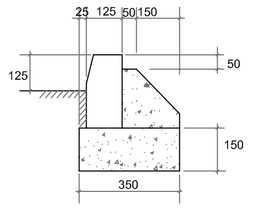
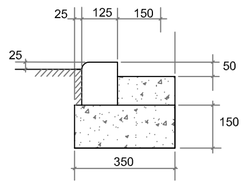
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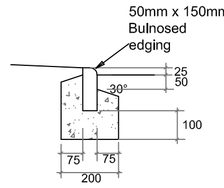


Half Battered Kerb: Type HB2
(255mm x 125mm)

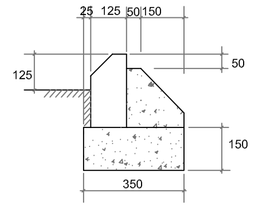
Kerbing



Bullnosed Kerb: Type BN
(150mm x 125mm)

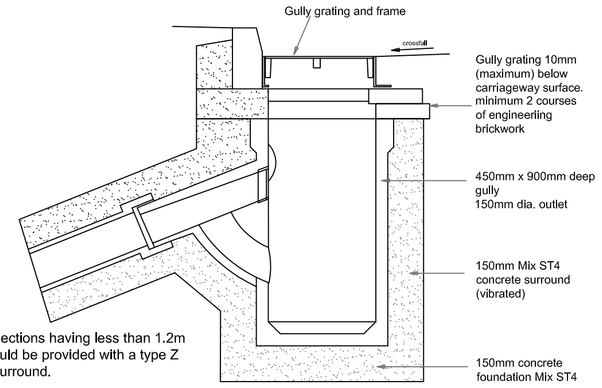


Bullnosed Edging Kerb: Type EBN



45 splayed Kerb: Type SP
(255mm x 125mm)

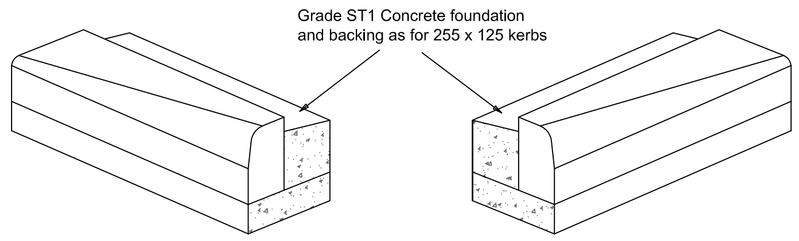
Gully Detail



Gully connections having less than 1.2m cover, should be provided with a type Z concrete surround.

Notes:
Method of Construction:
- Gully pot placed in position with temporary cover
- All pavement courses laid except surface (wearing course)
- Pavement excavated no more than 200mm beyond sides of gully grating and frame fixed.
- Excavation backfilled with ST4 concrete to underside of wearing course.

Gully Grating and Frame
Grating & frame to BS EN 124:1994 as amended by BS7903
Class D400, 450mm nominal width, min bedding width of frame 75mm.
Lower order roads - Ductile iron, min frame depth 100mm
single piece, hinged, non-rock.
Brickwork beneath frame:
Class B Engineering bricks to BS3921, mortar to BS5628: part 3, Table 15 designation (i).
Gully:
Precast concrete gully to BS5911, or gully may be cast insitu using plastic gully as permanent integral shutter with minimum 150mm concrete surround.

