THE ANTICIPATED TRAFFIC LOADINGS AND LOCATION

NOTES:

1 Lower grade binders may only be used with the approval of the Engineer

2 Where the nominal size of the aggregate has not been specified the Developer shall comply with the particular requirements regarding depths of course and size of aggregates in the appropriate British Standard

3 When the surface course is not laid immediately after the binder course the binder course shall be blinded with coated grit complying with BS 4987.
Coated grit to be applied to the surface course where directed by the Engineer

4 When the surface course is not laid immediately after the binder course, a tack coat complying with Class A1–40 or K1–40 of BS 434 Part 1 shall be applied at a uniform rate of spread of 0.35 l/m² or 0.55 l/m² prior to laying the surface course

5 When the binder course is not laid immediately after the base, a tack coat shall be applied as above

6 The aggregate in surface course materials shall have a minimum polished stone value of 50 and a maximum aggregate abrasion value of 14 unless otherwise specified by the Engineer.

7 Gravel aggregates will not be permitted in bituminious materials

8 Limestone aggregate will not be permitted in surface course material or binder course material which is to be trafficked

9 Sand fines will not be permitted in coated macadams

10 Asphalt may be Lake Asphalt Bitumen, Pitch Bitumen or Bitumen, complying with BS 594 Part 1 1992, Tables 3 and 4, laid in accordance with BS 594 Part 2 1992

11 Coated macadam must comply with BS 4987 Part 1 1993 and be laid in accordance with BS 4987 Part 2 1993

12 Coated chippings shall have a minimum PSV of 63 and a maximum AAV of 14

13 If the Developer wishes to use a crushed rock, crushed slag, crushed concrete, broken brick or capping layer material which he considers may be suitable for the sub–base and complies in all respects to Type 1 sub–base except for the grading, the Developer shall demonstrate its suitability together with the compaction plant he proposes to use by completing a trial area. The Engineer reserves the right to reject any material which is outside the specified gradings and any costs in relation to trial areas, whether the material and the method of compaction is approved or rejected, shall be met by the Developer. The acceptance of a material outside the specified gradings will require a 150mm blinding layer of Type 1 material in order to reach the specified tolerances

14 Manhole covers should not be set until the base course is laid

15 The Developer may submit for the Engineer's approval an alternative design to the above pavement construction providing an end performance specification with a minimum design life of 20 years.

16. Hot Rolled Asphalt (HRA) will not generally be used. For the purposes of a carriageway reinstatement or patch repair the material will match existing carriageway material and HRA can be used with the approval of the Engineer.

17 Thin Surface course systems are a favoured option to macadams and are to meet the requirements of MCDHW clause 942. Thickness will vary as per manufacturers specification

Drawing Number
WSD/900/2

Notes

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| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
PAVEMENT CONSTRUCTION THICKNESS
Major Access Roads and Intermediate Roads
(Less than 250 commercial vehicles per day)

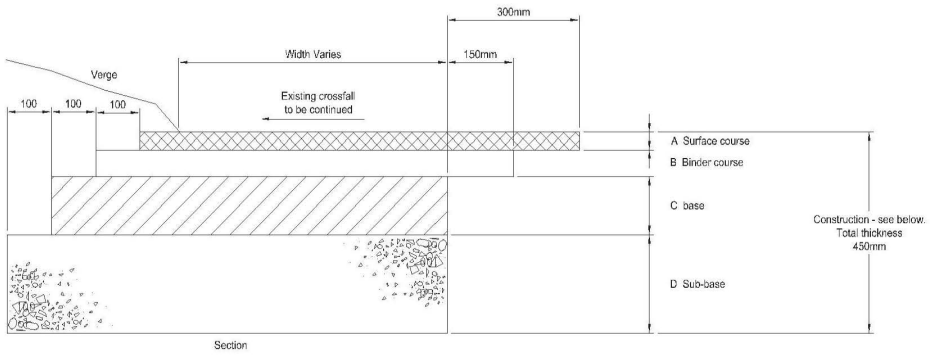
Drawing No.
WSD/900/2

Revision
A B

Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved SP



H:Standards Details/WSD/9002




Construction to be to the approval of the Engineer

TYPE 1

| | | |
|---|---|---|
| A | 30mm | Close graded bitumen macadam surface course (10mm nominal size aggregate) |
| B | 70mm | Dense bitumen macadam binder course (20mm nominal size aggregate) |
| C | 100mm | Dense bitumen macadam base (40mm nominal size aggregate) |
| D | 250mm | Granular sub–base material Type 1 |

TYPE 2

| | | |
|---|---|---|
| A | 40mm | Close graded bitumen macadam surface course (10mm nominal size aggregate) |
| B | 60mm | Dense bitumen macadam binder course (20mm nominal size aggregate) |
| C | 130mm | Dense bitumen macadam base (40mm nominal size aggregate) |
| D | 220mm | Granular sub–base material Type 1 |

TYPE 3

| | | |
|---|---|---|
| A | 35mm | Thin Surface Course system to clause 942 |
| B | 60mm | Dense bitumen macadam binder course (20mm nominal size aggregate) |
| C | 130mm | Dense bitumen macadam base (40mm nominal size aggregate) |
| D | 220mm | Granular sub–base material Type 1 |

Type 4 — Full depth insitue carriageway haunching (Recycled)

The Developer may submit for the Engineer's approval an alternative design to the above pavement construction providing an end performance specification with a minimum design life of 20 years.

Drawing Number
WSD/900/3

Notes

1. Materials specification see WSD/900/1 and 2

2. The Developer may submit an alternative wearing course submission to DETR Clause 942 Specification for approval by the Engineer.

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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: CARRIAGEWAY HAUNCHING

Drawing No. WSD/900/3

Revision: A B

Scale NOT TO SCALE | Date JAN 04

Drawn RWJY | Checked PARKMAN | Approved SP



H:Standards Details/WSD/9003

ALTERNATIVE LAYOUT OF CHICANE
WITH KERK BUILD OUTS AND CENTRAL ISLAND
(N.T.S.)






| | | | |
|---|---|---|---|
| B | MS JAN 04 | GH JAN 04 | CF JAN 04 |
| A | MP APRIL 00 | | |
| Version | Originated by and date | Checked by and date | Approved by and date |

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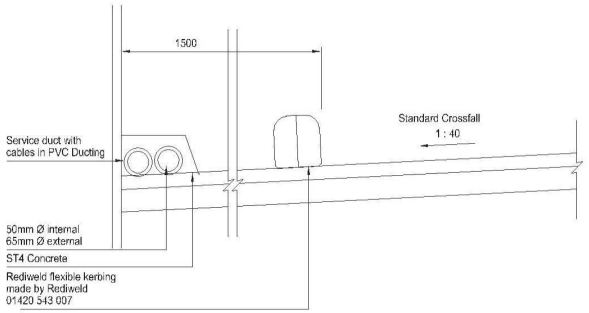
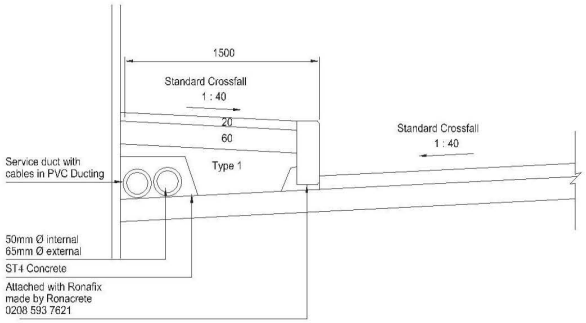
WOKINGHAM BOROUGH COUNCIL

| | | | |
|---|---|---|---|
| Client | WOKINGHAM BOROUGH COUNCIL | | |
| Project | Standard Details | | |
| Drawing Title | LAYOUT OF CHICANE WITH BUILDOUTS AND CENTRAL ISLANDS | | |
| Purpose | INFORMATION | Draft ● / Issue | Scale 1:250_@_A4 |
| Issuing Office | WOKINGHAM | Drawing number WSD/900/4 | Version B |
| Telephone | 0118 936 7300 | | |




NOTES:

1. Existing carriageway shall be reinstated in accordance with HAUC specifications for reinstatement of openings of highways.
2. Orange ducts to be used for street lighting and traffic signal cables.
3. Flexi joints must be provided in concrete bed and surround or reinforced concrete.

Drawing Number
WSD/900/5

Notes

Ronafix

1. Prepare and assess substrate, mechanically abrade as necessary to ensure structurally sound and stable.
2. Damp substrate with clean water, remove excess water and ponding.
3. Apply 1:1 Ronafix: cement primer brush, roller or broom to the damp surface.
4. Apply concrete, render, plaster, screed or compatible mortar/covering before the primer dries.
5. If the primer dries thoroughly cross hatch scratch and re-apply.
6. If the substrate is dense and smooth (e.g. concrete blocks) it is often necessary to enhance mechanical adhesion by applying a stipple coat of 1:1:0.6 cement/sand/ronafix prior to application of ronafix modified render. Apply stipple coat by brush or roller and allow to cure for 24 hours. then proceed as above (3–5).
7. If surfaces to be primed are very porous apply one or more coats of 1:4 Ronafix/water solution to the surface until porosity has been reduced to a satisfactory level. Then proceed as above (3–5).

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| A | FEB 02 | ISSUED | PARKMAN |

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Fax: (0118) 974 6313

Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
RONAFIX PAVEMENT CONSTRUCTION
Minor Access Roads, Accessways, Mews Courts and Housing Squares

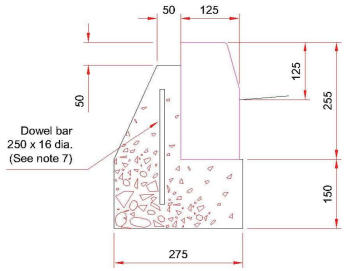
Drawing No.
WSD/900/5

Revision
A B

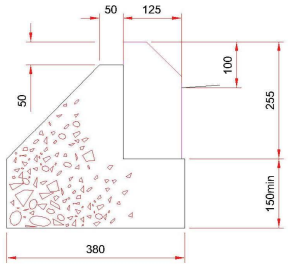
Scale NOT TO SCALE
Date JAN 04
Drawn R.Mc
Checked MP Ltd
Approved CF



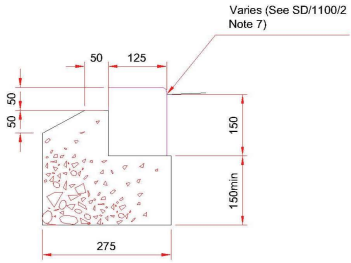
H:Standards Details/WSD/9001



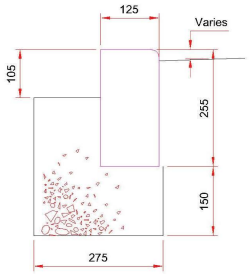

HALF BATTER - FIG 7
HB2 KERB
See Note 18



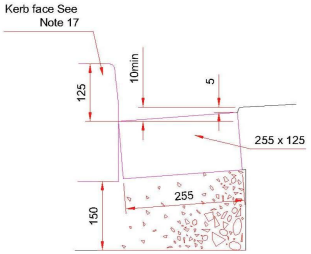

45° SPLAY - FIG 5
SP KERB



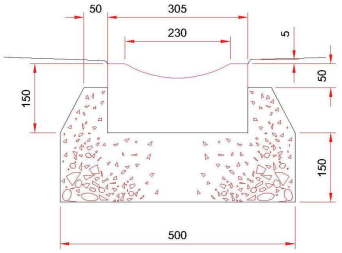

BULL NOSED - FIG 2A
BN KERB



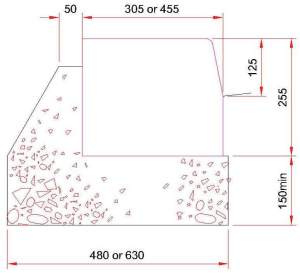

BULL NOSED - FIG 2
KERB



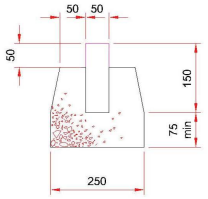

SQUARE CHANNEL - FIG 8
CS1
See Note 17



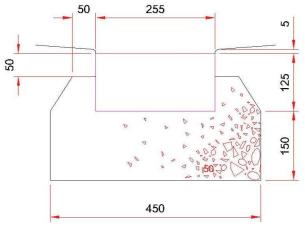

DISHED CHANNEL - CD
(Footways only)



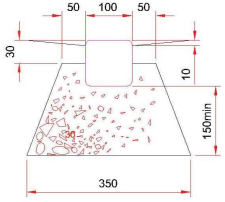

QUADRANT - FIG 14
QHB2 KERB



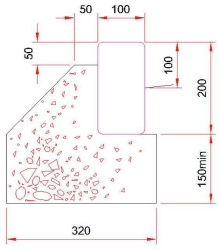

SQUARE EDGING - FIG 11
EF EDGING



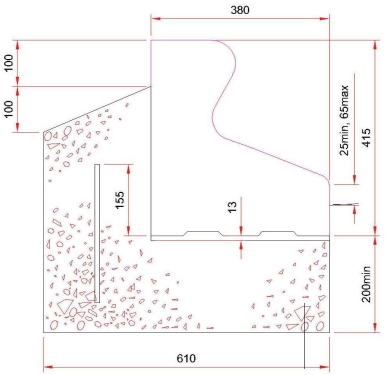

SQUARE CHANNEL - CS2




GRANITE SETT - DS1
or EDGE RESTRAINT




GRANITE SETT - DS2
or COUNTRYSIDE KERB




SAFETY KERB GST/2A

Drawing Number
WSD/1100/1

Notes

1. All dimensions are in millimetres
2. All kerbs to BS 7263
3. All insitu concrete to foundation and haunch to be ST4 concrete
4. Kerb foundation to be laid on rolled sub-base of minimum thickness 100
5. The kerb bed and backing shall normally be laid in one operation
6. Where bed is laid in advance of kerbs 200 x 20 dia mild steel dowel bars will be required in backing at 450 centres and kerbs will be bedded on 10 min mortar designation (i) SHW Series 2400
7. Dowel bars may be required with standard kerbs in circumstances where the kerbs are vulnerable
8. Where granite setts are used horizontal linking bars must be used between dowels
9. 300 x 16 dia dowel bars at 450 centres must be used with Safety Kerbs unless the backing concrete is brought level with top of kerb
10. Kerbs shall be laid with dry joints and closely butted to adjacent kerbs and channels
11. Transition kerbs to be used at all changes in kerb face
12. Channel blocks to be used where gradient is flatter than 1:150
13. For radii of 12m or less kerbs and channels of the appropriate radius shall be used
14. For radii between 12m and 18m straight kerbs 600 long shall be used
15. Cutting of kerbs and channels shall be by approved mechanical means
16. The length of any kerb or channel shall not be less than 300
17. Where channel blocks are laid to false falls the kerb face must be 100 min – 150 max
18. All kerbing supporting verge areas shall be backed as shown for SP kerb
19. Open joints between granite setts DS1 and DS2 shall be pointed with a mix of 2 to 1 sharp sand and cement.
20. Height of kerb backing may be reduced if area behind kerb block paved.

