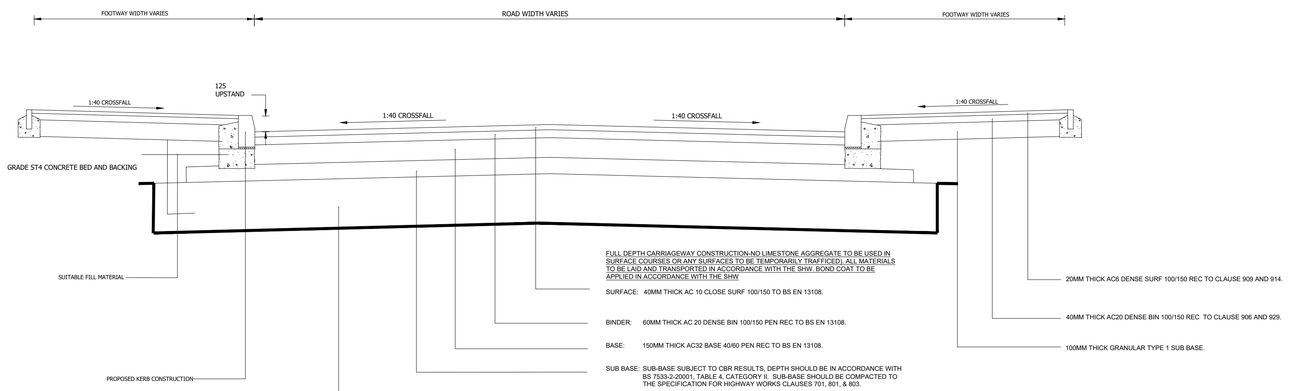
TYPICAL CARRIAGEWAY CONSTRUCTION DETAIL



FULL DEPTH CARRIAGEWAY CONSTRUCTION-NO LIMESTONE AGGREGATE TO BE USED IN SURFACE COURSES OR ANY SURFACES TO BE TEMPORARILY TRAFFICED). ALL MATERIALS TO BE LAID AND TRANSPORTED IN ACCORDANCE WITH THE SHW. BOND COAT TO BE APPLIED IN ACCORDANCE WITH THE SHW

SURFACE: 40MM THICK AC 10 CLOSE SURF 100/150 TO BS EN 13108.

BINDER: 60MM THICK AC 20 DENSE BIN 100/150 PEN REC TO BS EN 13108.

BASE: 150MM THICK AC32 BASE 40/60 PEN REC TO BS EN 13108.

SUB BASE: SUB-BASE SUBJECT TO CBR RESULTS. DEPTH SHOULD BE IN ACCORDANCE WITH BS 7533-2-20001, TABLE 4, CATEGORY II. SUB-BASE SHOULD BE COMPACTED TO THE SPECIFICATION FOR HIGHWAY WORKS CLAUSES 701, 801, & 803.

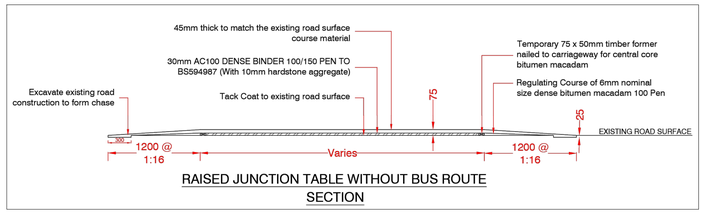
CAPPING: PLEASE REFER TO ON-SITE CBR RESULTS AND DMRB GUIDANCE. CAPPING LAID AND COMPACTED TO THE SPECIFICATION OF HIGHWAY WORKS CLAUSE 613. CBR TO BE ESTABLISHED ON SITE PRIOR TO STARTING WORKS. CONTRACTOR TO REFER RESULTS TO A REPRESENTATIVE OF THE LOCAL AUTHORITY AND THE DESIGN MANUAL FOR ROADS AND BRIDGES VOLUME 7, SECTION 2, PART 3 CHAPTER 3 FOR FURTHER GUIDANCE ON SUB-BASE CAPPING RELATIONSHIP APPROPRIATE TERRAM GEOTEXTILE MEMBRANE TO BE LAID BENEATH CAPPING LAYER TO MANUFACTURER'S PROPRIETARY REQUIREMENTS.

