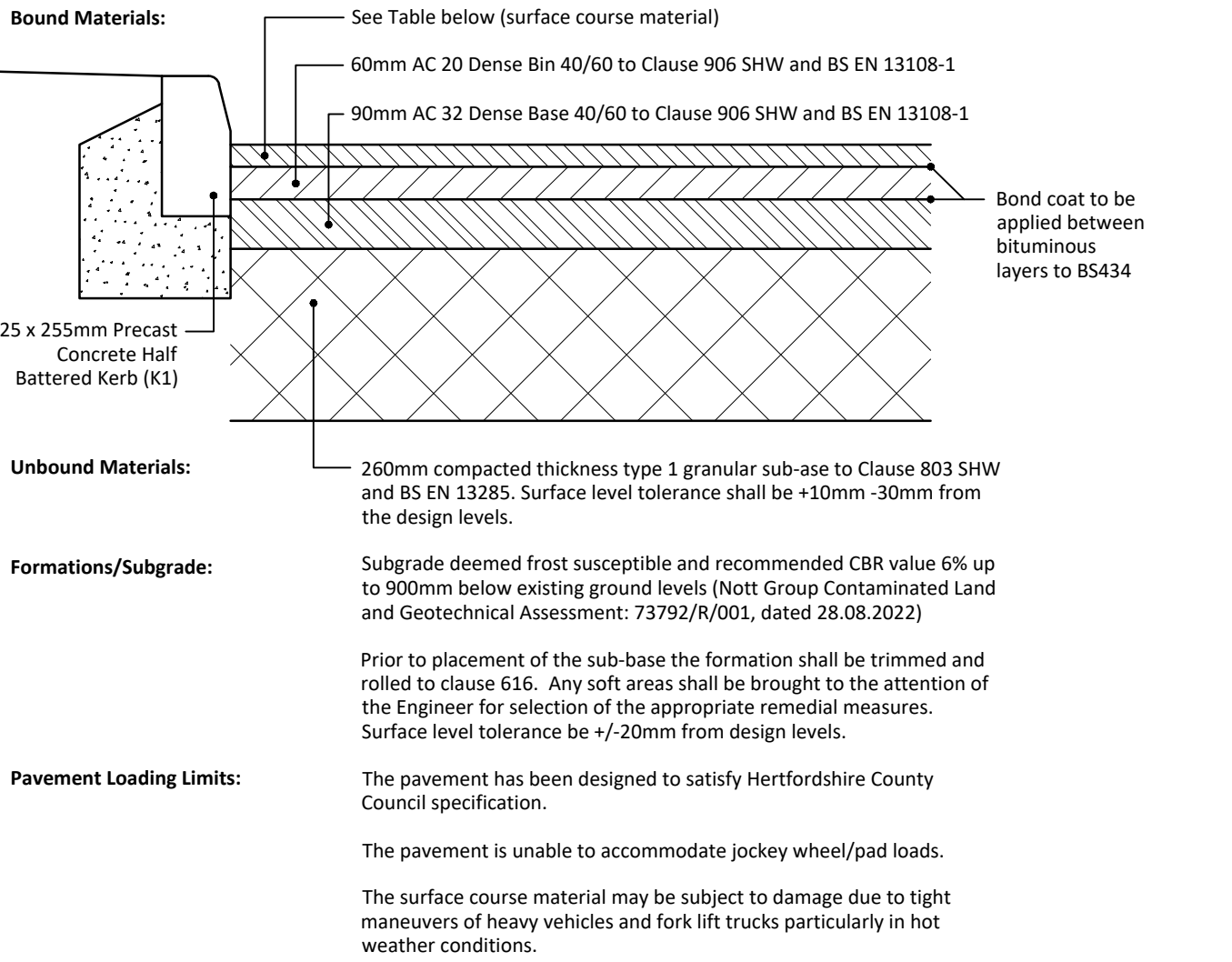


Notes & Specification

- 1. Pavement construction shown below shall be generally constructed in accordance with the current National Highways Manual of Contract Documents for Highway Works, Volume 1, Specification for Highway Works (MCHW) in particular the 600, 700, 800 and 900 series clause numbers refer to this specification.
- 2. Bituminous mixtures shall be to the current BS EN 13108 series, BS 594987 and BSI PD 6691.
- 3. Construction plant and other traffic used on pavements under construction shall be suitable in relation to the material, condition and thickness of the courses it traverses so that damage is not caused to the subgrade or the pavement courses already constructed. Wheels or tracks of plant moving over the various pavement courses shall be kept free from deleterious material. Any damage to pavement courses overrun by construction traffic shall be made right to the satisfaction of the Overseeing Organisation Engineer.
- 4. The subgrade CBR at proposed formation level shall be measured by laboratory tests and reported to the Engineer to check the pavement design prior to construction.
- 5. Where pavements are constructed on subgrades that have volume change potential and where roots of vegetation are below the pavements formation, there is a risk that movement may occur resulting in cracking being evident in the surface course, particularly during prolonged periods of dry weather. To reduce this risk, the formation depth shall be increased.