Do not scale this drawing

| Rev | Date | | Checked |
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Project
STANDARD DRAWINGS

Title
KERBS AND CHANNELS

Drawing No.
WSD/1100/1

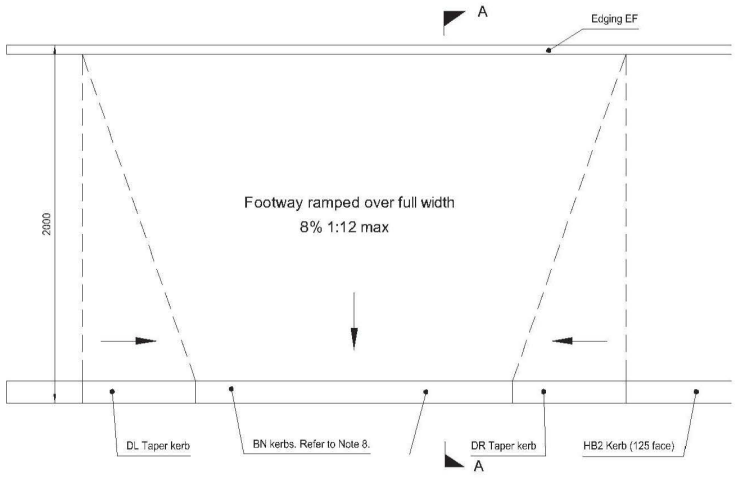
Revision
A

Scale NOT TO SCALE | Date APRIL 00

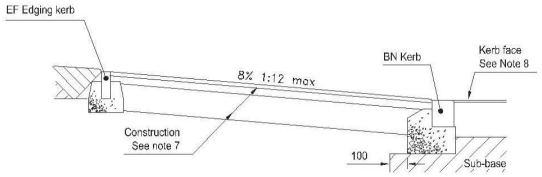
Drawn RWJY | Checked PARKMAN | Approved SP



H\:Standard Details\WSD11001




PLAN FOR CROSSING POINT




Section A-A

TYPICAL SECTION THROUGH A FOOTWAY CROSSING POINT
REFER TO TABLE FOR SPECIFICATIONS

VEHICULAR CROSSOVER CONSTRUCTIONS
DOMESTIC VEHICULAR CROSSOVER

20 Medium graded wearing course (6 nominal size)
55 Dense bitumen macadam basecourse to Clause 906 (20 nominal size)
150 Type 1 – sub base material to Clause 803

HEAVY DUTY CROSSOVER

20 Medium graded wearing course
70 Dense bitumen macadam basecourse to Clause 906 (20 nominal size)
100 Dense bitumen macadam roadbase to Clause 903
OR
150 Concrete roadbase CBM3
150 Type 1 sub-base material to Clause 803

HEAVY DUTY RURAL CROSSOVER

170 Unreinforced air-entrained concrete C40 to BS 5328
150 Type 1 sub-base material to Clause 803

Drawing Number
# WSD/1100/2

Notes

1. All dimensions are in millimetres.
2. For cycleway detail see WSD/1100/3.
3. Footways and verges shall be 2000 wide except where otherwise approved. A 2000 wide verge must be provided behind footways and cycleways in embankments.
4. All kerbs to BS 7263.
5. Kerbing details to be as shown on drawing WSD/1100/1 except where modified by this drawing.
6. Kerb faces: Half batter kerbs – HB2 125
   Splay kerbs – SP 100
7. Crossing points shall be constructed as shown in section B–B. Construction thickness shall be increased at vehicular crossing points, see Tables
   Kerb faces tolerances above road level shall be:
   Pedestrian 10 + or –6
   Tactile paved 0 + 6
   Vehicular 20 + or –6
8. Minimum number of bullnosed kerbs at crossing points shall be:– Pedestrian 2
   Vehicular 4
9. Dropper kerbs are required at changes in kerb face at crossing points.
10. Edging kerbs shall be provided on all free edges of paved areas not confined by a kerb or boundary wall.
11. An additional 150 of Type 1 material to be laid to footway or cycleway is on embankment.
12. Footway and highway verges shall normally fall at 1:40 towards the highway.
13. Vertical alignment of back edging shall be maintained at crossing points and the crossing graded from edging to carriageway level.
14. Macadams shall comply with BS 4987, Sub-base shall be DETR Type 1 material.
15. For block paved construction see WSD/1100/4.
16. All soft spots and organic material must be removed before construction and replaced with Type 1 as agreed with the Engineer.
17. An approved residual weedkiller which does not contain Atrazine or Simazine must be applied to all formations.
18. Verge areas shall have a 150 covering of topsoil spread 25 above top of kerb or edging to allow for settlement and shall be seeded in accordance with the Specification
19. Existing verges adjacent to new kerbing must be regraded and seeded as described in the Specification.

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Project
STANDARD DRAWINGS

Title
VEHICULAR AND PEDESTRIAN CROSSOVERS

Drawing No.
WSD/1100/2

Revision
A

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Date APRIL 00
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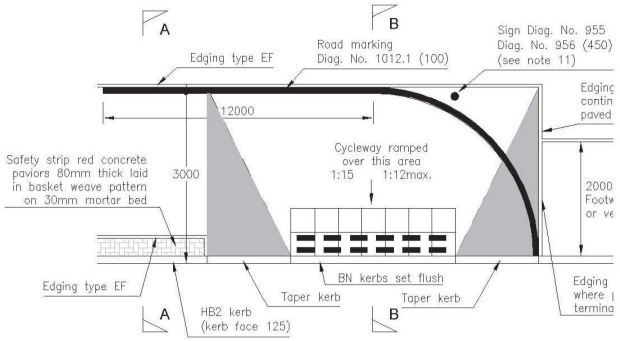
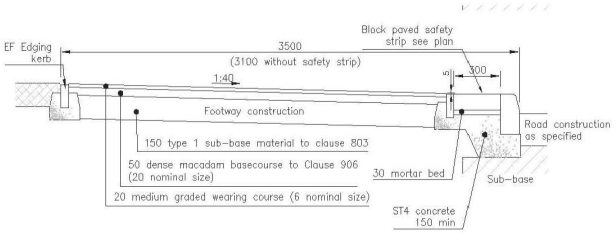
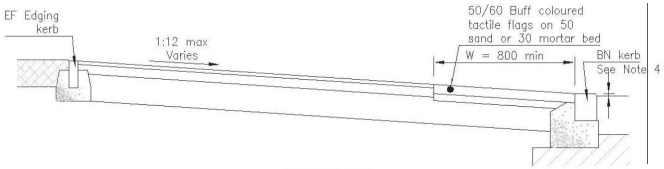
H:Standard Details/WSD11002



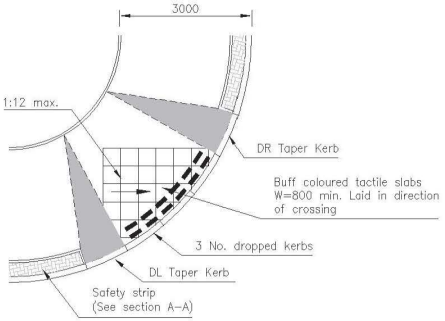

PLAN
SHARED UNSEGGREGATED FOOTWAY/CYCLEWAY WITH SAFETY STRIP
SHOWING TERMINATION POINT

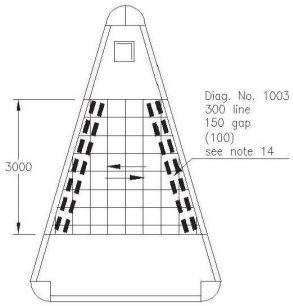



SECTION A-A

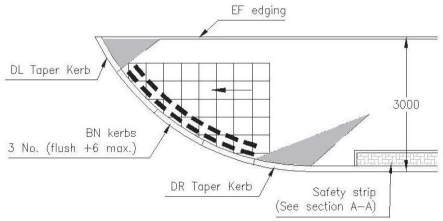



SECTION B-B
CROSSING POINT




TRAFFIC ISLAND
(See SD/1100/5)




PLAN
KERBED ACCESSWAY

PLANS OF CROSSING POINTS WITH OR WITHOUT ISLAND

Drawing Number
# WSD/1100/3

Notes

1. All dimensions are in millimetres
2. For details of segregated cycleway layout see Cycling in Berkshire.
3. For signal controlled Crossing points see WSD/1100/5
4. Minimum number of bullnased kerbs at crossing point = 3.
5. Crossing points shall be constructed as shown on Section B–B. Kerb face shall be 0 to +6.
6. Macadams shall comply with BS 4987 sub–base shall be D.E.T.R. Type 1 material.
7. Kerbing see WSD/1100/1.
8. Footway see WSD/1100/2.
9. Block paviors and flags see WSD/1100/4.
10. Traffic Islands see WSD/1100/5.
11. Road markings and signs to comply with Traffic Signs Regulations and General Directions 2002.
12. Traffic sign erection see WSD/1200/1.
13. Height to under edge of signs on cycleways 2.4m.
14. 'Give Way' markings to be laid at uncontrolled crossings.

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Project
STANDARD DRAWINGS

Title
CYCLEWAYS AND SHARED FACILITIES

Drawing No.
WSD/1100/3

Revision
A B

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Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



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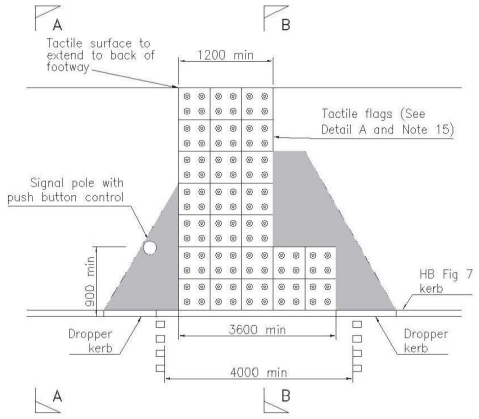
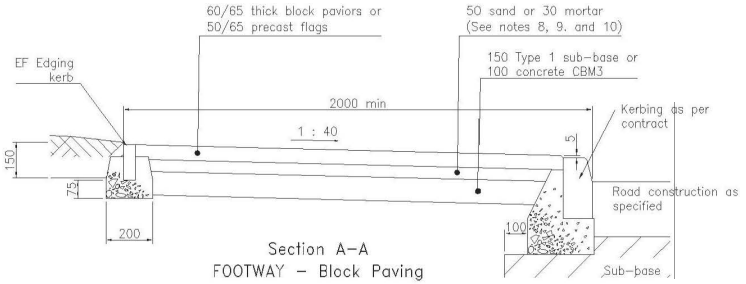
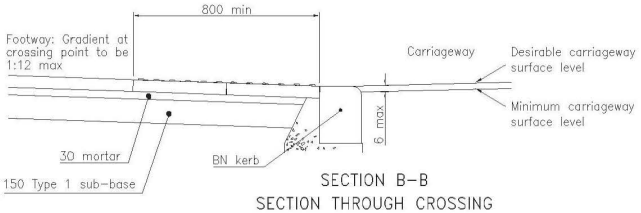



Plan

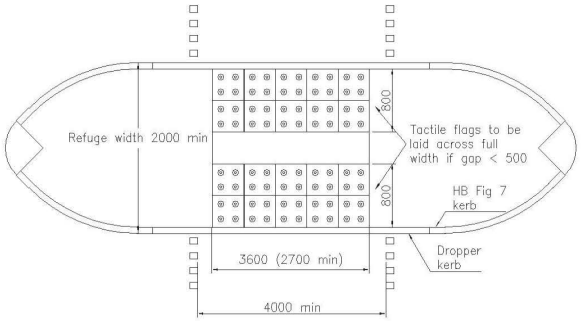
TACTILE FOOTWAY SURFACE
(See Notes 15, 16 and 17)



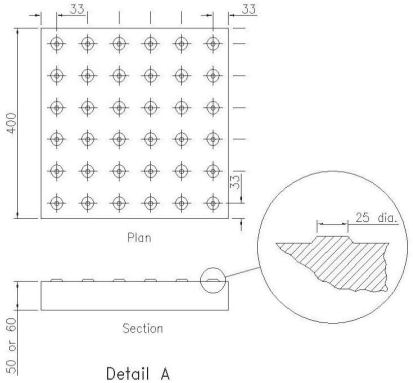

Section A–A
FOOTWAY – Block Paving




SECTION B–B
SECTION THROUGH CROSSING
POINT AT KERB




Plan
PEDESTRIAN REFUGE
Tactile Flag Arrangement




Detail A
TACTILE FLAG (BLISTER PAVING)

Drawing Number
WSD/1100/4

Notes

1. All dimensions are in millimetres.
2. This drawing shall be read in conjunction with WSD/1100/2, on which all notes apply.
3. Block paving shall comply with BS 6717:2001 Parts 1 and 3 and BS 7533–2:2001.
4. Clay paviors are not permitted.
5. Precast concrete flags shall be 400 x 400 or 450 x 450 and shall comply with BS 7263–1:2001.
6. 60 or 65 thick blocks shall only be used in areas not subjected to vehicular traffic elsewhere the blocks shall be 80 thick.
7. Block paviors shall be laid in square herringbone pattern for footways and 45° herringbone pattern in areas subjected to vehicular traffic.
8. Blocks shall normally be bedded on 50 sharp sand complying with BS 882 grading C or M.
9. In areas where the blocks may be trafficked, or narrow strips of paving are used as a feature, the sand must be substituted by 30 mortar to designation (ii) or (iii) laid on CMB3 concrete.
10. Flags shall be bedded on 30 mortar to designation (ii) or (iii).
11. All mortar pointing shall be colour matched to the blocks or flags.
12. Mortar pigments shall comply with BS EN 12878:1999.
13. Sanded joints shall be sealed down with a stabilising compound.
14. Red tactile paving flags shall be laid at all controlled pedestrian crossing points.
15. The laying arrangement of tactile flags shall be in accordance with Guidance on the use of Tactile Paving Surfaces DETR.
16. Flags shall be laid in an 'L' shape at crossings with one push button control. At zebra crossings and crossings with 2 push button controls the flags shall be laid in a 'T' shape.
17. The siting of the signal poles will be the responsibility of the signal engineer.
18. Crossing kerbs shall be flush with the carriageway where tactile flags are used. Elsewhere footway crossings shall be as shown on WSD/1100/02.
19. Care must be taken to ensure adequate drainage when the crossing kerb is flush with the carriageway.