- SUB BASE & CAPPING ARE SUBJECT TO CBR TESTING. FOR LAYER THICKNESS REQUIREMENTS, REFER TO THE *CBR SUB BASE & CAPPING LAYER THICKNESS TABLE* BELOW. THE CBR REQUIREMENTS FOR EACH LAYER ARE:
  - UPON THE CARRIAGEWAY FORMATION THE MINIMUM ACCEPTABLE CBR IS 2.5%. SHOULD THE CBR BE LESS THAN 2.5%, GROUND REMEDIATION WILL BE REQUIRED, THIS SHOULD BE DISCUSSED AND AGREED WITH THE MCC HIGHWAYS ENGINEER.
  - ON 6F2/5 CAPPING LAYER TO MCHW CL.613 (IF USED), THE MINIMUM ACCEPTABLE CBR IS 30%.
  - ON TYPE 1 SUB BASE LAYER TO MCHW CL.803, THE MINIMUM ACCEPTABLE CBR IS 15%.
  - THE SUB BASE AND CAPPING LAYERS MUST NOT BE LAID IN LIFTS EXCEEDING 150MM THICK.
- NUCLEAR DENSITY TESTING OR AN EQUIVALENT IS REQUIRED ON TOP OF THE ROAD BASE AND ROAD BINDER LAYERS TO ENSURE ADEQUATE COMPACTION AND MUST YIELD A RESULT OF AT LEAST ≤93% OR ≤7% VOIDS.
- THE MIN THICKNESS OF CARRIAGEWAY CONSTRUCTION SHALL BE NO LESS THAN 400MM FOR PURPOSES OF FROST PROTECTION.

20MM THICK AC6 DENSE SURF 100/150 REC TO CLAUSE 909 AND 914.

40MM THICK AC20 DENSE BIN 100/150 REC TO CLAUSE 906 AND 929.

100MM THICK GRANULAR TYPE 1 SUB BASE.



RAISED JUNCTION TABLE WITHOUT BUS ROUTE
SECTION

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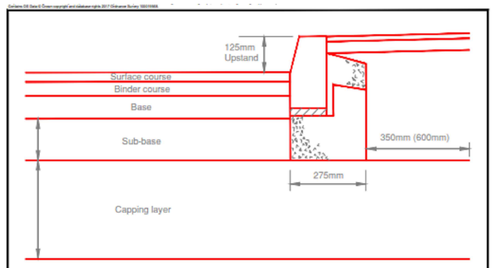
PROJECT TITLE: Standard Details Carriageway

Rev	A	Aug 19	ADAM	MP	SW
Rev	A	Mar 19	KPO	PS	DM

SIZE A4 | SCALE N.T.S | DATE Aug 19 | DRAWN ST | CHECKED | APPROVED

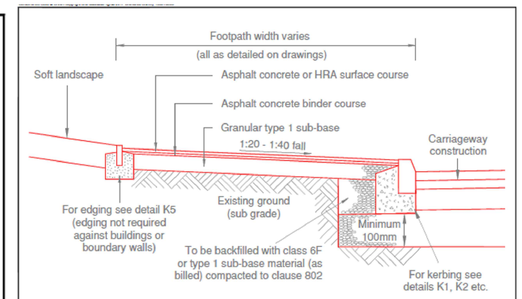
DRAWING TITLE: Flexible Carriageway Construction

DRAWING NUMBER: STANDARD DETAIL C3 | REV D



NOTES

1. For layer thicknesses see appendix 7/1
2. Bituminous materials should be laid and compacted in accordance with clause 903.
3. Where possible, warm mix asphalts and/or reclaimed asphalts in accordance with clauses 902 & 903 should be used. Use of recycled aggregates should also be maximised.
4. Ex Situ cold recycled bitumen bound material should be utilised as a binder or base layer where appropriate or as specified in Appendix 7/1.
5. Sub base can be a layer of Type 1 granular to Clause 803 or concrete Grade ST1 to Table 10/1 Clause 1001 or as specified in appendix 7/1
6. Bituminous materials shall be laid in accordance BS EN 13925-1
7. Capping layer shall be Class 6F material to Clause 613. If required, thickness shall be agreed with the engineer dependent on CBR value of the subgrade - a minimum of 300mm shall be used.