Carriageway Construction

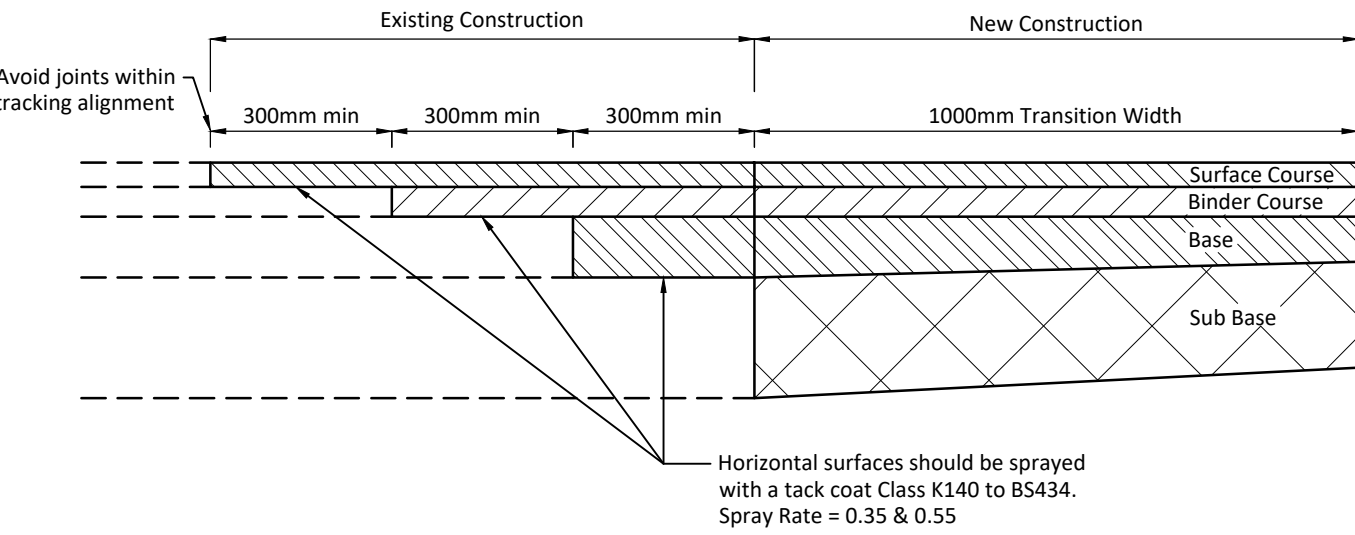
(As per HCC drawing "HCC-S278-D002 - Sample Drawings - 2 of 3")

Bituminous layer & surface course material as per HCC drawing "HCC-S278-D002 - Sample Drawings - 2 of 3"						
	Secondary Distributor	Local Distributor	Major Access	Minor Access	Shared Surface	Industrial
Total Carriageway Construction - Bituminous Layer Thickness	The carriageway construction will be determined as per the DMRB	250mm	190mm	190mm	190mm	250mm
Surface Course Material 1	As per the DMRB	40-50mm HRA & chips	40-50mm HRA & chips	40mm HRA & chips	40mm HRA & chips	40-50mm HRA & chips
Surface Course Material 2	-	-	-	40mm HSC-HRA	40mm HSC-HRA	-
Surface Course Material 3	-	-	-	40mm AC10	40mm AC10	-
Surface Course Material 4	-	-	-	40mm TSCS	40mm TSCS	-

- 1. Carriageway Construction may vary depending on the category of road, existing construction and/or expected usage.
- 2. All materials specification to be in accordance with BS594987.
- 3. PSV assessment should be site specific in accordance with HCC skid resistance strategy. Site investigation to identify existing carriageway PSV. Proposed PSV value to be agreed on site.
- 4. HRA to be either HRA 30/14 F surf 40/60 Rec to Clause 910 SHW & BS EN 13108-4 or HRA 35/14 F surf 40/60 Pef to Clause 943 SHW & BS EN 13108-4.
- 5. HSC HRA to be HRA 55/10 surf 40/60 to Clause 911 SHW & BS EN 13108-4.
- 6. AC 10 Close surf to be AC10 close surf 100/150 to Clause 912 SHW & BS EN 13108-1.
- 7. TSCS to TSCS 10 to Clause 942 SHW.

