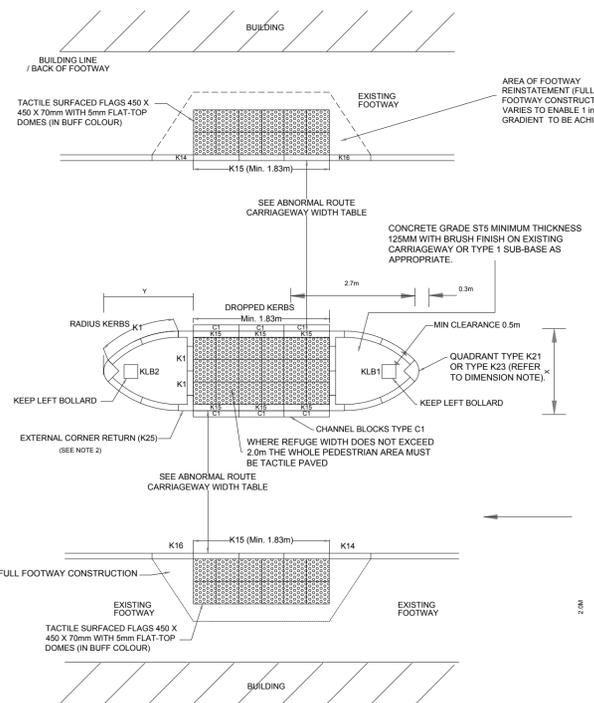


**TYPICAL PEDESTRIAN REFUGE DETAIL**

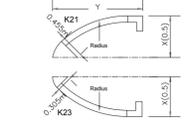


**MINIMUM LANE CARRIAGEWAY WIDTH**

TYPE OF ROAD	Desirable minimum carriageway lane width on both sides with 0.5m set back of street furniture (m)
RESIDENTIAL ROUTE	2.75 to 3.1m
MINOR ROUTE	2.75 to 3.1m
MAJOR/TRUNK ROUTE	4.1 to 4.3m
NATIONAL ABNORMAL ROUTE	≥4.3m

**NOTE**  
A TRAFFIC LANE OF MINIMUM WIDTH 4.0m IS REQUIRED TO PERMIT SAFE OVERTAKING OF THE CYCLIST AT CENTRAL ISLAND. IF THE APPROACH TO THE NARROWED SECTION IS NOT STRAIGHT OR SIGNIFICANT NUMBERS OF HOVS OR BUSES ARE EXPECTED, THIS MINIMUM SHOULD BE INCREASED.

ON A WIDE LOAD ROUTE IF A WIDTH OF ≥4.3m CANNOT BE ACHIEVED FLEXI BOLLARDS WITH A KNUCKLE JOINT TO THE BASE MUST BE USED.



'X' PEDESTRIAN ISLAND WIDTH TO BE SPECIFIED IN THE CONTRACT

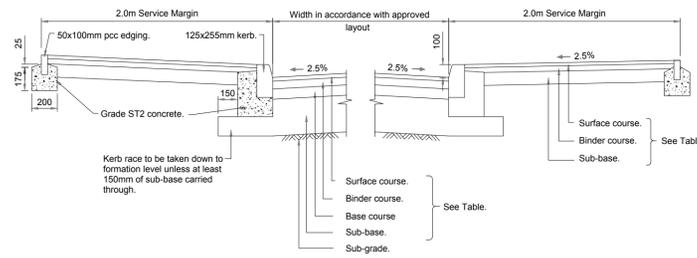
**DIMENSIONS**

THE DIMENSIONS OF THE ISLAND SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE.