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Project: STANDARD DRAWINGS

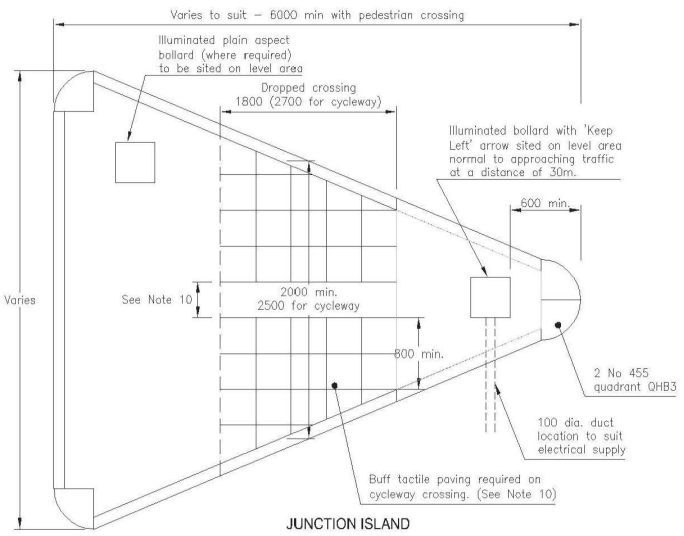
Title: CONCRETE PAVIORS AND FLAGS AND SIGNAL CONTROLLED CROSSING POINTS

Drawing No. WSD/1100/4

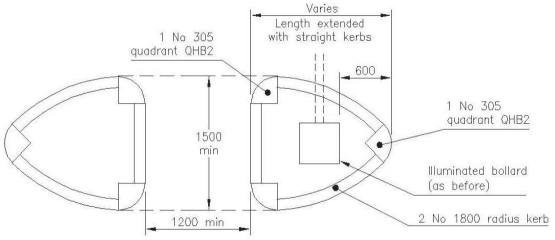
Revision: A B

Scale NOT TO SCALE | Date JAN 04

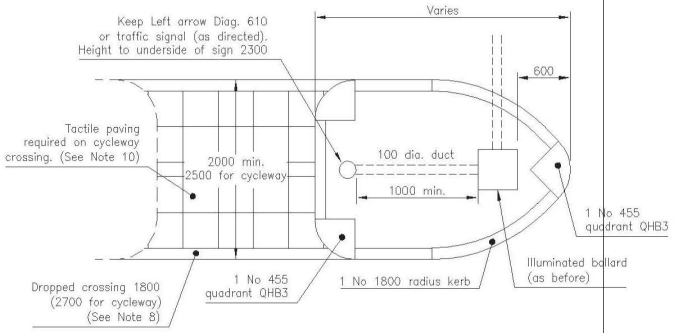
Drawn RWJY | Checked PARKMAN | Approved CF



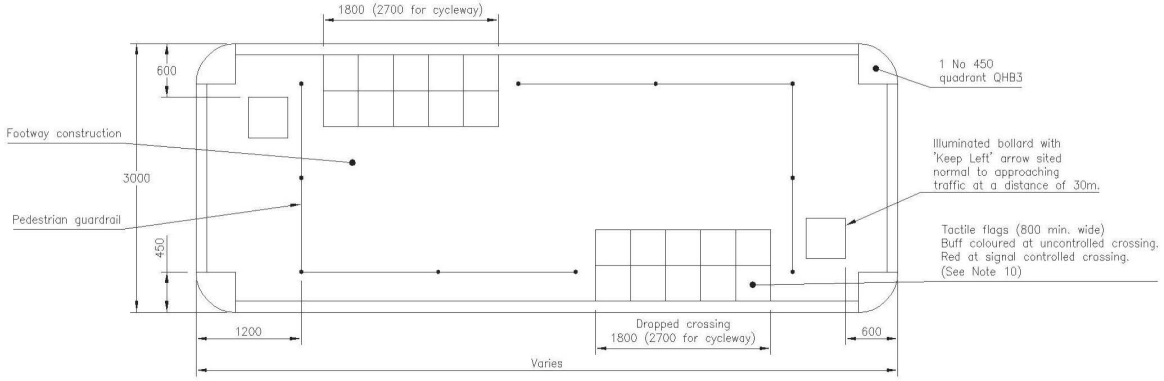

JUNCTION ISLAND




SEPARATION ISLANDS




PEDESTRIAN/CYCLIST REFUGE




REFUGE WITH PEDESTRIAN GUARDRAILING

Drawing Number
# WSD/1100/5

Notes

1. All dimensions are in millimetres.
2. This drawing must be read in conjunction with WSD/1100/1, 2 and 3.
3. All island design and positioning must be to the approval of the Engineer.
4. Minimum island widths:

| | |
|---|---|
| Separation island (pedestrian flows insignificant) | 1500 |
| Pedestrian refuge | 2000 |
| Cycleway refuge | 2500 |

5. Separation islands and pedestrian refuges may be one island or two separate identical islands minimum dimensions as shown.
6. Pedestrian refuge area 2000 square min. This dimension must be increased to 2500 for busy sites and cycleway crossings.
7. All islands to be of flexible footway construction unless otherwise specified.
8. Kerb height above road level at crossing point to be:
   Pedestrian – 10
   Cycleway – 0
9. A dropped crossing must be provided in footways and cycleways opposite the islands.
10. Tactile surfaces in accordance with Guidance on the use of Tactile Paving Surfaces to be laid at cycleway crossing points and elsewhere as directed.
    Uncontrolled crossings – buff slabs.
    Controlled crossings – red slabs.
    Where the gap between the two areas of slabs is less than 500 the slabs must be laid from kerb to kerb.
11. Where guardrails are required the refuge must be a single island of minimum width 3000.
12. Guardrails must be set back 450 from edge of carriageway and 1200 from the noses of islands.
13. Openings in the guardrails on islands must be offset.
14. A 'Keep Left' bollard must be installed facing on coming traffic on each island.
15. An externally illuminated 'Keep Left' arrow Diag. 610 may be required in addition to bollards.
16. All electrical equipment must be to the approval of the Engineer.

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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: TRAFFIC ISLANDS

Drawing No. WSD/1100/5

Revision: A B

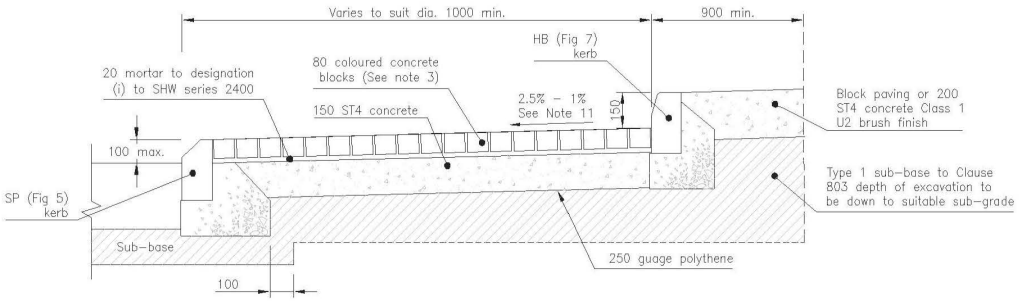
Scale: NOT TO SCALE

Date: JAN 04

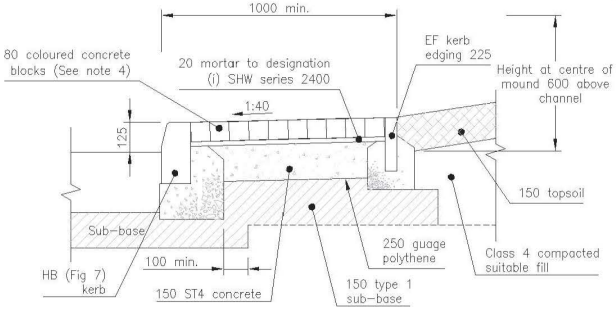
Drawn: RWJY | Checked: MP Ltd | Approved: CF



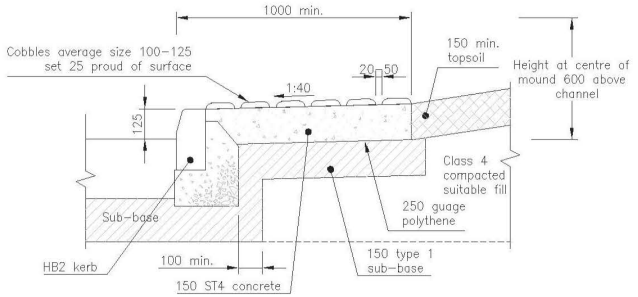
H:Standards Details/WSD/11005




OVER-RUNNABLE STRIP FOR ISLANDS IN SMALL ROUNDABOUTS
FIG 1




BLOCK PAVED EDGE STRIP
FIG 2




COBBLED EDGE STRIP
FIG 3

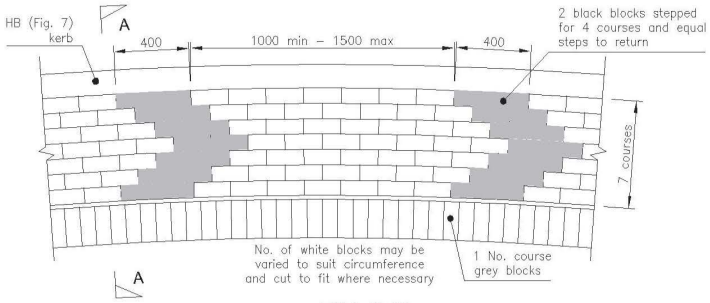



FIG 4a PLAN

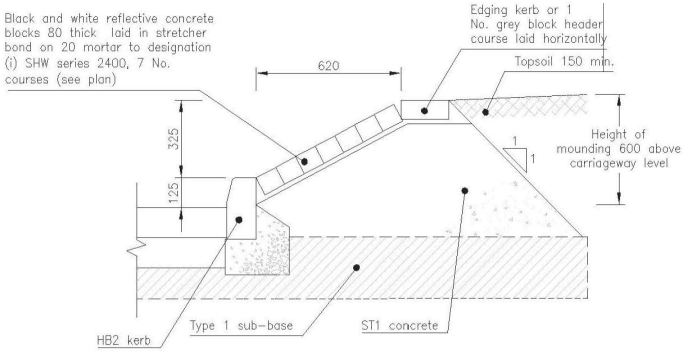



FIG 4b SECTION A-A

CHEVRON PAVING DETAIL - Diagram 515.2

Drawing Number
WSD/1100/6

Notes

1. All dimensions are in millimetres
2. This drawing shall be read in conjunction with Drg. No. WSD/1100/1.
3. All concrete blocks must comply with BS 6717 Parts 1 and 3 and BS 7533–2:2001.
4. The colour of concrete blocks must be approved by the engineer. Red preferred for edge strips.
5. Block paving to be laid in stretcher bond.
6. Width of paved edge strip may be increased to suit other design considerations.
7. Concrete pavements to be constructed in 5000 bays with flexcell joints.
8. Topsoil shall be seeded in accordance with the Specification.
9. Island design must be approved by the Engineer.
10. Chevron paving may only be used with the approval of the Engineer.
11. Gradient dependant on design.