Sub-base and capping thicknesses as per HCC's Section 4 Design Standards and Advice "Table 4.1.12.1: Minimum sub-grade and capping thicknesses by CBR value"		
CBR Value	Capping thickness	Sub-base thickness
<2.5%	600mm	150mm
2.5 - 5%	-	350mm
5 - 15%	-	225mm
15 - 30%	-	150mm
>30%	-	-

- 1. Week killer is to be applied before sub base is laid.
- 2. Surfacing laid to true levels and cross falls. Tolerance in surface levels of lower pavement courses should be:
 - Subbase: +/- 10mm
 - Binder: +/- 3mm

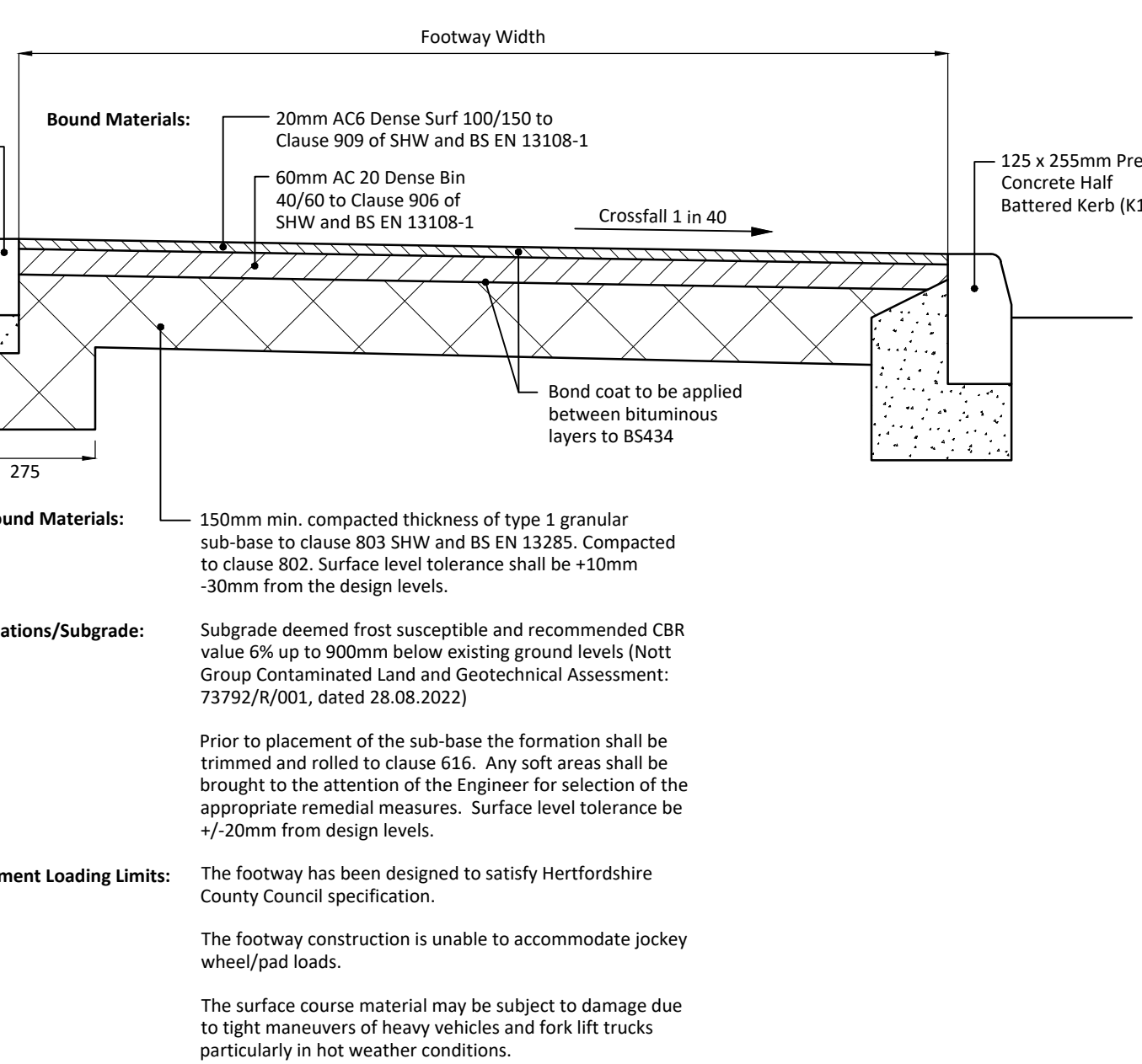


Carriageway Tie In Detail

(Tie in details as per HCC drawing "HCC-S278-D002 - Sample Drawings - 2 of 3")