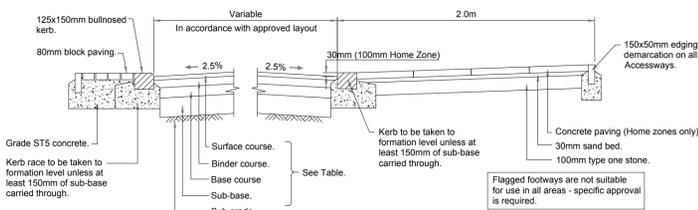
**TAPER DIMENSIONS AND KERBS**

ISLAND TYPE	Quadrant	X	Kerbs	Y
1/1	K23	1.84m	2 1/2 x 2.4 radius	2.09m
1/2	K21	2.05m	2 1/2 x 2.4 radius	2.13m
1/3	K23	2.19m	3 x 3.0 radius	2.52m
1/4	K21	2.40m	3 x 3.0 radius	2.56m
1/5	K23	3.07m	4 x 4.5 radius	3.58m
1/6	K21	3.28m	4 x 4.5 radius	3.62m
1/7	K23	3.95m	5 1/2 x 6.0 radius	4.64m
1/8	K21	4.16m	5 1/2 x 6.0 radius	4.68m
2/1	K23	1.50m	2 x 1.8 radius	1.69m
2/2	K21	1.70m	2 x 1.8 radius	1.74m
3/1	K23	1.02m	1 1/2 x 1m radius	1.10
3/2	K21	1.23m	1 1/2 x 1m radius	1.15

**NOTES**  
ALL KERBS ARE H22 125MM X 250MM 125MM X 100MM (DROPPED KERBS)



**LOCAL RESIDENTIAL STREET, CONNECTOR STREETS AND INDUSTRIAL ROADS. TYPICAL CROSS SECTION.**



**SHADED SURFACE AND HOME ZONE STANDARD TYPICAL DETAIL**

Alternative footway construction - Home Zones and Conservation Areas. Standard 80mm concrete block pavours. Flags or small unit paving - (Not suitable for footway vehicular crossings or other area vulnerable to vehicular traffic).

**PAVEMENT DESIGN**

ROAD LAYER	MATERIAL	MATERIAL CHOICES	LOCAL RESIDENTIAL STREET (msa-3) in mm	CONNECTOR STREET (msa-4.5) in mm	INDUSTRIAL ROAD (msa-11) in mm
SURFACE COURSE	10mm stone mastic asphalt surface course SMA 10 surf 40/60	SMA, Thin Surface Course Systems, AC, HRA	50	50	50
BINDER COURSE	0/20, AC 20 HDM bin 40/60	AC (DBM 50, HDM 50), HRA	60	60	60
BASE COURSE	0/32, AC 32 HDM base 40/60	AC	130	150	170

- msa - Traffic in Million Standard Axles for 40 year period.
- Total Asphalt thickness depends on the traffic (msa)
  - The total Asphalt thickness for Key routes and New roads shall be designed using actual / forecast traffic (msa) using DMRB Standards
  - All longitudinal joints in all layers shall be situated outside wheel track zones, refer MCHW CI 903.21.
  - The joints in different pavement layers should not coincide. Transverse joints shall have an overlap not wider than 300mm. The longitudinal joint width shall be 150mm.

**PAVEMENT FOUNDATION DESIGN**

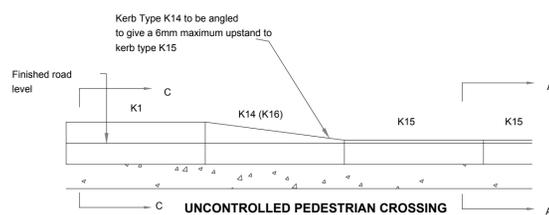
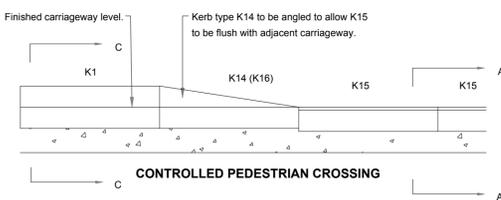
CBR%	SUBBASE ON CAPPING		SUBBASE ONLY	
	CAPPING (mm) + SUB-BASE (mm)		SUB-BASE (mm)	
<2.5	Ground improvement will need to be considered to improve the subgrade CBR			
2.5	430	250	420	
3	380	230	370	
4	330	220	320	
5-15	260 - 160	200	260 - 210	
>15	150	200*	200*	