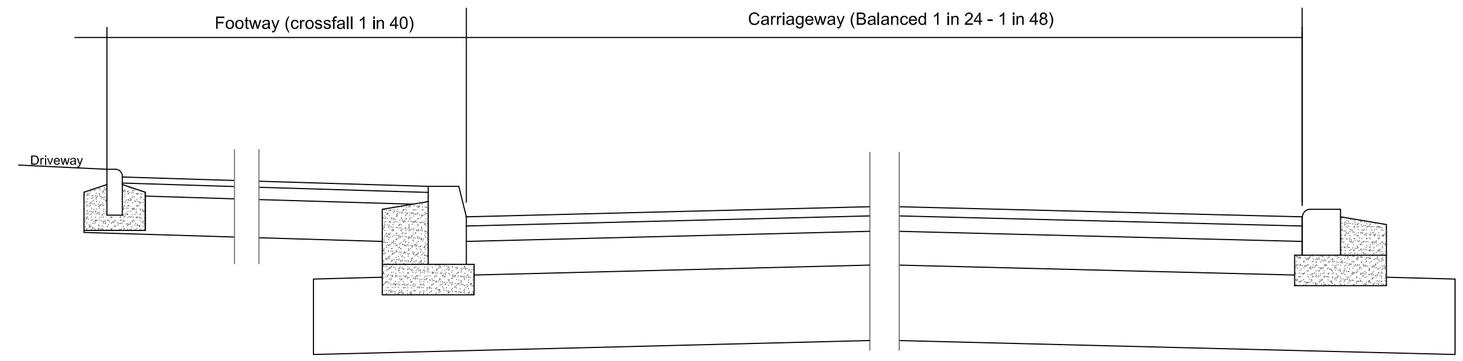


Dropped (Transition) KerbType:
DR1 and DL1 (HB - BN)
DR2 and DL2 (SP - BN)

Notes:
- All Precast concrete kerbs and edgings to BS7263-3:2001
- Concrete bed and haunching ST1 Mix to BS EN 206-1:2002 and BS8500 in accordance with SHWW Clause 2602
- Kerbs and edgings may be laid directly on a fresh concrete bed within two hours of mixing, then haunching applied. Alternatively, when concrete bed has hardened, kerbs may be laid on a mortar bed.
- Mortar to Clause 2404 designation (i), mortar to be 10 to 40mm thickness.
- Concrete bed to kerbs and edgings to rest on or within sub-base layer.
- Upstand for vehicular access and pedestrian crossings to be 20mm. ~Where necessary for drainage purposes this figure shall be increased to 35mm. If tactile paving is provided for use by disabled persons the upstand shall be 0 - 6mm.

* All details to be provided in accordance with WCBC Specification

Road Construction



Footway Construction:

Pedestrian Only
20mm dense graded surface course (AC6 Dense Surf 160/220rec in accordance with BSEN 13108-1)
40mm thick dense binder asphalt (recipe mix), shall be AC20 dense bin 160/220 rec in accordance with BSEN 13108-1
100mm MOT Type 1 Sub-base to DTP clause 803

Total Construction Thickness 160mm

Vehicular Crossing and Light Vehicle Footway Construction:

20mm dense graded surface course (AC6 Dense Surf 160/220rec in accordance with BSEN 13108-1)
40mm thick dense binder asphalt (recipe mix), shall be AC20 dense bin 160/220 rec in accordance with BSEN 13108-1
150mm MOT Type 1 Sub-base to DTP clause 803

Total Construction Thickness 210mm

Carriageway Construction

40mm Thin Surface Course (DTp Specification Clause 942).
60mm Dense Binder Asphalt Concrete (Recipe Mix) Course to BS EN 13108 -1- AC20 dense bin 40/60. (DTP Specification Clause 906) .
100mm Dense Binder Asphalt Concrete (Recipe Mix) Road-base to BS EN 13108 -1- AC32 dense bin 40/60. (DTP Specification Clause 903) .
320mm MOT Type 1 Sub-base Material to DTP Specification Clause 803.

Total Construction Thickness 520mm

450mm minimum construction depth required on frost susceptible subgrades. All materials within 450mm of the finished road surface shall be non-frost susceptible.

*Note:
- DBM - dense bitumen macadam
- Construction based on a formation CRB of 5%. If the CBR falls below this level refer to Engineer.
- DTp . Clause refers to Department of Transport Specification for Highway Works.

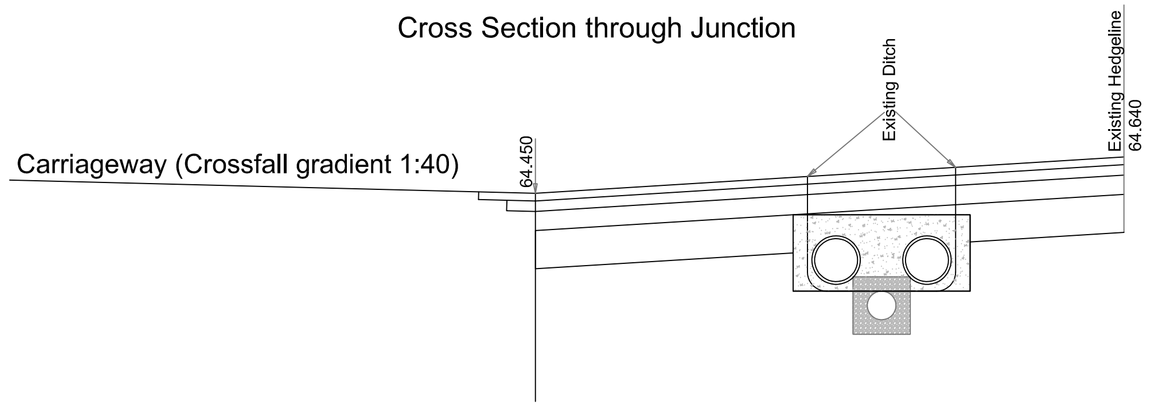
Capping Layers:
A capping layer shall be provided where a CBR is less than 5%. This material shall be provided to 6F2 (DTp Specification Clause 613) If a capping layer is required the MOT Type 1 sub-base material may be reduced to 150mm minimum.