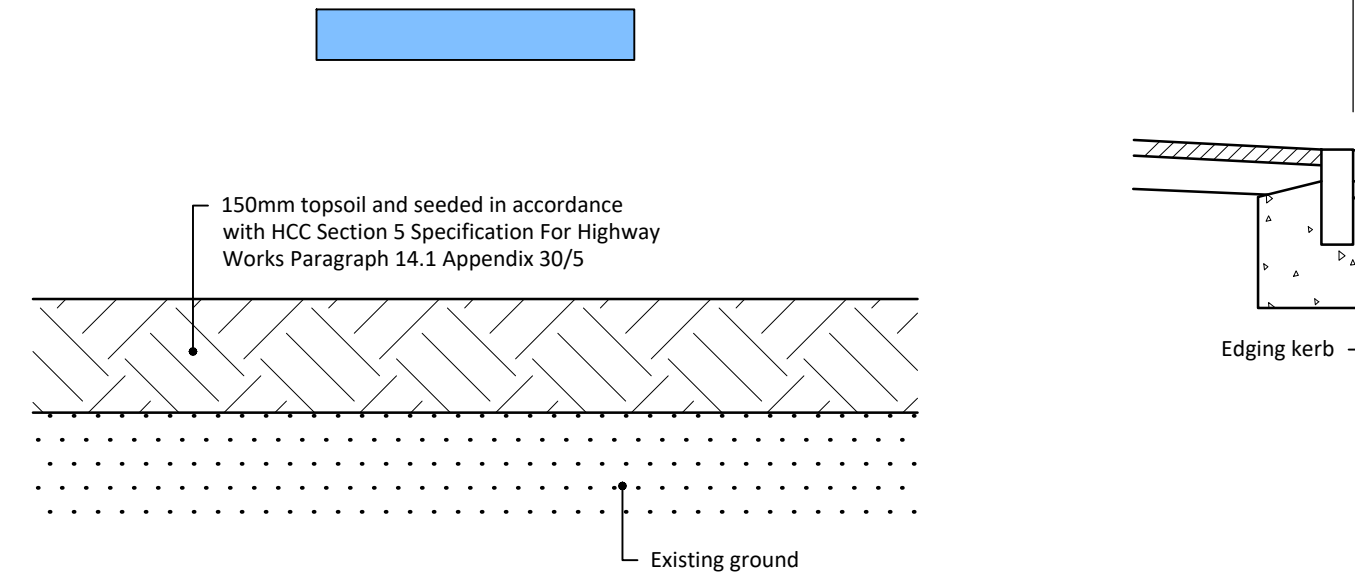
Notes & Specification

- 1. Pavement construction shown below shall be generally constructed in accordance with the current National Highways Manual of Contract Documents for Highway Works, Volume 1, Specification for Highway Works (MCHW) in particular the 600, 700, 800 and 900 series clause numbers refer to this specification.
- 2. Bituminous mixtures shall be to the current BS EN 13108 series, BS 594987 and BSI PD 6691.
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- 5. Where pavements are constructed on subgrades that have volume change potential and where roots of vegetation are below the pavements formation, there is a risk that movement may occur resulting in cracking being evident in the surface course, particularly during prolonged periods of dry weather. To reduce this risk, the formation depth shall be increased.



Footway Construction

(As per HCC drawing "HCC-S278-D002 - Sample Drawings - 2 of 3")



Typical Highway Verge Detail

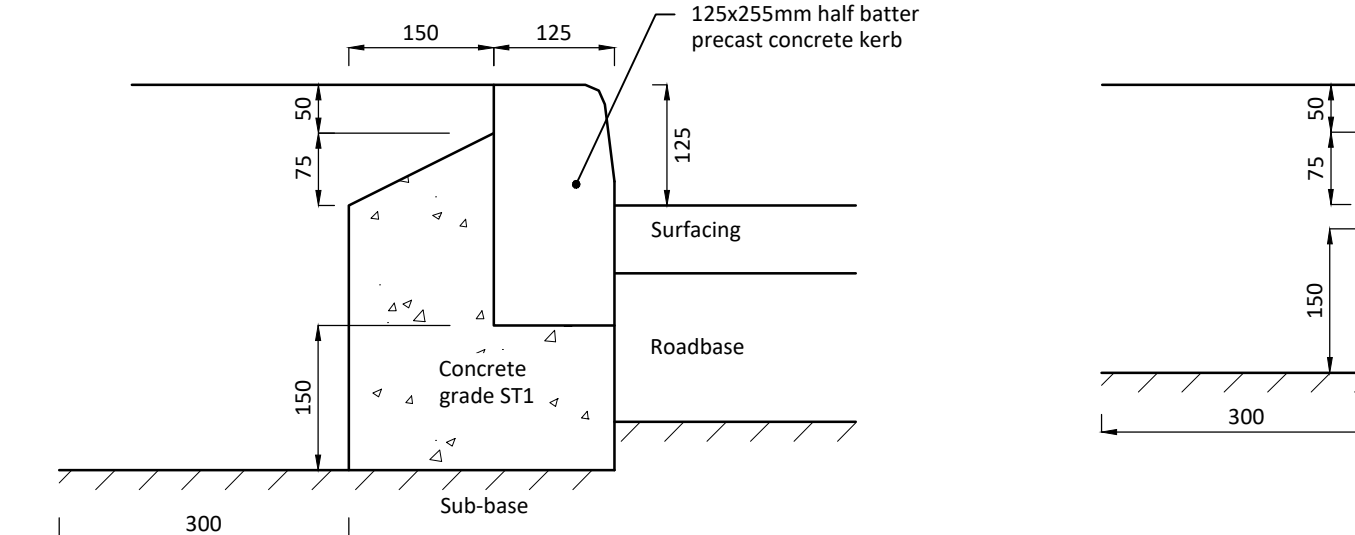
(As per HCC Section 5 Specification For Highway Works Paragraph 14.1 Appendix 30/5)

Notes

- 1. Kerb backing normally brought up to 50mm below top of kerb, but where final surface of adjacent foot way is flagged, kerb backing shall finish 75mm below top of kerb.
- 2. Gap between kerbs shall be 1 to 2mm.
- 3. Radius kerbs shall be used where the radius is less than 12m.
- 4. Kerb face to be shuttered and mechanically vibrated to ensure proper compaction.
- 5. Detail to be used where foundation concrete, kerb laying and haunching are carried out in separate operations.