\*Minimum required type 1 subbase thickness to achieve 450mm (from the designed final surface) of non-frost susceptible material

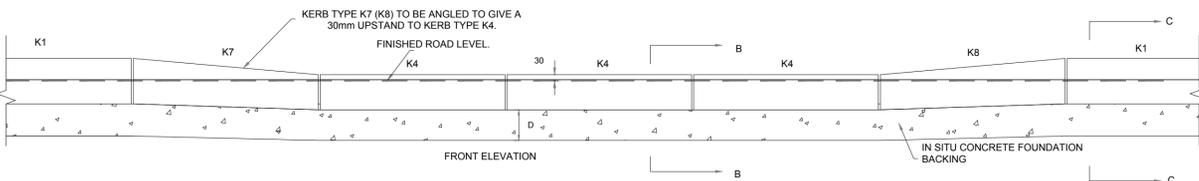
**FOOTWAY AND CYCLEWAY PAVEMENT DESIGN**

TYPE	CBR	SUB-BASE (mm)	BASE (mm) AC 32 dense base 100 / 150	BINDER COURSE (mm) AC 20 dense bin 100 / 150	SURFACE COURSE (mm) AC 6 dense surf 100 / 150 or 150/60 HRA Surf 100/150
Pedestrian only Footway / Cycleway or Footpath	≥ 2.5%	100	0	50	20
Vehicular Footway Crossing or Light/Vehicular footways / cycleways	≥ 2.5%	225	0	50	20
Heavy-vehicle footways / cycleways	≥ 2.5%	320	90	0	25
	≥ 2.5% & ≤ 4%	210	90	0	25