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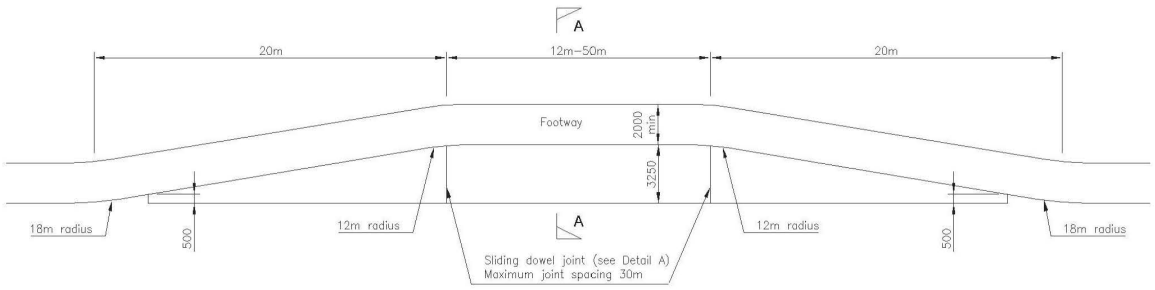
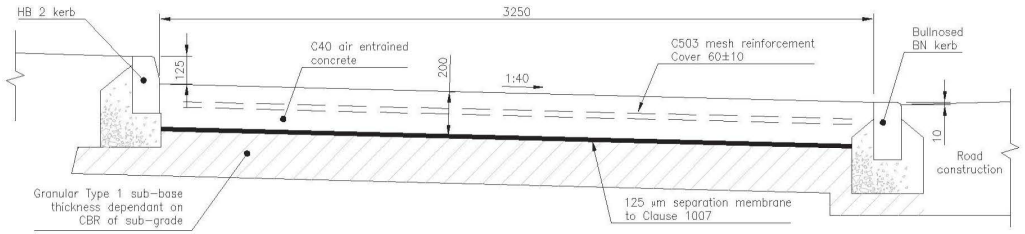
Project
STANDARD DRAWINGS

Title
ROUNDABOUT CENTRAL ISLAND
HARD LANDSCAPING

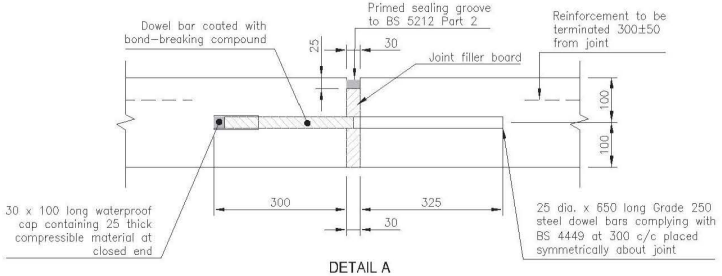
Drawing No. WSD/1100/6
Revision A B
Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



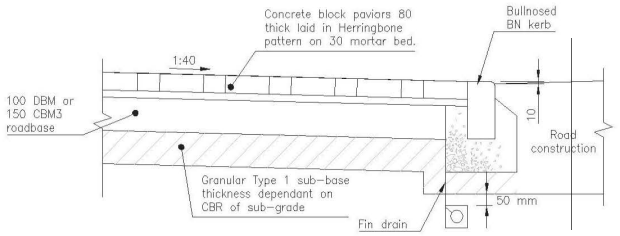

STANDARD BUS LAYBY
PLAN




SECTION A-A




DETAIL A
SLIDING DOWEL JOINT




BLOCK PAVING CONSTRUCTION IN CARRIAGEWAYS

Drawing Number
**WSD/1100/7**

Notes

1. All dimensions are in millimetres unless otherwise stated.
2. Concrete to BS 8500:2002
3. Surface treatment of concrete layby to be brush finished.
4. Exposed surfaces of concrete pavement to be cured immediately after surface treatment.
5. Steel fabric reinforcement to Clause 1008 and BS 4483:1998. Main bars to be placed laterally on top.
6. Dowel bars to be placed at 300 centres. No bars shall be placed within 150 of slab edge.
7. Maximum spacing of sliding dowel joints to be 20m.
8. Hot–applied joint sealant shall comply with D3569.
9. The sealant shall be applied in accordance with the manufacturers recommendations.
10. 80 thick concrete block paving may be used as an alternative to reinforced concrete, see detail.
11. Block paving shall comply with BS 6717 Parts 1 and 3 and BS 7533–2:2001.
12. Formation drainage to be installed where necessary. Fin drains to be in accordance with Highway Construction Details F18 and F19.
13. For kerb details see WSD/1100/1.
14. For footway details see WSD/1100/2.
15. Shelters must be sited to cause minimum restriction to the footway.

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Project
STANDARD DRAWINGS

Title
LAYBY
CONCRETE AND BLOCK PAVING CONSTRUCTION

Drawing No.
WSD/1100/7

Revision
A B

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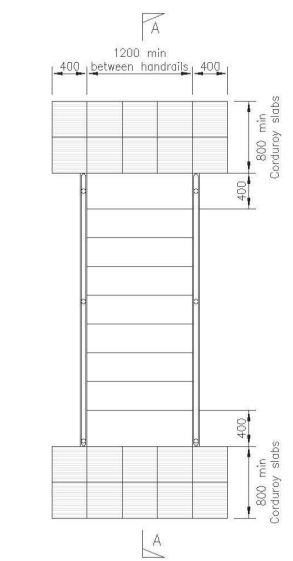
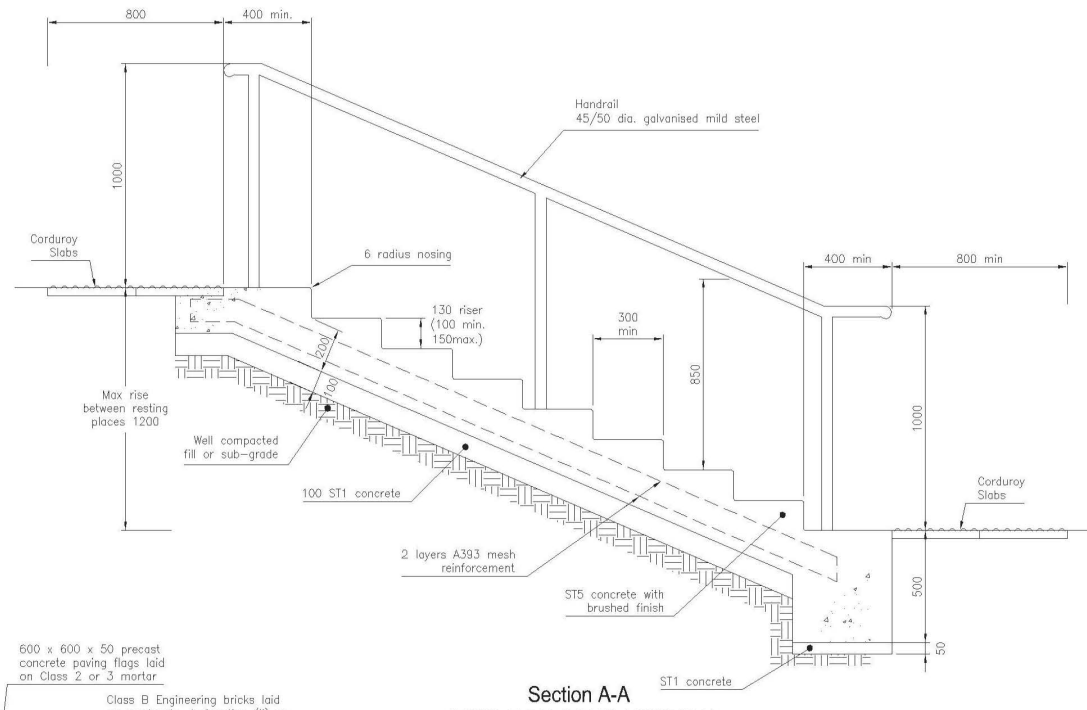
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved cf



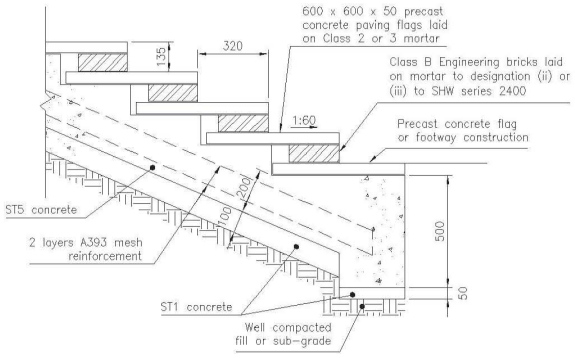
H:Standards Details/WSD/11007



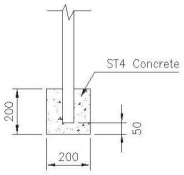

PLAN




Section A-A
CONCRETE CONSTRUCTION




BRICK AND SLAB CONSTRUCTION




HANDRAIL FOUNDATION DETAIL

Drawing Number
**WSD/1100/8**

Notes

1. All dimensions in millimetres.
2. Reference must be made to Guidance on the use of Tactile Paving Surfaces published by DETR.
3. Steps are not permitted in footways alongside carriageways.
4. Where steps are necessary provision should be made for a complimentary ramp.
5. A gradient greater than 1:20 constitutes a ramp and max. permissible gradient is 1:12.
6. Width of steps and ramps to be 2000. Minimum 1200 in restricted areas.
7. There must be a minimum of 3 steps in a flight.
8. Level resting places must be provided at intervals of 6000 horizontally in ramps and flights of steps exceeding a rise of 1200.
9. Resting places to be 1800 long 1200 min.
10. Treads of steps to have a non–slip finish.
11. Noses of treads to be finished with a colour contrasting non–slip strip.
12. Handrails to be provided on both sides of steps and ramps.
13. Handrails may be fixed to adjacent walls with 45 clearance.
14. Handrails must be finished with a solid end piece.
15. Handrails must be fixed according to the manufacturers instructions.
16. Ramps shall be constructed to footway specification and surfaced with a non–slip material.
17. Sub–grade must be to the approval of the Engineer.
18. For footway construction see WSD/1100/2 and 4.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

Engineering Services Section
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Tel: (0118) 974 6000
Fax: (0118) 974 6313

Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: STEPS AND RAMPS
(Remote from the Carriageway)

Drawing No. WSD/1100/8

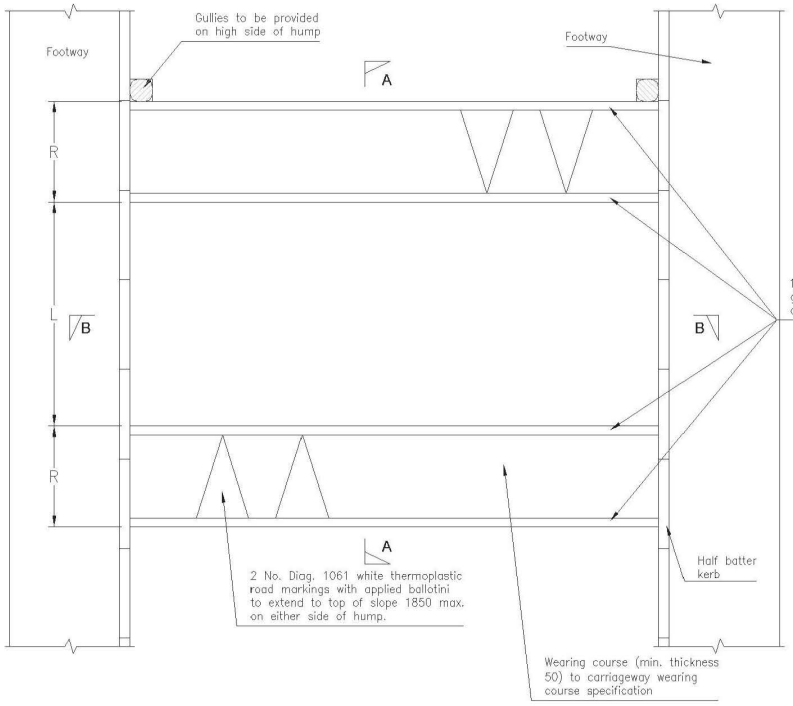
Revision: A B

Scale NOT TO SCALE | Date JAN 04

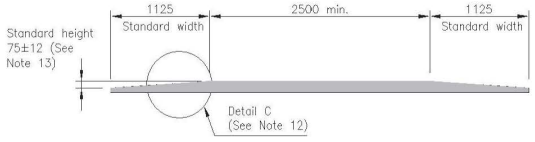
Drawn RWJY | Checked MP Ltd | Approved CF



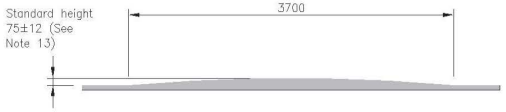
H:Standards Details/WSD/11008




PLAN

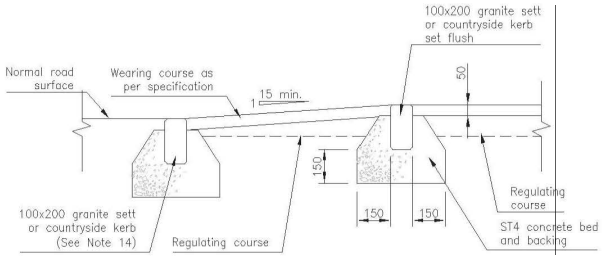



SECTION A-A




ROUND TOPPED HUMP
Alternative Section A-A


SECTION B-B




DETAIL 'C'

Drawing Number
# WSD/1100/9

Notes

1. All dimensions are in millimetres
2. Position of humps to comply with the Highways (Road Humps) Regulations 1990.
3. Position of humps and gullies to be approved by the Engineer prior to construction.
4. Length of hump to be determined by the overall road layout.
5. Minimum length of round top hump shall be 3700.
6. Minimum length of plateau of flat topped hump 'L' shall be 2500.
7. On bus routes 'L' shall be 6000 min.
8. Where humps are installed at pedestrian crossing points 'L' shall be 3000 min.
9. For kerb and footway details see WSD/1100/1 and 2.
10. Gullies to be installed where hump impedes the flow in the channel.
11. Continuous edge of carriageway lines 100 wide are required on both sides of the carriageway and must extend for 6000 either side of hump.
12. Centre line markings to Diag. 1004, 9000 module, 100 wide, are required, 6000 mark to be centred over hump.
13. Height of ramp to be approved. May vary between 50 and 100 according to situation.
14. Kerb Detail C may be omitted with the approval of the Engineer. Wearing course joint must extend 300 min. from toe of ramp.
15. For regulating course material type refer to the Specification.