Limitations Of Use

- 1. For use as an edging to pavements accommodating normal traffic loadings and manoeuvres.
- 2. Edging may fail or be damaged by direct impact from heavy vehicle loads.

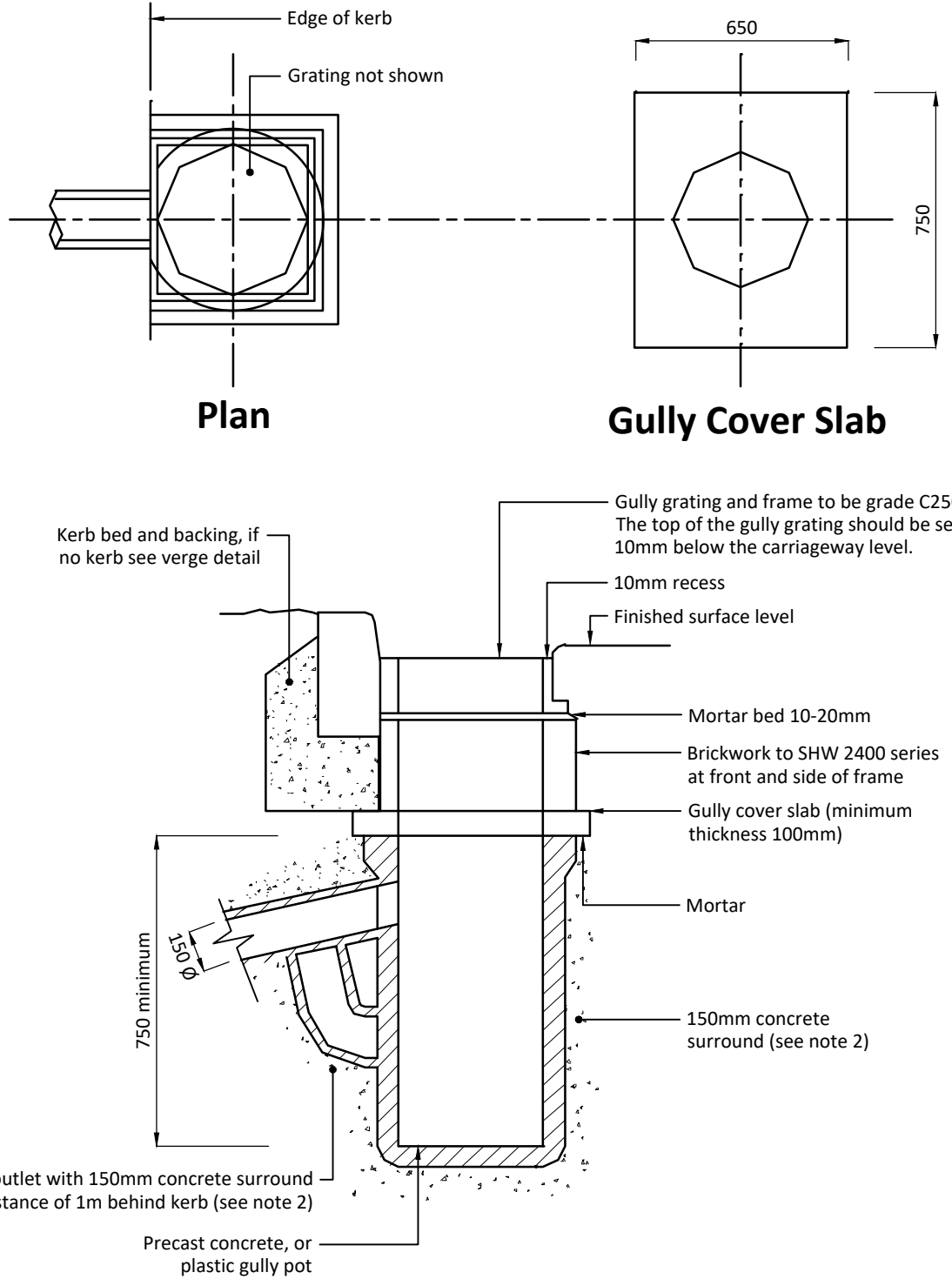


Typical Half Batter Kerb Detail

As per HCC Section 5 Specification For Highway Works Diagram 5.9.1.3: Typical concrete kerb detail