Sub-grade CBR	Capping Thickness (mm)	Sub-base
4%	230	270
3%	240	320
2.5%	250	350
below 2.0%	A detailed design will be required.	

A terram or similar geotextile shall be provided where a CBR of 3% or less is achieved.

* All details to be provided in accordance with WCBC Specification

Cross Section through Junction



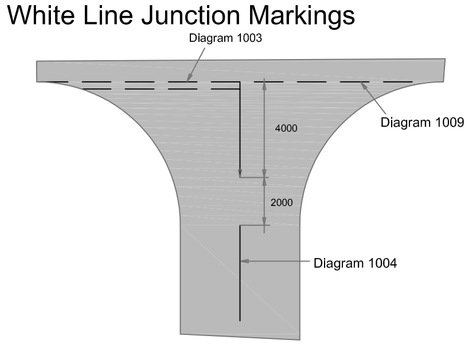
Carriageway Construction

40mm Thin Surface Course (DTp Specification Clause 942).
60mm Dense Binder Asphalt Concrete (Recipe Mix) Course to BS EN 13108 -1- AC20 dense bin 40/60. (DTP Specification Clause 906) .
100mm Dense Binder Asphalt Concrete (Recipe Mix) Road-base to BS EN 13108 -1- AC32 dense bin 40/60. (DTP Specification Clause 903) .

Notes:

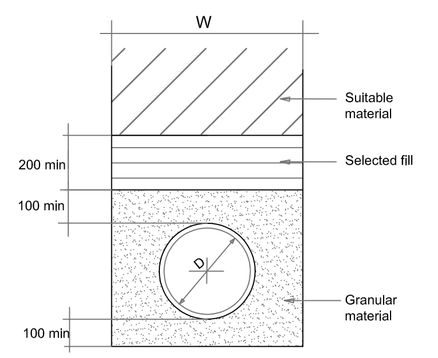
- Reinforced concrete bed and surround ST3 Mix to BS EN 206-1:2002 and BS8500 in accordance with SHWW Clause 2602

White Line Junction Markings



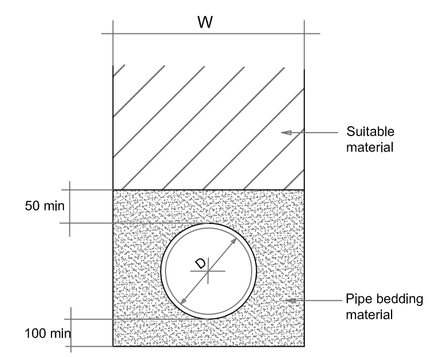
Notes:
All markings to comply with Traffic Signs Maunual Chapter 5 - Road Markings 2003

- The prescribed marking (diagram 1003) consist of two broken lines, each comprising 600mm marks and 300mm gaps. The lines are 200mm wide and spaced 300mm apart.
- The prescribed marking (diagram 1009) consist of a broken line comprising 600mm marks and 300 gaps. The lines are 100mm wide.
- The prescribed marking (diagram 1004) consist of a line 4000mm long. The lines are 100mm wide.