NOTES

1. Clause numbers quoted refer to the specification for highway works amended as appropriate
2. For thickness of materials see contract drawings and / or bill of quantities
3. Surface course asphalt concrete to clause 909 and 914
4. a. Surface course rolled asphalt to clause 910 and 911
   b. Chippings to be 10mm white, spread at 1.0 kg/m (where specified)
5. Binder course asphalt concrete to comply with clause 906 and 929
6. Sub-base type 1 granular material to comply with clause 803
7. Sub-grade protection to be in accordance with clause 613 and 616
8. In case of footways adjacent to building frontages, attention should be paid to the building's damp proof course (DPC) level. New footways should be set at least 150mm below the DPC, where footways are being reconstructed the level of the back of footway should ideally be no higher than the original. If an increase in the level is proposed consideration shall be given to the impossible impact on the building's DPC, alternative or additional DPC treatments may need to be agreed with the building owner

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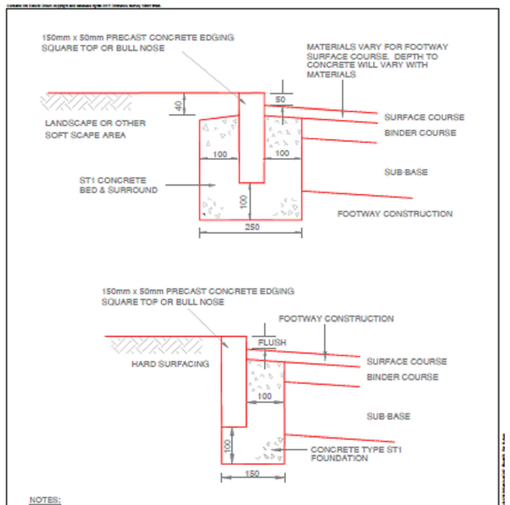
PROJECT TITLE: Standard Details Footway

Rev	A	Mar 25	KD	MP	SW
Rev	A	Mar 19	KPO	PS	SW

SIZE A4 | SCALE N.T.S | DATE Aug 19 | DRAWN ST | CHECKED | APPROVED

DRAWING TITLE: Flexible Footway Construction

DRAWING NUMBER: STANDARD DETAIL F1 | REV C



NOTES:

1. CLAUSES QUOTED REFER TO THE DEPARTMENT OF TRANSPORT SPECIFICATION FOR HIGHWAY WORKS, AMENDED AS APPROPRIATE
2. ALL DIMENSIONS IN MILLIMETRES
3. TOP OF EDGING LAID FLUSH WITH FOOTPATH WHERE USED ON A VEHICULAR CROSSING OR AS DETAILED ON THE DRAWING AND/OR IN THE B OF Q.
4. CONCRETE BED AND BACKING TO CLAUSE 2602 TABLE 26/1
5. FOR FOOTWAY DETAILS SEE STANDARD DETAIL F1 OR F9 AND APPENDIX 11/1.
6. WHERE CUTTING IS REQUIRED, THIS SHALL BE DONE USING A DISC CUTTER (ALL HEALTH AND SAFETY REGULATIONS TO BE APPLIED)
7. MINIMUM LENGTH OF CUT EDGING UNITS SHALL BE 450mm.