Do not scale this drawing

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|---|---|---|---|
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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
ROAD HUMP
Flexible Construction on New Road

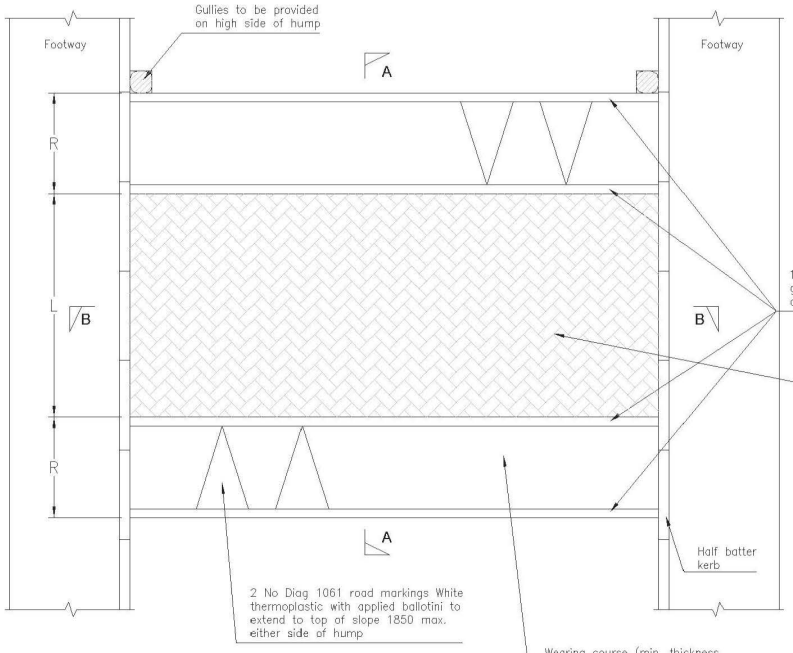
Drawing No.
WSD/1100/9

Revision
A B

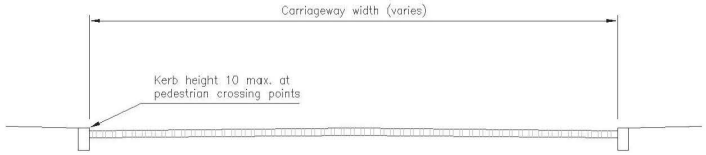
Scale NOT TO SCALE
Date APRIL 00
Drawn RWJY
Checked PARKMAN
Approved CF



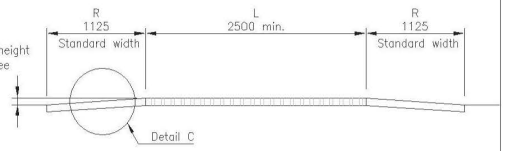
H:Standards Details/WSD/11009



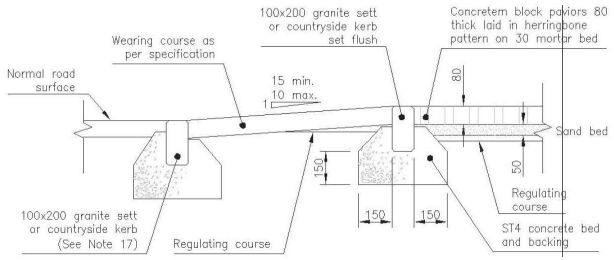

PLAN




SECTION B-B




SECTION A-A




DETAIL 'C'

Drawing Number
# WSD/1100/10

Notes

1. All dimensions are in millimetres
2. Position of humps to comply with the Highways (Road Humps) Regulations 1990.
3. Position of humps and gullies to be approved by the Engineer prior to construction.
4. Length of hump to be determined by the overall road layout.
5. Minimum length of plateau of hump shall be 2500.
6. On bus routes 'L' shall be 6000 min.
7. Where humps are installed at pedestrian crossing points 'L' shall be 3000 min.
8. For kerb and footway details see WSD/1100/1 and 2.
9. Gullies to be installed where hump impedes the flow in the channel.
10. Block paving must comply with BS 6717 Parts 1 and 3 and BS 6677.
11. Block paving shall be 80 thick laid in 45° herringbone pattern with Bishops Hat edge blocks and sealed with the manufacturers recommended sand.
12. Blocks may be grey, buff, red or brindle.
13. The sanded joints should be sealed with a stabilising compound.
14. Continuous edge of carriageway lines 100 wide are required on both sides of the carriageway and must extend for 6000 either side of hump.
15. Centre line markings to Diag. 1004, 9000 module, 100 wide, are required, 6000 mark to be centred over hump.
16. Height of ramp to be approved. May vary between 50 and 100 according to situation.
17. Kerb Detail C may be omitted with the approval of the Engineer. Wearing course joint to be 300 min. before toe of ramp.
18. For material types of the regulating course refer to the Specification.

Do not scale this drawing

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| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: ROAD HUMP
Block Paving Construction

Drawing No. WSD/1100/10

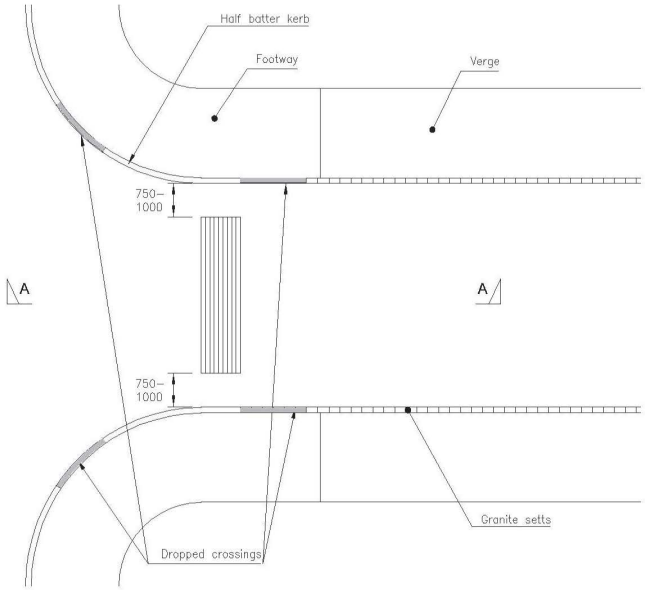
Revision: A B

Scale: NOT TO SCALE | Date: APRIL 00

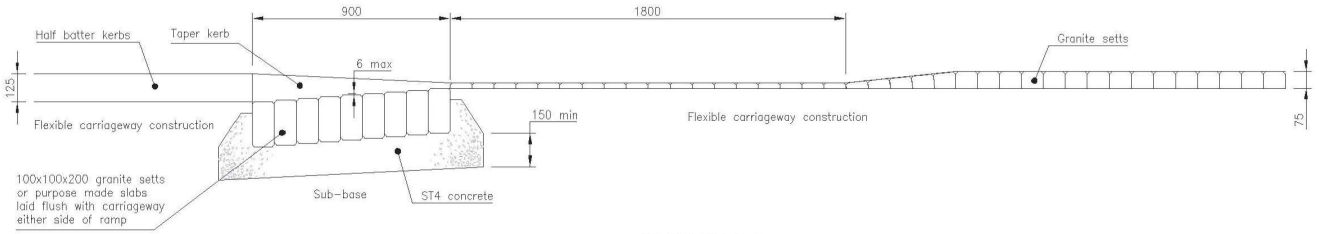
Drawn: RWJY | Checked: MP Ltd | Approved: CF



H:Standards Details/WSD/110010




PLAN




SECTION A-A

Drawing Number
WSD/1100/11

Notes
1. All dimensions are in millimetres
2. Carriageway construction see drawings WSD/900/1 and WSD/900/2.
3. For kerb and footway details see drawing WSD/1100/1 and /2.
4. Setts shall be pointed with mortar to designation (ii) to SHW series 2400.
5. Gateway setts to be laid level where there is no change in kerb height.
6. The gateway rumble strip must terminate 750 min. from kerb on either side for the benefit of cyclists.

Do not scale this drawing

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|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: GATEWAY TO SHARED ACCESS

Drawing No. WSD/1100/11

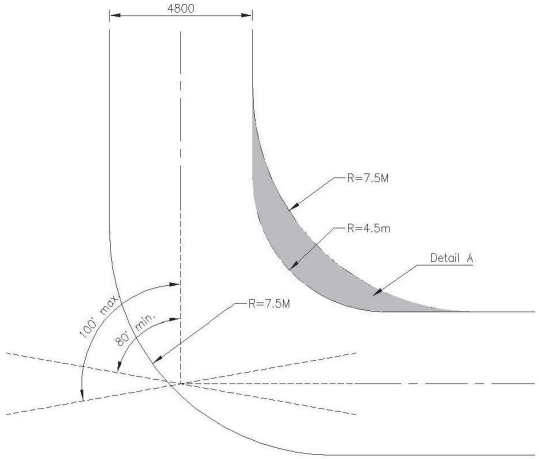
Revision: A B

Scale: NOT TO SCALE | Date: JAN 04

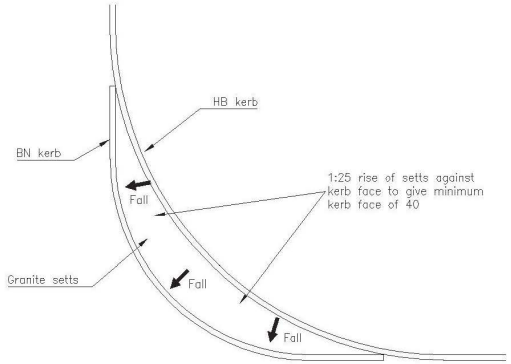
Drawn: RWJY | Checked: MP Ltd | Approved: CF



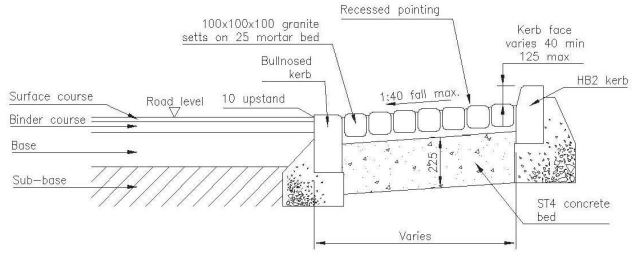
H:Standards Details/WSD/110011




PLAN
Speed Control Bend




DETAIL A




TYPICAL SECTION OF OVER-RUNNABLE AREA

Drawing Number
WSD/1100/12

Notes
1. All dimensions are in millimetres
2. The layout of Estate roads must have the approval of the Planning and Highway Authorities.
3. This construction detail may also be used at other speed control features included in the design guide.
4. For kerbing and road construction details see :–
   WSD/1100/1 WSD/1100/2
   WSD/900/1 WSD/900/2

Do not scale this drawing

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
SPEED CONTROL FEATURE

Drawing No.
WSD/1100/12

Revision
A B

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Date JAN 04
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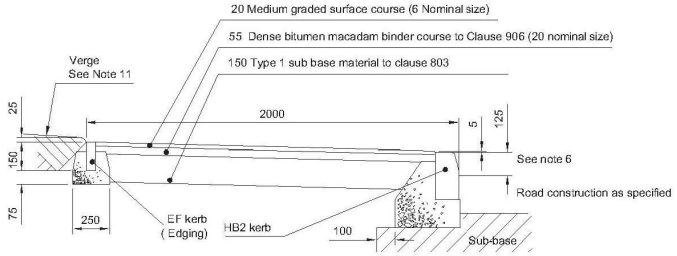
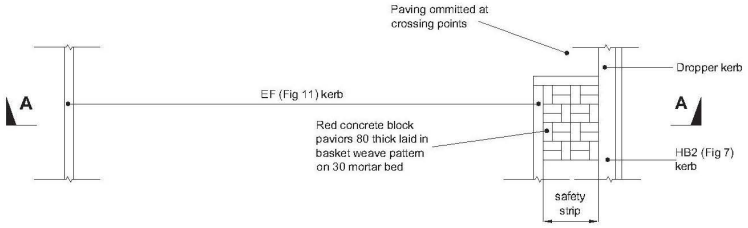
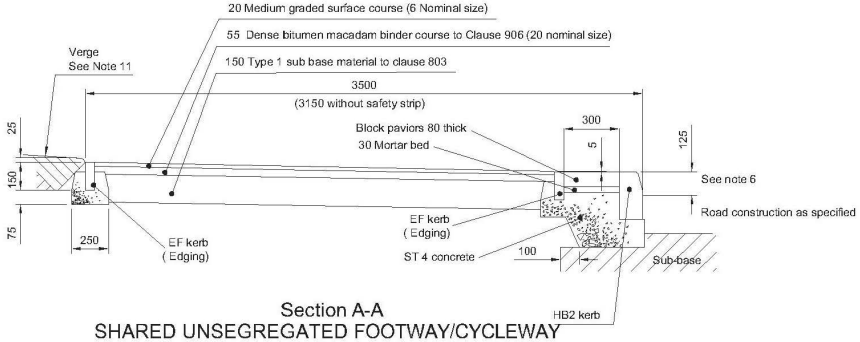
H:Standards Details/ WSD/110012




TYPICAL CROSS SECTION THROUGH
FOOTWAY AND VERGE




PLAN
(Showing paved safety strip)




Section A-A
SHARED UNSEGREGATED FOOTWAY/CYCLEWAY
WITH SAFETY STRIP
(For details of segregated layout see "Cycling in Berkshire")

Drawing Number
# WSD/1100/13

Notes

1. All dimensions are in millimetres
2. All kerbs to BS EN 1340:2003
3. Kerbing details to be as shown on drawings WSD/1100/01 except where modified by this drawing
4. Kerbs:
   Half batter kerbs HB2 125
   Splay kerbs - SP 100
5. Edging kerbs shall be provided on all free edges of paved areas not confined by a kerb or boundary wall
6. Footways, cycleways and highway verges shall normally fall at 1:40 towards the highway
7. In certain areas block paved footways will be permitted
   Construction:
   60/65 Concrete blocks
   50 Compacted sand
   75 Type 1 sub base
   In certain circumstances 80 thick concrete blocks will be required
8. All block paving must comply with BS 6717:2001 Parts 1 and 3 and BS 7533-2:2001
9. All soft spots and organic material must be removed before construction
10. An approved residual weedkiller which does not contain Atrazine or Simazine formations
11. Verge areas shall have a 150 covering of topsoil spread 25 above top of kerb to allow for settlement and shall be seeded in accordance with the Specification
12. Existing verges adjacent to new kerbing must be regraded and seeded
13. A verge 1000min wide is required at base of cutting and top of embankment slopes
14. For cycleway detail see WSD/1100/03
15. For block paved construction see WSD/1100/04
16. All macadams shall comply with BS 4987:2001, Sub base shall be DETR Type 1 material
17. All insitu concrete to kerb foundations and haunching to be ST4 concrete