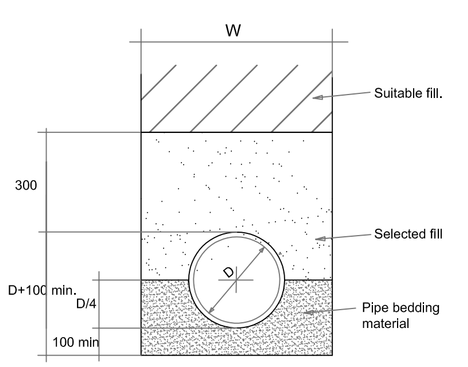


Granular bed and haunch

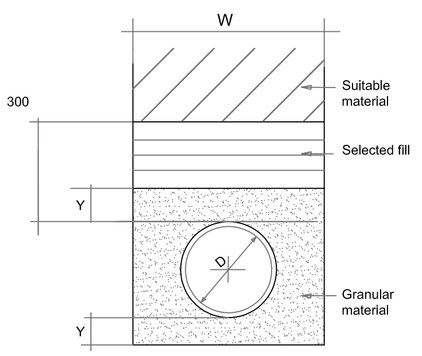
FLEXIBLE PIPE BEDDING - CLASS S



FLEXIBLE PIPE BEDDING - CLASS B



RIGID PIPE BEDDING - CLASS B



Granular bed and haunch

RIGID PIPE BEDDING - CLASS S

PIPE BEDDING NOTES - RIGID PIPES

Bc = External pipe diameter
W = Trench width (Bc + 300mm min, Bc + 600 max)

'Y' dimension - For pipes upto 600 mm diameter, Y = 100mm over and under pipe increases to 1/6 Bc or 100mm under barrels & 50mm min. under sockets whichever is grater (400mm max.)
In rock etc use 1/4 Bc & 150mm min. under sockets. (400mm Max.)

Bedding and sidefill material shall be placed and compacted in layers not exceeding 150mm before compaction, to a finished thickness of 300mm above the crown of the pipe.

Subsequent backfilling shall be deposited in layers not exceeding 225mm and fully compacted.

Selected fill should be readily compactible, and should not contain stones larger than 40mm, lumps of clay over 75mm, timber, frozen material, vegetable matter or foreign matter.

Refer to table for specification for granular material.

BEDDING AND SIDEFILL MATERIAL FOR RIGID PIPES

Nominal Size of Pipe (mm)	Nominal Max Particle Size (mm)	Class of Bedding	Maximum CF Value	Materials Specified in British Standard
Over 300 to 550	20	S B F	0.15 0.30 0.15	14 - 20mm nominal single-size or 14 - 5mm graded or 20 - 5mm graded
Over 550	40	S B F	0.15 0.30 0.15	14, 20, or 40mm nominal single-size crushed rock or 14 - 5mm graded or 20-5mm graded or 10 - 5mm graded

The Table (A1 from WIS 4-08-02) shows specification for processed granular material. Maximum particle size and compaction fraction must also apply to as-dug material.

Processed granular material may include aggregates to BS 882, air cooled blast furnace slag to BS 1047 and sintered pulverised fuel ash to BS 3797

As-dug material is excavated material which is suitable for use as bedding and sidefill without processing. It shall not be contaminated with domestic, building or industrial waste and shall be free of organic matter or combustible material.

PIPE BEDDING NOTES - FLEXIBLE PIPES

Bc = External pipe diameter
W = Trench width (Bc + 300mm min, Bc + 600 max)

Bedding and sidefill material shall be placed and compacted in layers not exceeding 100mm. Hand tamp the material fully at the sides of the pipe while tamping lightly over the crown.
Continue hand tamping until a finished layer of 300mm has been placed over the pipe.

Subsequent backfilling shall be deposited in layers not exceeding 225mm and fully compacted.

Selected fill should be readily compactible, and should not contain stones larger than 40mm, lumps of clay over 75mm, timber, frozen material, vegetable matter or foreign matter.

Refer to table for specification for granular material.

BEDDING AND SIDEFILL MATERIAL FOR FLEXIBLE PIPES

Nominal Size of Pipe (mm)	Nominal Max Particle Size (mm)	Maximum CF Value	Materials Specified in British Standard
100	10	0.15	10mm nominal single-size
Over 100 to 150	15	0.15	10 or 14mm nominal single size or 14 - 5mm grade
Over 150 to 300	20	0.15	10, 14 or 20mm nominal single-size or 14 - 5mm graded or 20-5mm graded.

The Table (A2 from WIS 4-08-02) shows specification for processed granular material. Processed granular materials may be included aggregates to BS882, air-cooled blast furance slag to BS 1047 and lightweight aggregates to BS 3797.

Rev BC:Notes amended to LHA requirements	AG	12.10.19
Rev B:Notes amended to LHA requirements	AG	16.12.16
Rev A: General amendments to notes	AG	16.11.16

Woodsyde Developments Limited

Project:
Proposed Development on Land off Ellesmere Lane, Penley, Wrexham (Phase2).
Client:
Primesave Ltd
Drawing Title:
Road and Drainage Construction Details
Scale: NTS @ A1
Date: September 2016
Drawing No:
PN-RC-603: Rev C

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