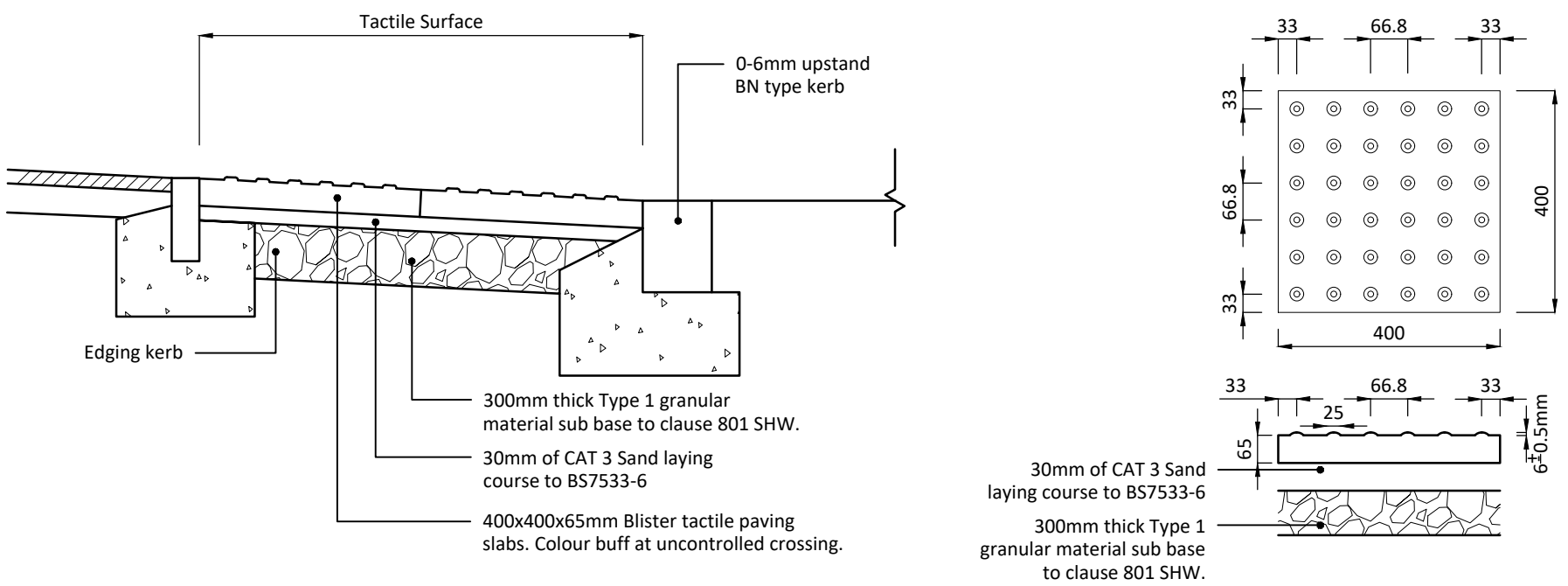
Notes & Specification

- 1. The minimum depth from the top of the grating to the top of the gully outlet is to be 750mm when the connecting pipe is under a carriageway, or hard shoulder and 600mm elsewhere.
- 2. Precast concrete gully pots should have a bed and surrounding of ST2 concrete. Plastic gully pots should have a bed and surround of ST4 concrete.



Precast Concrete / Plastic Highway Gully Detail

(As per HCC Section 5 Specification For Highway Works "Diagram 5.6.1.3: Typical gully details")