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| Rev | Date | | Checked |
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| A | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
FOOTWAYS, CYCLEWAYS AND VERGES

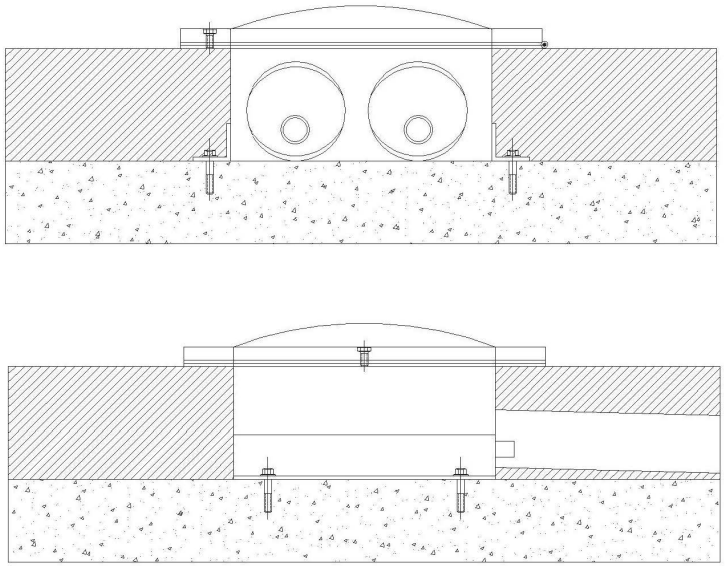
Drawing No.
WSD/1100/13

Revision
A B

Scale NOT TO SCALE
Date JAN 04
Drawn MVB
Checked MP Ltd
Approved CF

Concrete or built up within 50mm of surface to allow tarmac or varied depth to suit modular surface.

Concrete



Drawing Number
WSD/1100/14

Notes

1. Base compartment to be watertight below ground level. All incoming cables to be sealed EPDM rubber Cold ShrinkConnector insulators 3M 84726-9.
2. The entire base enclosure to be sealed to IP 65.
3. Access to the base section electrical compartment shall be via a single triangular head fixing.
4. Gear and lamp tray shall automatically disconnect on both poles upon opening of the base section or be removable with insulated handles.
5. The window to the base compartment shall be domed polycarbonate to prevent water collecting and to improve visibility in the event of knockdown.
6. Manufactured in accordance with the current edition of BS.873.
7. Of simmon signs Ltd. Manufacure, Unit 36, Hortonwood 33, Telford, Shorpshire, TP1 4EX or equal & approved in writing by WDC.
8. Fitted with IP68 internally fixed packing glands to provide a watertight seal for cables 8mm to 17mm.
9. Base constructed of cast LM6-M aluminium.
10. Fitted with socket & plug arrangement for safe removal of lamp/gear tray.
11. Fitted with intedral Charles or Tofco diuble pole fused switched disconnector fixed in base complete with integral combined cable/earthing clamp for PVCSWA PVC cable. Type Charles CET - 004/125 (single cable) or CET - 004/225 (looped).
12. Provided with incoming cabling minimum 4mm sq X 3 core (includingv earth core) type PVCSWA PVC.
13. Connected to a local lighting column via a fused spur circiut.
14. Unit to be controlled via a infra red photoelectic cell

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Client
WOKINGHAM BOROUGH COUNCIL

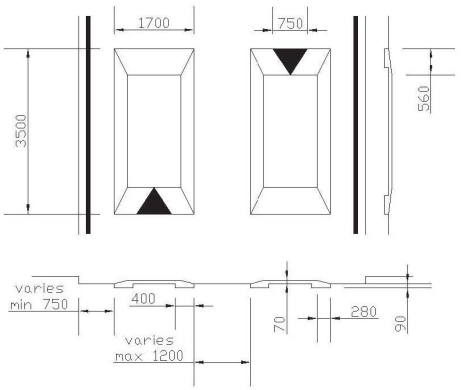
Project
STANDARD DRAWINGS

Title
INSTALLATION OF BOLLARD BASE

Drawing No.
WSD/1100/14

Revision
A B

Scale N.T.S
Date JAN 04
Drawn PDO
Checked MS
Approved CF

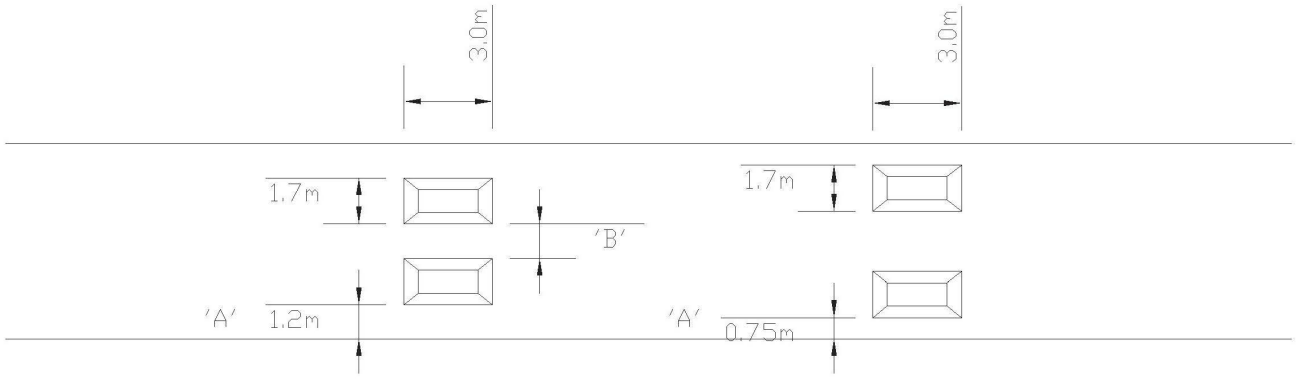



## Speed Cushion Dimensions

| | |
|---|---|
| Width: | 1700mm |
| Length: | 3500mm |
| Height: | 70mm |
| Side Slopes: | 1:4 |
| On & Off Slopes: | 1:8 |
| Middle spacing: | 1200mm |

Speed cushions to be constructed of Dense Bitumen Macadam with a minimum key-in 90mm deep X 400mm wide

Markings:
GOSE approved single triangle - base 750mm
Carriageway edge markings to diag. 1012.1




DIMENSIONS 'A' AND 'B' TO BE A MINIMUM OF 0.75m AND A MAXIMUM OF 1.20m

SPEED CUSHIONS TO BE 1.70m WIDE AND 3.0m LONG

Drawing Number
WSD/1100/11

Notes

1. All dimensions are in millimetres unless otherwise stated.
2. Concrete to BS 5328 Part 2
3. Surface treatment of concrete layby to be brush finished.
4. Exposed surfaces of concrete pavement to be cured immediately after surface treatment.
5. Steel fabric reinforcement to Clause 1008 and BS 4483. Main bars to be placed laterally on top.
6. Dowel bars to be placed at 300 centres. No bars shall be placed within 150 of slab edge.
7. Maximum spacing of sliding dowel joints to be 20m.
8. Hot-applied joint sealant shall comply with D3569.
9. The sealant shall be applied in accordance with the manufacturers recommendations.
10. 80 thick concrete block paving may be used as an alternative to reinforced concrete, see detail.
11. Block paving shall comply with BS 6717 Parts 1 and 3 and BS 6677.
12. Formation drainage to be installed where necessary. Fin drains to be in accordance with Highway Construction Details F18 and F19.
13. For kerb details see SD/1100/1.
14. For footway details see SD/1100/2.
15. Shelters must be sited to cause minimum restriction to the footway.

Do not scale this drawing

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|---|---|---|---|
| A | 19/1/4 | ISSUED FOR TENDER | MS |

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
SPEED CUSHIONS DETAIL
Typical dimensions and setting out

Drawing No.
WSD/1100/15

Revision
A

Scale NOT TO SCALE | Date JAN 04
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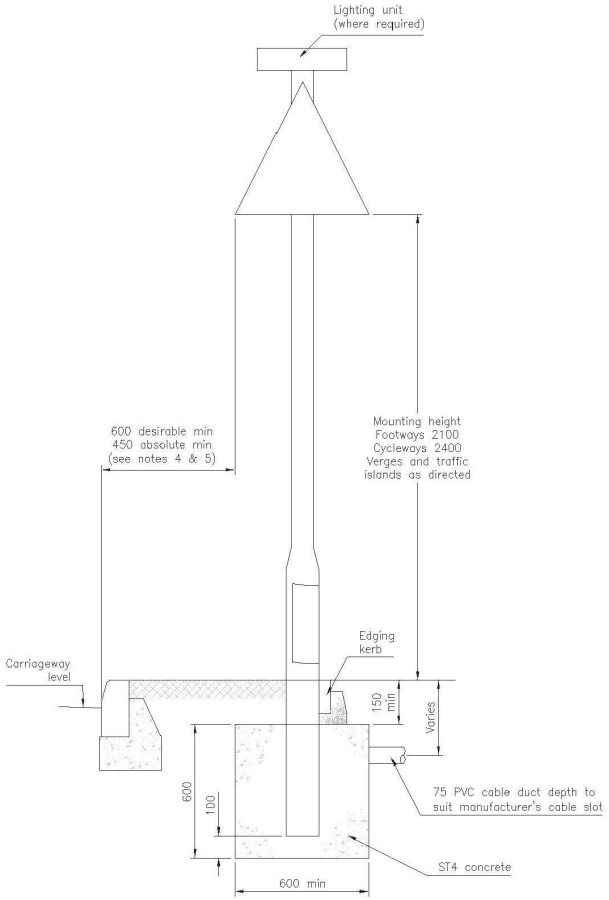
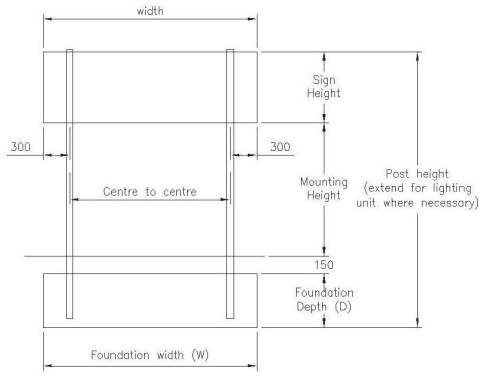
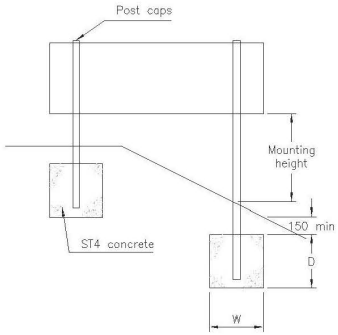



FOUNDATION FOR SIGN POST WITH ELECTRICAL BASE HOUSING
(Straight post similar - duct omitted)




FOUNDATION DETAIL FOR TWO POSTS




TYPICAL FOUNDATION DETAIL
ON EMBANKMENT

Drawing Number
# WSD/1200/1

Notes

1. All dimensions in millimetres.
2. All signs to comply with the Traffic Signs Regulations and General Directions 2002.
3. Sign positions to comply with the requirements of the Engineer.
4. Single posts will normally be sited at the back of footway or highway verge.
5. Clearance to the edge of signs must be increased where there is a severe camber or crossfall or sign is in a central reservation.
6. Traffic signal poles must be set back 1000 from edge of carriageway. The Engineer must be consulted if a pole in this position will affect a footway or is otherwise impractical.
7. Mounting heights of all signs to be to the approval of the Engineer.
8. Internally illuminated signs are not permitted.
9. Not more than two signs are to be mounted on one post.
10. Illuminated signs or signs greater than 600 wide shall not be fitted to lamp columns.
11. Post height must allow for sloping ground.
12. Posts shall be steel and comply with BS 873.
13. Standard signs to be mounted on a 76 diameter post with a wall thickness of 3.2.
14. Open ended poles must be provided with sealed caps.
15. Foundation depth D must be 600 min.
16. Overdig to be backfilled with Type 1 sub-base material in paved areas.
17. Min. 150 deep topsoil required over foundations in verges.
18. Posts with electrical housing shall be sited so that the door faces away from oncoming traffic.
19. For illuminated signs supported on more than one post the electrical housing must be in the post farthest from the carriageway.
20. Lighting units must be approved and will be dependant on size of sign.
21. All illuminated signs must be identified by a unique number which will be provided by the Engineer.
22. Lit signing units will normally be controlled via a photoelectric conctol unit.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: TRAFFIC SIGNS

Drawing No. WSD/1200/1

Revision: A B

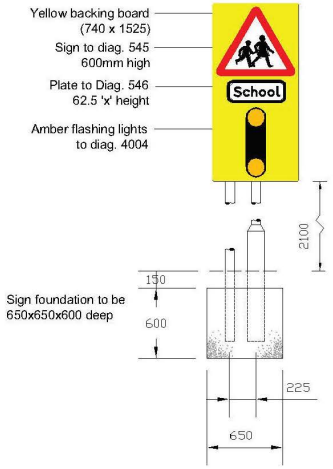
Scale: NOT TO SCALE

Date: JAN 04

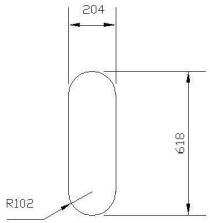
Drawn: RWJY | Checked: MP Ltd | Approved: CF