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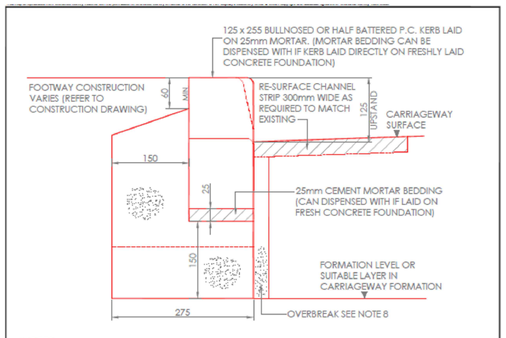
PROJECT TITLE: Standard Details Kerbing

Rev	A	Aug 19	ADAM	MP	SW
Rev	A	Mar 19	KPO	PS	SW

SIZE A4 | SCALE N.T.S | DATE Aug 19 | DRAWN ST | CHECKED | APPROVED

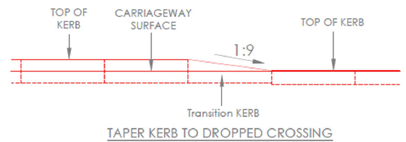
DRAWING TITLE: Footway Edging Detail

DRAWING NUMBER: STANDARD DETAIL K5 | REV B



NOTES:

1. CONCRETE BEDDING AND BACKING SHALL BE ST1 CONCRETE CLAUSE 2602 TABLE 26/1.
2. KERBS SHALL COMPLYWITH BS EN 1340.
3. CEMENT SHALL BE ORDINARY PORTLAND CEMENT TO BS EN 197-1.
4. JOINTS TO KERBS SHALL BE POINTED WITH CLASS (iii) MORTAR TO CLAUSE 2404.
5. CUT LENGTHS OF KERB ARE TO BE CUT USING A DISC CUTTER MIN. LENGTH 450mm.
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION THE SUB-BASE LAYER IS EXTENDED 300mm BEYOND THE BACK OF THE KERB FOUNDATION THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB-BASE AND THE FOOTWAY FORMATION WITH SUB-BASE MATERIAL IN THE RATE FOR KERBING.
7. RECONSTRUCTION OF EXISTING CARRIAGEWAY CHANNEL INCLUDED WITHIN THE KERBING WORKS.
8. KERBS LAID IN EXISTING CARRIAGEWAY FORMATION - RATE TO INCLUDE INFILL OF OVERBREAK IN FRONT OF KERB WITH CONCRETE TYPE ST1 TO BINDER COURSE FINISH LEVEL.



TAPER KERB TO DROPPED CROSSING

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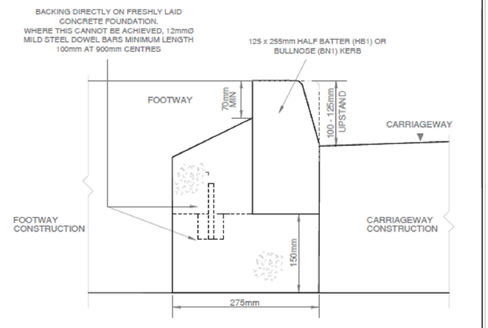
PROJECT TITLE: Standard Details Kerbing

Rev	A	Aug 19	ADAM	MP	SW
Rev	A	Mar 19	KPO	PS	SW

SIZE A4 | SCALE NTS | DATE Aug 19 | DRAWN ST | CHECKED | APPROVED

DRAWING TITLE: Transition Kerb 125 x 255/150

DRAWING NUMBER: STANDARD DETAIL K25 | REV B



NOTES:

1. CONCRETE BEDDING AND BACKING SHALL BE TYPE ST1 TO CLAUSE 2602 TABLE 26 / 1
2. KERBS SHALL COMPLY WITH BS EN 1340: 2003
3. CEMENT SHALL BE ORDINARY PORTLAND CEMENT TO BS EN 197-1
4. JOINTS TO KERBS SHALL BE POINTED WITH CLASS (iii) MORTAR TO CLAUSE 2404
5. CUT LENGTHS OF KERB ARE TO BE CUT USING A DISC CUTTER MIN. LENGTH 450mm
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION THE SUB-BASE LAYER IS EXTENDED 300mm BEYOND THE BACK OF KERB FOUNDATION THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB-BASE AND THE FOOTWAY FORMATION WITH SUB BASE MATERIAL IN THE RATE FOR KERBING
7. RECONSTRUCTION OF EXISTING CARRIAGEWAY CHANNEL MEASURED SEPERATELY
8. KERBS LAID IN EXISTING CARRIAGEWAY FORMATION - INFILL OF OVERBREAK IN FRONT OF KERB WITH CONCRETE TYPE ST2 TO BINDER COURSE FINISH LEVEL AND RESURFACE CHANNEL STRIP 300mm WIDE AS REQUIRED