Tactile Paving Bedding Detail

Plan And Profile Of Tactile Paving

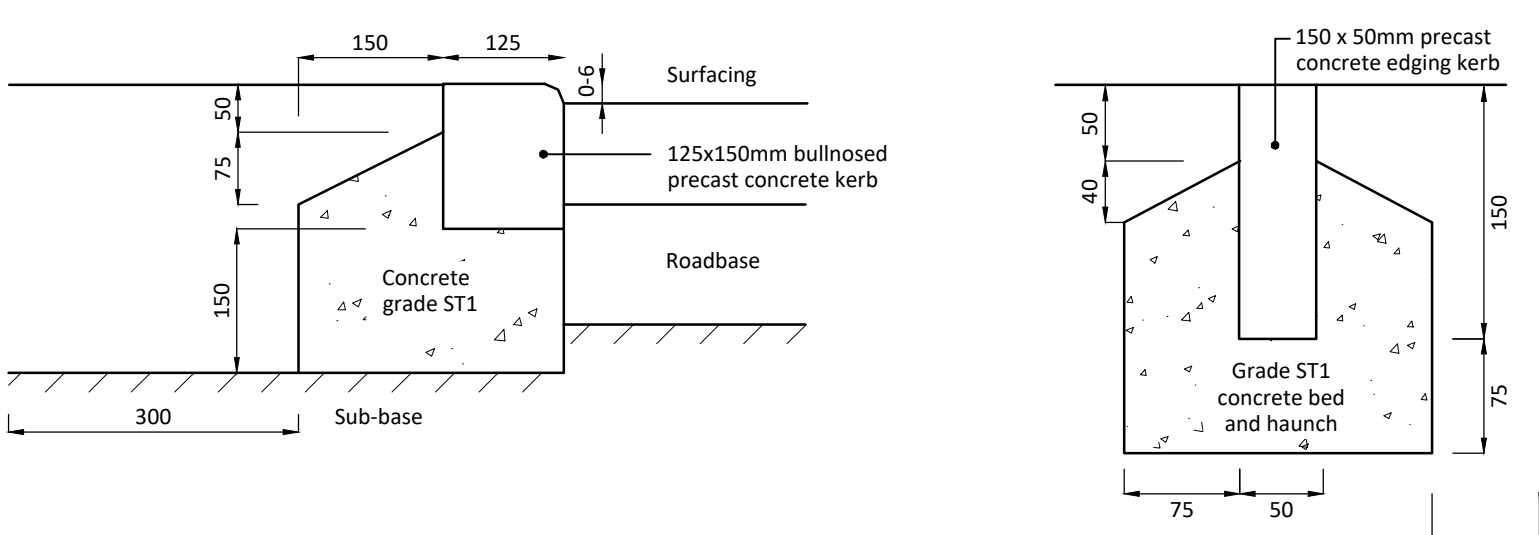
Tactile Paving Construction Detail

Notes

- 1. Kerb backing usually brought up to 50mm below top of kerb, but where surface of adjacent foot way is flagged, kerb backing shall finish 75mm below top of kerb.
- 2. Gap between kerbs shall be 1 to 2mm.
- 3. Radius kerbs shall be used where the radius is less than 12m.
- 4. Kerb face to be shuttered and mechanically vibrated to ensure proper compaction.

Limitations Of Use

- 1. For use as an edging to pavements accommodating normal traffic and manoeuvres.



Typical Bullnose Kerb Detail

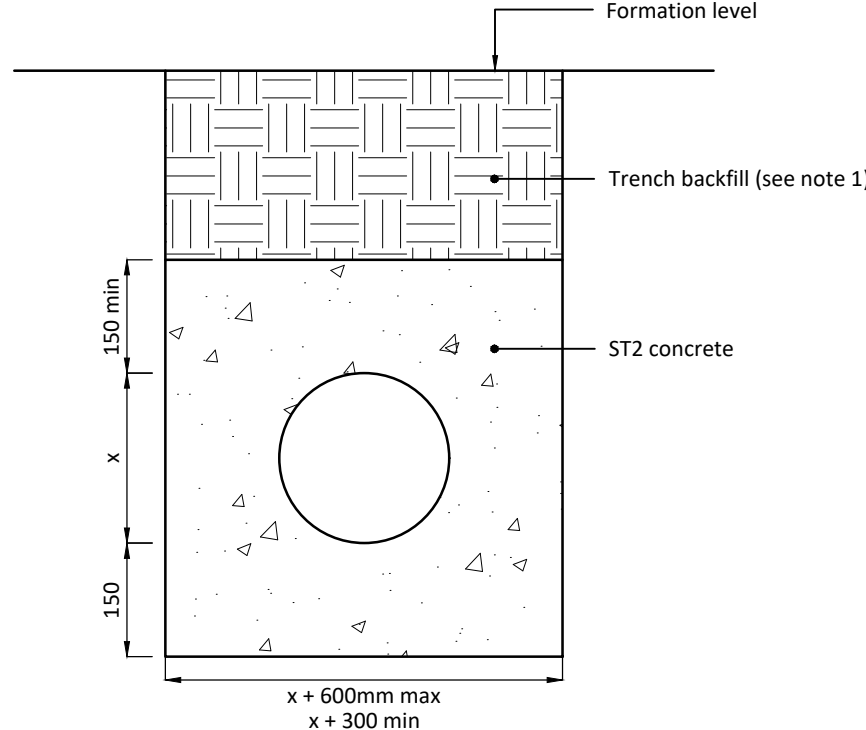
As per HCC Section 5 Specification For Highway Works Diagram 5.9.1.3: Typical concrete kerb detail

Typical Edging Detail

As per HCC Section 5 Specification For Highway Works Diagram 5.9.1.2: Typical Footway Edging