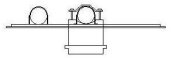
H:Standards Details/WSD/12001



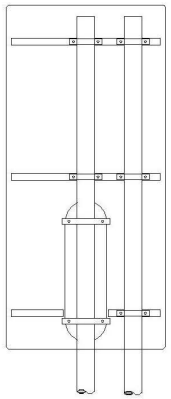

School warning sign with amber flashing lights for 30mph zone



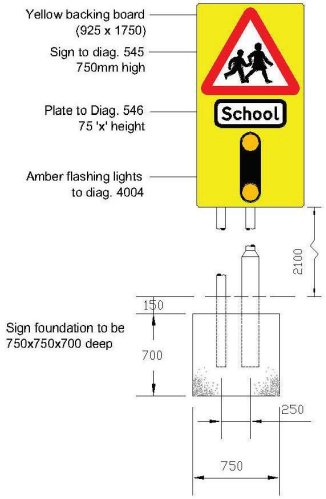

Hole dimension



Top view



Rear view of 30mph zone




School warning sign with amber flashing lights for 40mph zone

Drawing Number
WSD/1200/2C

Notes

1. All dimensions in millimetres.
2. All signs to comply with the Traffic Signs Regulations and General Directions 2002.
3. Sign positions to comply with the requirements of the Engineer.
4. Single posts will normally be sited at the back of footway or highway verge.
5. Clearance to the edge of signs must be increased where there is a severe camber or crossfall or sign is in a central reservation.
6. Traffic signal poles must be set back 1000 from edge of carriageway. The Engineer must be consulted if a pole in this position will affect a footway or is otherwise impractical.
7. Mounting heights of all signs to be to the approval of the Engineer.
8. Internally illuminated signs are not permitted.
9. Not more than two signs are to be mounted on one post.
10. Illuminated signs or signs greater than 600 wide shall not be fitted to lamp columns.
11. Post height must allow for sloping ground.
12. Posts shall be steel and comply with BS 873.
13. Standard signs to be mounted on a 76 diameter post with a wall thickness of 3.2.
14. Open ended poles must be provided with sealed caps.
15. Foundation depth D must be 600 min.
16. Overdig to be backfilled with Type 1 sub-base material in paved areas.
17. Min. 150 deep topsoil required over foundations in verges.
18. Posts with electrical housing shall be sited so that the door faces away from oncoming traffic.
19. For illuminated signs supported on more than one post the electrical housing must be in the post farthest from the carriageway.
20. Lighting units must be approved and will be dependant on size of sign.
21. All illuminated signs must be identified by a unique number which will be provided by the Engineer.

Do not scale this drawing

| Rev | Date | | | |
|---|---|---|---|---|
| D | 16/1/04 | DRAWING UPDATED FOR TENDER | MS | CF |
| C | 20/3/3 | Foundation detail changed | JS | TMG |
| B | 26/7/2 | Pole arrangement changed | JS | TMG |

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

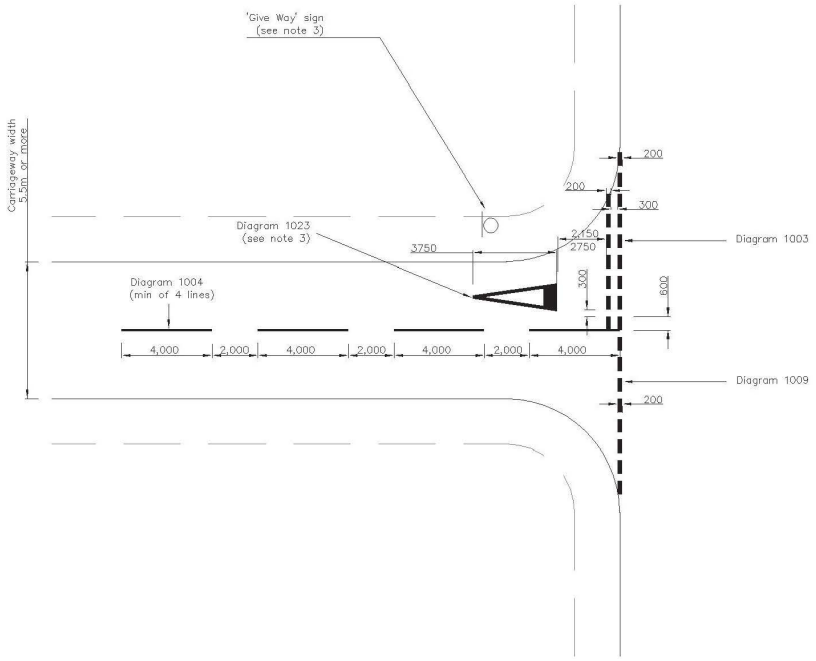
Title
TRAFFIC SIGNS
SCHOOL WARNING SIGN WITH
AMBER FLASHING LIGHTS

Drawing No.
WSD/1200/2

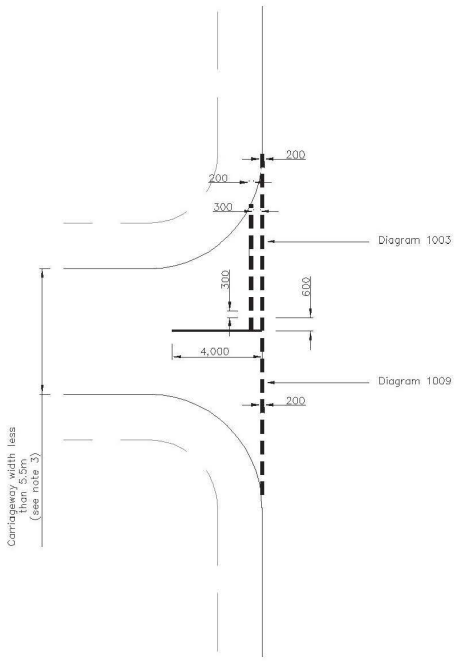
Revision
A B C D

Scale NOT TO SCALE
Date JAN 04
Drawn JS
Checked MS
Approved CF

Estate Roads
5.5 metres or more width




Estate Roads
Less than 5.5 metres (see note 5)




Drawing Number
WSD/1200/4

Notes

1. All dimensions in millimetres unless otherwise stated.
2. All signs and road markings to comply with the Traffic Signs Regulations and General Directions 2002.
3. The Give Way sugn and Diagram 1023 are to be provided where required by the Council Engineer
4. (i) Hand Laid white thermonplastic material to BS 3362 Class A
   (ii) Machine laid to BS 3262
5. For side roads less than 4.5m wide a double line to diagram 1003 shall be laid over the whole junction.
6. Where white lines are required for private accesses a single line to Diagram 1009 or Diagram 1026.1 shall be laid across entrance.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| A | FEB 04 | DRAWING ISSUED FOR TENDER | PKMN |

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
TYPICAL JUNCTION LAYOUT

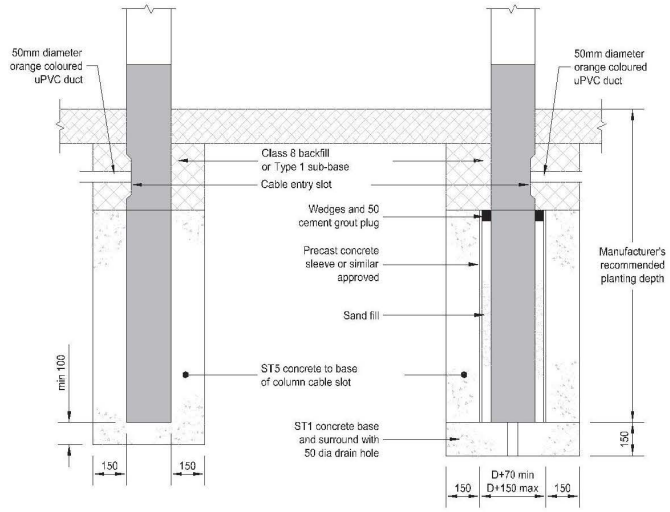
Drawing No.
WSD/1200/4

Revision
A

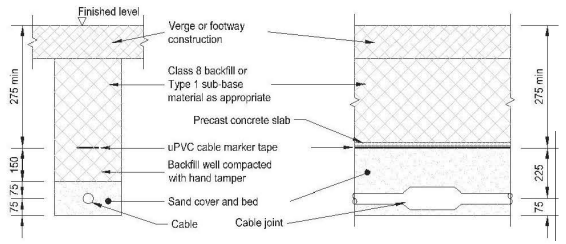
Scale NOT TO SCALE
Date JAN 04
Drawn MS
Checked MP Ltd
Approved CF



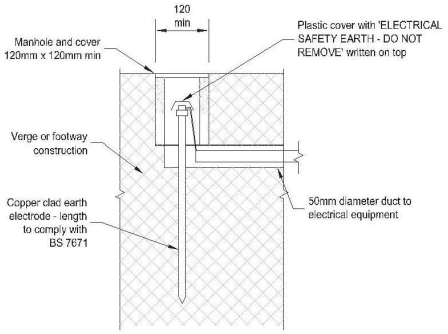
H:Standards Details/WSD/12001



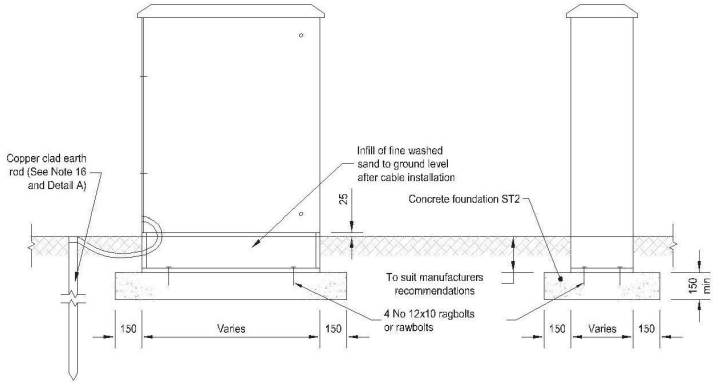

## COLUMN FOUNDATION DETAILS




## TYPICAL SECTIONS CABLE TRENCH
(See Note 14)




## Detail A
## EARTH ELECTRODE DETAIL




## FEEDER PILLAR FOUNDATION DETAIL

Drawing Number
# WSD/1300/1

Notes

1. All dimensions in millimetres.
2. All equipment to be to the specification and/or approval of the Engineer.
3. All equipment to be sited within the highway boundary.
4. Lighting columns must be sited to suit the design of the system and will normally be erected at the back of footway, cycleway or highway verge. A minimum clearance of 1800 from the face of kerb is required.
5. Illuminated signs or signs over 600 wide must not be fixed to lighting columns.
6. All columns to be painted with two coats of gloss paint to BS4800:1989 colour as specified.
7. Galvanised columns to be painted with etching primer prior to gloss painting.
8. Columns to be painted to 250 above GL with black bituminastic paint.
9. Special foundations are required for certain types of columns and the Engineer should be consulted for details.
10. All columns shall be planted so the door is safely accessible.
11. Backfill to excavations in paved areas must be Type 1 sub-base material.
12. Class 8 lower trench fill to be to Clause 503.
13. A hardstanding of concrete paving slabs is required in front of feeder pillar doors in verges.
14. Where possible all cables must be laid in 100 dia. orange uPVC duct. See WSD/500/3 for cable duct details.
15. An earth electrode must be fitted on the last column of each run.
16. Earth rods to comply with IEE regulations. Min length 1500.
17. All columns must be identified by a unique number stencilled in black paint. The numbers will be provided by the Engineer.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWINH UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
STREET LIGHTING
Column and Feeder Pillar Foundation Details, Cabling and Jointing

Drawing No. WSD/1300/1

Revision A B

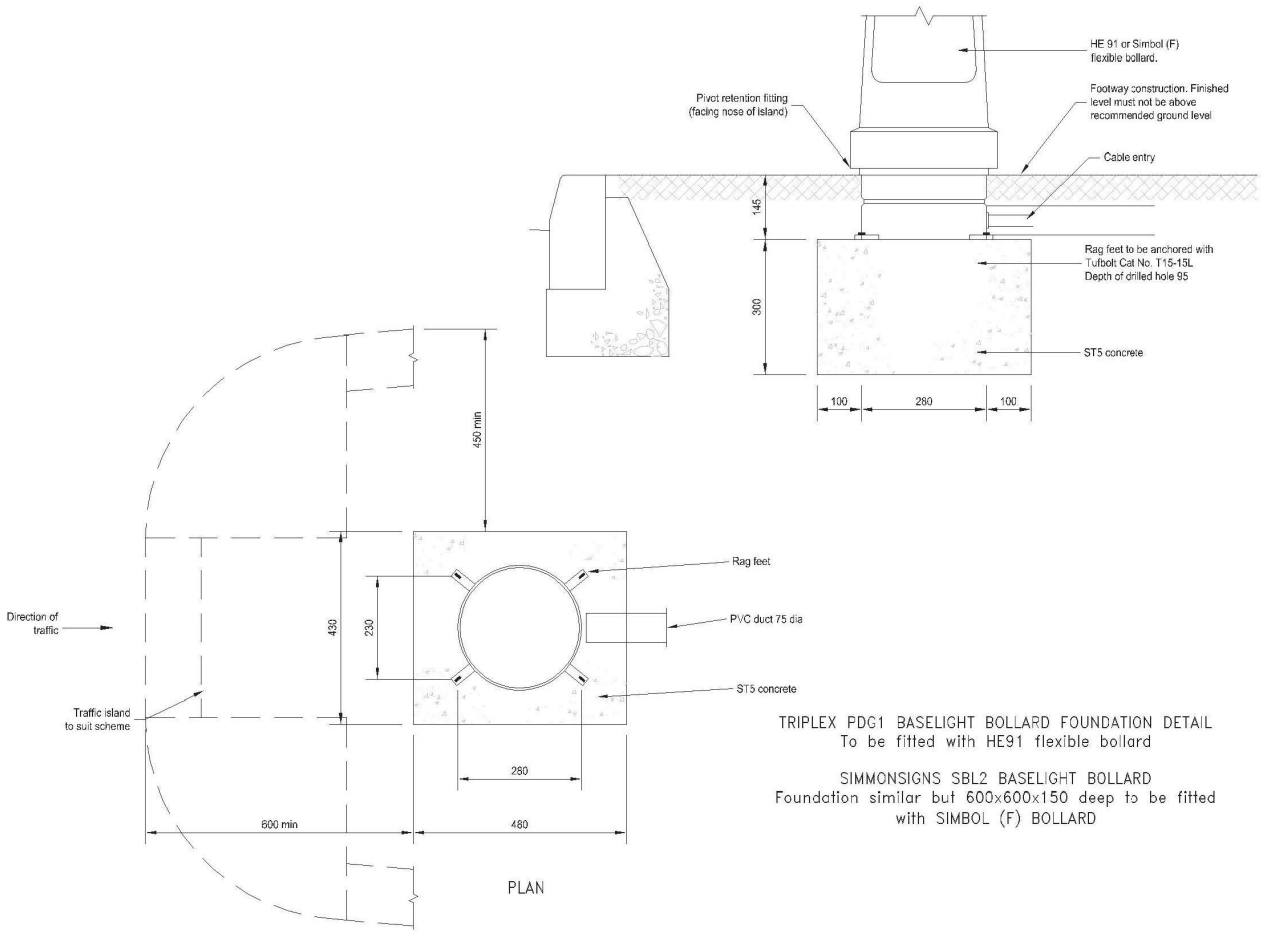
Scale N.T.S

Date JAN 04

Drawn RWJY | Checked MP Ltd | Approved CF



H:Standard Details/WSD/1300/1




TRIPLEX PDG1 BASELIGHT BOLLARD FOUNDATION DETAIL
To be fitted with HE91 flexible bollard