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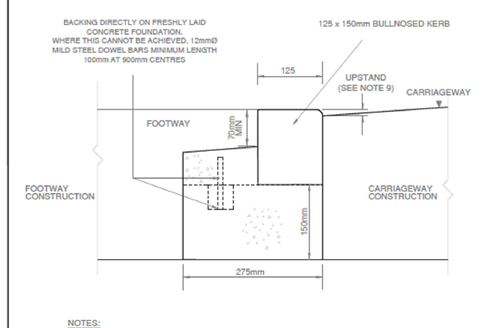
PROJECT TITLE: Standard Details Kerbing

Rev	A	Aug 19	ADAM	MP	SW
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SIZE A4 | SCALE N.T.S | DATE Aug 19 | DRAWN ST | CHECKED | APPROVED

DRAWING TITLE: New Kerb with 125mm Upstand

DRAWING NUMBER: STANDARD DETAIL K1 | REV B



NOTES:

1. CONCRETE BEDDING AND BACKING SHALL BE TYPE ST1 TO CLAUSE 2602 TABLE 26 / 1
2. KERBS SHALL COMPLY WITH BS EN 1340: 2003
3. CEMENT SHALL BE ORDINARY PORTLAND CEMENT TO BS EN 197-1
4. JOINTS TO KERBS SHALL BE POINTED WITH CLASS (iii) MORTAR TO CLAUSE 2404
5. CUT LENGTHS OF KERB ARE TO BE CUT USING A DISC CUTTER MIN. LENGTH 450mm
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION THE SUB-BASE LAYER IS EXTENDED 300mm BEYOND THE BACK OF KERB FOUNDATION THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB-BASE AND THE FOOTWAY FORMATION WITH SUB BASE MATERIAL IN THE RATE FOR KERBING
7. RECONSTRUCTION OF EXISTING CARRIAGEWAY CHANNEL MEASURED SEPERATELY
8. KERBS LAID IN EXISTING CARRIAGEWAY FORMATION - INFILL OF OVERBREAK IN FRONT OF KERB WITH CONCRETE TYPE ST2 TO BINDER COURSE FINISH LEVEL AND RESURFACE CHANNEL STRIP 300mm WIDE AS REQUIRED
9. KERB UPSTAND TO BE (i) MAX. 6mm FOR PEDESTRIAN CYCLEWAY CROSSING AND (ii) 25mm MAX. FOR VEHICULAR CORSSINGS

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PROJECT TITLE: Standard Details Kerbing

Rev	A	Aug 19	ADAM	MP	SW
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SIZE A4 | SCALE N.T.S | DATE Aug 19 | DRAWN ST | CHECKED | APPROVED

DRAWING TITLE: Drop Kerb

DRAWING NUMBER: STANDARD DETAIL K2 | REV B

Mark	Date	Details	By	Chk
A	07.10.25	Preliminary issue for review	CP	

Revision history

Drawing originator:

BETTS HYDRO CONSULTING ENGINEERS
BETTS ASSOCIATES CONSULTING ENGINEERS
BETTS GEO CONSULTING ENGINEERS

Client:

Keepmoat Homes

Project title:

Crabtree Lane,
Manchester

Drawing title:

Section 38
Highways Construction Details
Sheet 1 of 2

Scale: 1:500 for the original size of A1

Drawn by: CP | Checked by: NR | Passed by: RA | Date: Oct 2025

Drawing status:

For Approval

Job No:	Drawing No: Project	Origin.	Volume	Level	Type	Discip.	Number	Revision:
KMH 28	xx	BET	xx	xx	xx	C	210	A

Do not scale this drawing

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