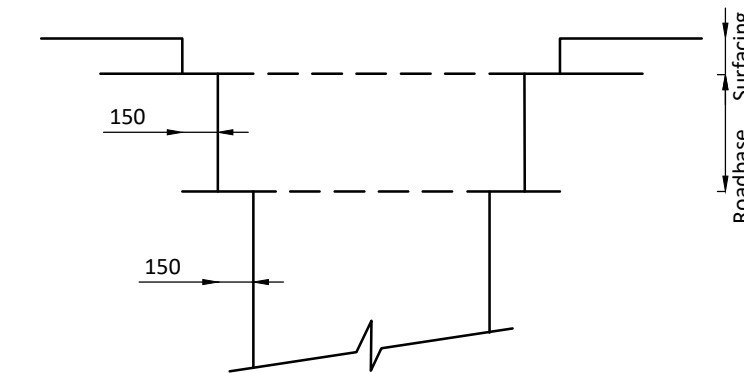
Notes & Specification

- 1. Trench excavation shall be back filled as follows:
 - a) Outside road pavements or areas where surface settlement cannot be accepted, back filling shall be carried out using suitable fills. Suitable fills shall be capable of accepting compaction plant subject to the Engineer's approval and shall exclude boulders, lumps of concrete, bricks, timber and vegetable matter.
 - b) In areas below road pavements (or where surface settlement cannot be accepted)
 - (i) Where soffit of pipe is less than 0.5m below formation, back fill with GEN 0 unreinforced concrete.
 - (ii) Where soffit of pipe is between 0.5m and 1.0m below formation, back fill with Type 1 sub-base.
- 2. Cover to pipes shall be:
 - 2000mm or less in areas subject to heavy construction plant.
 - 1000mm or less in areas subject to normal construction traffic.
 - 1200mm or less to finished level of new main road pavements.
 - 600mm or less in landscape areas, foot ways, gardens or fieldsOtherwise use other specified surround and back fill details.
- 3. Pipes, unless otherwise stated, shall be:
 - (i) Clay pipes with min FN of 40 to BS EN 295 and BS65
 - (ii) Concrete pipes to BS 5911 and BS EN 1916 or,
 - (iii) Flexible pipes shall be unplasticised UPVC to BS EN 13598.Concrete pipes shall not be used for foul sewers unless otherwise stated.
- 4. Construction, subsequent testing, operation and maintenance shall be carried out in accordance with BS EN 752. Sewers to be adopted by water companies shall be installed in accordance with the current edition of 'Code for Adoption' produced by Water UK. Sewers to be adopted by highway authorities shall be installed in accordance with the authority's specification.
- 5. Back filling shall only be undertaken when the concrete bedding and surround has obtained sufficient strength to accommodate back filling operations.
- 6. This detail shall not be used where the drainage is to be adopted by water companies.
- 7. Workmanship shall be in accordance with BS 8000 - 14: 1989



Type Z Bed & Surround Detail

(As per HCC Section 5 Specification For Highway Works Diagram 5.5.6.1: Pipe Surround and Carriageway)



Trench Reinstatement Detail

(As per HCC Section 5 Specification For Highway Works Diagram 5.8.2.1: Trench Reinstatement In Existing Carriageway)

General Notes

- 1. All dimensions shown are in millimetres unless noted otherwise.
- 2. Do not scale from this drawing unless printed at the intended paper size.
- 3. This drawing is to be read in conjunction with all relevant Engineers and Architect's drawings, Specifications, Reports and Engineering Details.
- 4. All works shall be carried out in accordance with "Roads in Hertfordshire: Highway Design Guide 3rd Edition"
- 5. This drawing is to be read in conjunction with HCC drawings HCC-S278-D002 & HCC-S278-D003.
- 6. Details provided on these drawings are indicative to guide the developer in submitting formal details for approval to the Highway Authority. Following the design review process, the developer will be notified that the proposed highway works are acceptable upon issue of the Technical Approval Letter.
- 7. The works shall be in accordance with Roads in Hertfordshire: Highway Design Guide.
- 8. The proposed scheme may be subject to independent Road Safety Audits as determined by the HCC engineer. For additional details refer to Roads in Hertfordshire Section 3 Chapter 6.
- 9. Full details are to be provided in relation to additional highway works necessary as part of the scheme, including safety measures, structures adjacent to the public highway, fencing, road restraint systems, earthworks, street furniture, cycling facilities, traffic calming measures, traffic signs, traffic signals, intelligent transport systems, Traffic Regulation Orders and landscaping proposals.
- 10. The developer is required to provide evidence that all pre-construction searches have been undertaken and notification has been provided to the statutory undertakers in accordance with New Roads and Street Works Act (NRSWA). All utilities in the area of the proposed works which are likely to be affected must be shown on the drawings.
- 11. The contractor shall excavate trial trenches by hand prior to commencement of the works to determine the precise locations of underground apparatus. Existing services shall be lowered, diverted or protected as per the utility providers instructions as appropriate. Locations and depths of existing services to be confirmed prior to issue of technical approval.
- 12. All works shall be as stipulated by the appropriate planning permission and approved drawings.

 • Infrastructure Design • Structural Engineering • Development Planning • Professional Advice • Geotechnical & Environmental Surveying Northampton Grand Union Works, Whilton Locks, Daventry Northamptonshire, NN11 2NH T: 01604 781811 Poole & Milton Keynes E: mail@jppuk.net W: jppuk.net	Client	Wheatley PLC					
	Project	Proposed Residential Development Police Row Therfield					
	Title	Highway Construction Details					
	Scale at A1	NTS	Drawn by	HH	Checked by	JW	Date
Status	Project ref		Drawing no.		Revision		
FOR APPROVAL	25553		203				