SIMMONSIGNS SBL2 BASELIGHT BOLLARD
Foundation similar but 600x600x150 deep to be fitted with SIMBOL (F) BOLLARD

Drawing Number
WSD/1300/2

Notes

1. All dimensions in millimetres.
2. All equipment to be to the specification and/or approval of the Engineer.
3. All equipment to be sited within the highway boundary.
4. Bollards must be Baselight Triplex HE91 with PDG1 base or Simmonsigns Symbol (F) with SBL2 base unless otherwise approved by the Engineer.
5. Bollards must be fitted according to the manufacturers instructions.
6. PDG1 bollard base must be fitted with M8 x 20 stainless steel set pins and nuts.
7. Bollards must be sited with the retainer bolts in line with the traffic flow.
8. Bollards must be sited with the hinged side facing approaching traffic.
9. An infra-red photocell, factory fitted, is required in all bollards.
10. All illuminated signs must be identified by a unique number stencilled in black paint on the rear. The numbers will be provided by the Engineer.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Project
STANDARD DRAWINGS

Title
ILLUMINATED BOLLARD FOUNDATION DETAILS

Drawing No.
WSD/1300/2

Revision
A B

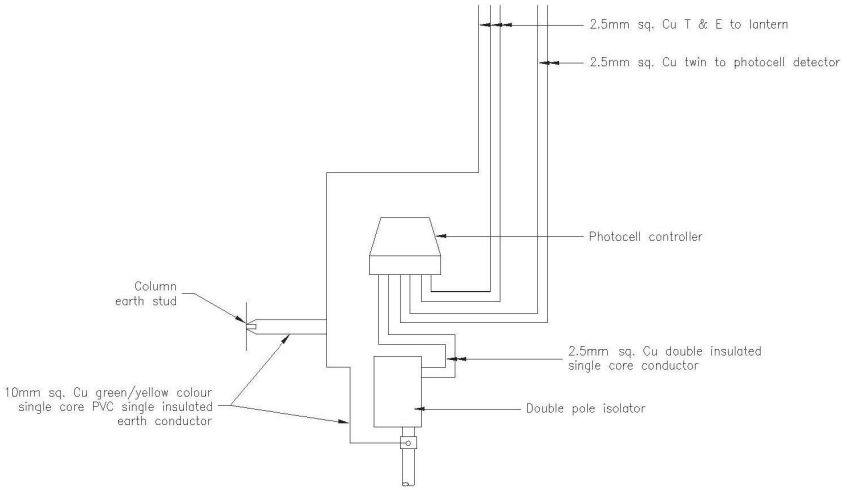
Scale N.T.S

Date JAN 04

Drawn RWJY | Checked MP Ltd | Approved CF



H:Standards Details/WSD/1300/2




Drawing Number
WSD/1400/1

Notes

1. All electrical equipment must be to the approval of the Engineer.
2. Fuse discrimination must be applied.
3. Size of earth conductor from column earth bolt to door to be 4mm sq. copper 56/0.30 flexible cord PVC insulated colour code green/yellow.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATE DFOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client
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Project
STANDARD DRAWINGS

Title
TYPICAL COLUMN/SIGN WIRING DETAIL

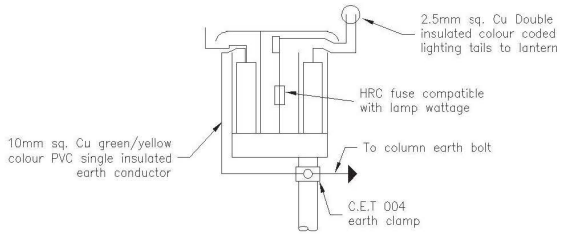
Drawing No.
WSD/1400/1

Revision
A B

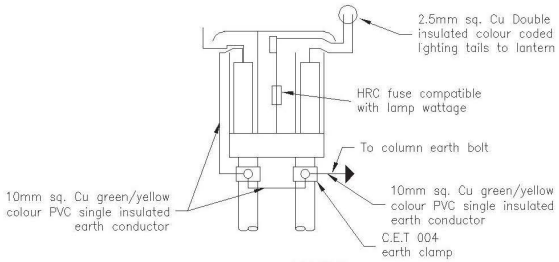
Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



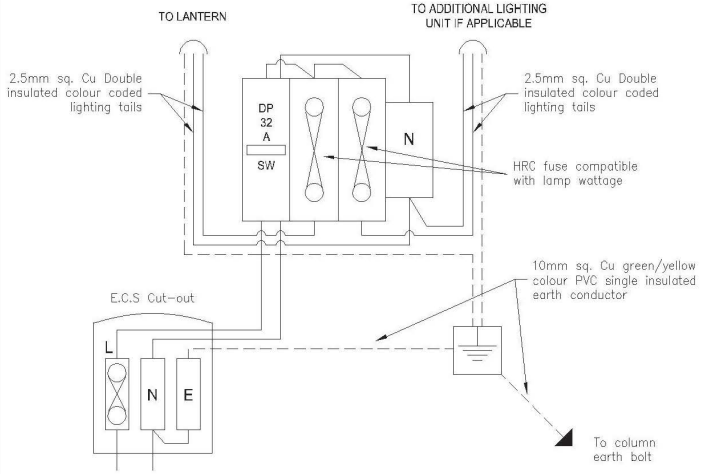
H:Standards Details/WSD/13003



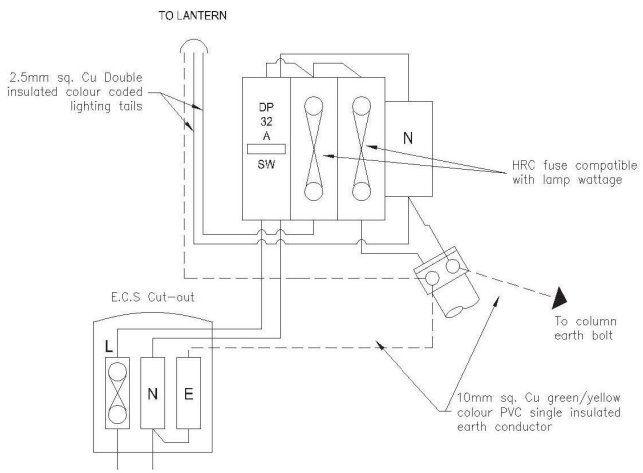

TYPE A




TYPE B




TYPE C




TYPE D

Drawing Number
WSD/1400/2

Notes

1. All electrical equipment must be to the approval of the Engineer.
2. Fuse discrimination must be applied.
3. Size of earth conductor from column earth bolt to door to be 4mm sq. copper 56/0.30 flexible cord PVC insulated colour code green/yellow.
4. Isolator to be phase identified.
5. All terminations to be made using crimped lugs.
6. Outgoing fused cables to be labelled to indicate identification numbers or other items of electrical equipment it supplies.
7. All electrical equipment with a type D, G or H termination to be labelled with the letter F prefixing the number on the outside of the column.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client
WOKINGHAM BOROUGH COUNCIL

Project
STANDARD DRAWINGS

Title
TERMINATION TYPES
Type A, B, C and D

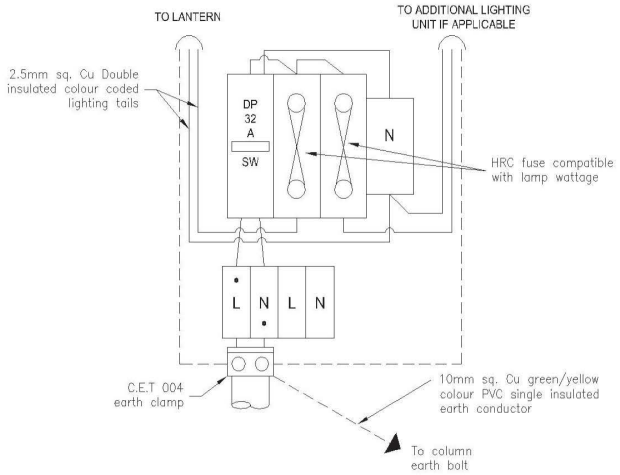
Drawing No.
WSD/1400/2

Revision
A B

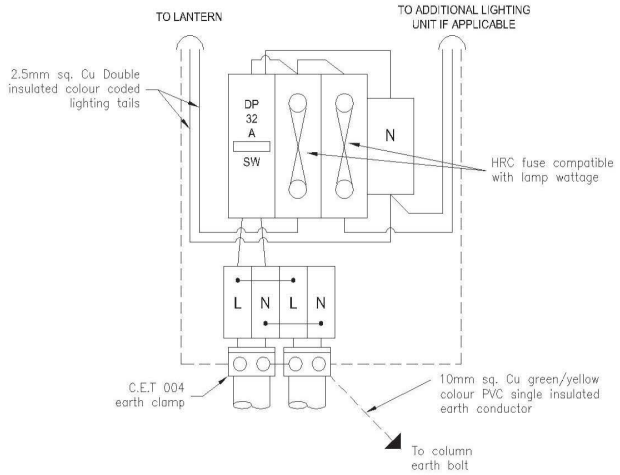
Scale NOT TO SCALE
Date JAN 04
Drawn RWJY
Checked MP Ltd
Approved CF



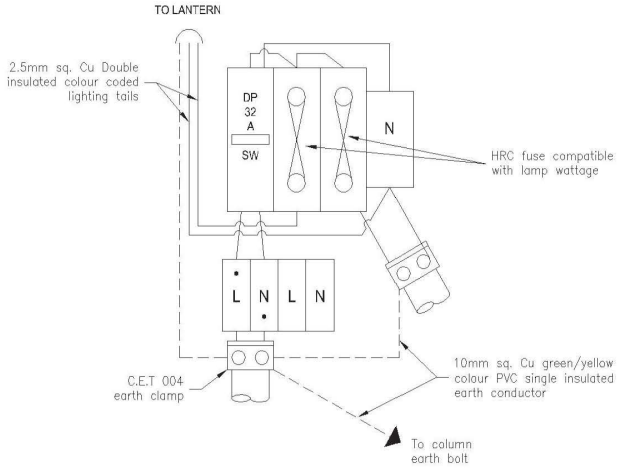
H:Standards Details/WSD/13004



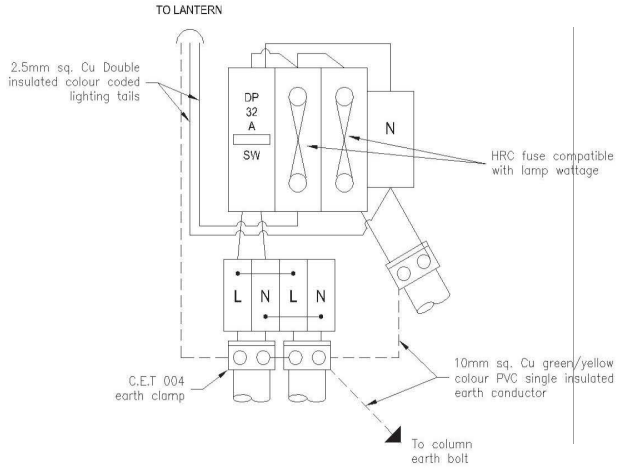

TYPE E




TYPE F




TYPE G




TYPE H

Drawing Number
# WSD/1400/3

Notes

1. All electrical equipment must be to the approval of the Engineer.
2. Fuse discrimination must be applied.
3. Size of earth conductor from column earth bolt to door to be 4mm sq. copper 56/0.30 flexible cord PVC insulated colour code green/yellow.
4. Isolator to be phase identified.
5. All terminations to be made using crimped lugs.
6. Outgoing fused cables to be labelled to indicate identification numbers or other items of electrical equipment it supplies.
7. All electrical equipment with a type D, G or H termination to be labelled with the letter F prefixing the number on the outside of the column.

Do not scale this drawing

| Rev | Date | | Checked |
|---|---|---|---|
| B | JAN 04 | DRAWING UPDATED FOR TENDER | MS |
| A | APR 00 | DRAWING UPDATED FOR TENDER | PKMN |

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Client: WOKINGHAM BOROUGH COUNCIL

Project: STANDARD DRAWINGS

Title: TERMINATION TYPES
Type E, F, G and H

Drawing No. WSD/1400/3

Revision: A B

Scale NOT TO SCALE | Date JAN 04

Drawn RWJY | Checked MP Ltd | Approved CF



H:Standards Details/WSD/13005