**PEDESTRIAN DROPPED CROSSING ( 1 DROPPER + N CENTRES = PC(N) )**

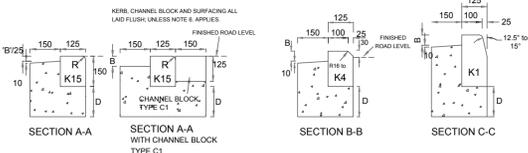


**VEHICULAR DROPPED CROSSING ( 1 DROPPER + N CENTRES = VC(N) )**

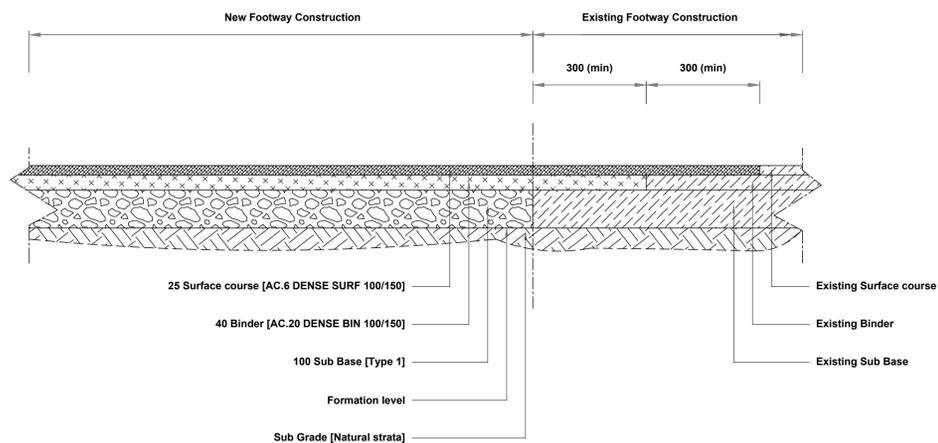


**NOTE**

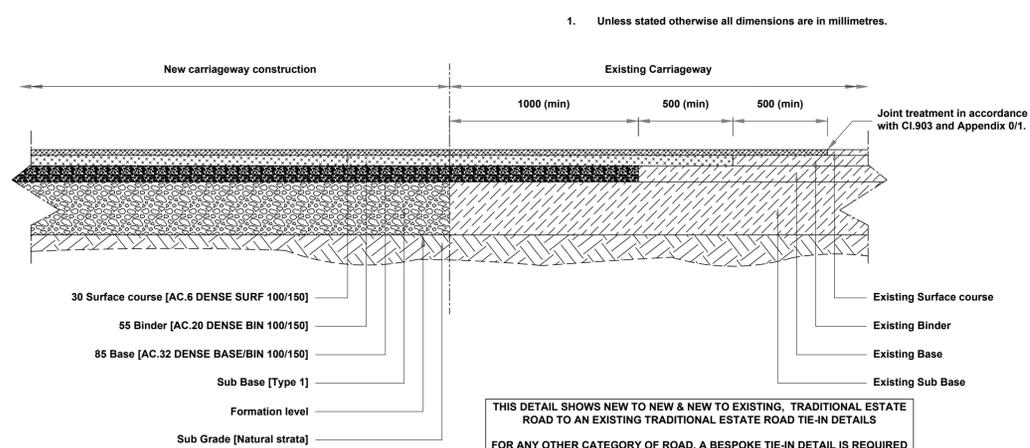
- ALL DIMENSIONS ARE IN MILLIMETRES.
- WHERE THE SUFFIX 'V' IS INCLUDED GRADE C25/30 CONCRETE SHALL BE USED IN FOUNDATIONS AND BACKING. ALL OTHER INSITU CONCRETE SHALL BE CLASS C8/10 OR ST2
- CENTRE KERBS TO BE HALF KERB LENGTH WHEN LAID TO RADII LESS THAN 15 METRES.
- NUMBER OF CENTRE KERBS WILL VARY.
- K15 KERBS TO BE SET FLUSH TO CHANNEL BLOCKS EXCEPT WHERE BACKFALL TO FOOTWAY IS UNAVOIDABLE IF SO SET K15 KERBS 6mm ABOVE CHANNEL BLOCKS FOR DRAINAGE PURPOSES
- CHANNEL BLOCKS SHALL NOT BE PROVIDED IF CARRIAGEWAY SURFACING IS NOT INCLUDED IN THE WORKS.



**FOOTWAY TIE-IN DETAIL**



**CARRIAGEWAY TIE-IN DETAIL**



THIS DETAIL SHOWS NEW TO NEW & NEW TO EXISTING. TRADITIONAL ESTATE ROAD TO AN EXISTING TRADITIONAL ESTATE ROAD TIE-IN DETAILS. FOR ANY OTHER CATEGORY OF ROAD, A BESPOKE TIE-IN DETAIL IS REQUIRED

**General Notes**

- This drawing should not be scaled for setting out purposes.
- This drawing shows the detailed design only and is subject to Local Authority approval.
- This drawing is based upon a topographical / ordnance survey provided by others.
- This drawing is to be read in conjunction with all other relevant drawings.
- Any conflict between the details shown on this drawing and those of any other related drawings should be noted to the engineer prior to construction on site.
- All dimensions are in millimetres unless otherwise stated.

**Construction Notes**

- All levels to be confirmed on site prior to commencement of any works.
- Any existing utility covers retained are to be adjusted to suit proposed levels – cover class to be upgraded if required.
- Any existing utility covers that are damaged will require renewing and resetting.
- Gullies located in shared use surfaces must have suitable pedestrian and cyclist friendly covers. The openings in gully gratings must not align with cyclists anticipated wheel tracks.
- Any soft areas will require excavating until firm ground is found and backfilling with a 6F2 material and to be compacted in 150mm layers.
- Proposals assume a CBR of 2% – CBR tests to be undertaken by others for actual values and construction altered to suit.

**Kerbing Notes**

- Suitable transition kerbs shall be used at all changes in kerb face.
- For radii of 12m or less – kerbs of the appropriate radius shall be used. For radii 12m and above – straight kerbs 600mm long shall be used.
- The length of any kerb shall not be less than 450mm.



PROJECT TITLE  
CROSSLEY LANE, DALTON

DRAWING TITLE  
SECTION 278 – STANDARD DETAILS

DRAWING NUMBER  
ORIGINATOR PROJECT VOL. TYPE ROLE NUMBER  
PRGN - 937 - HGN - DR - CH - 0007

CLIENT  
MINERVA WORKS DEVELOPMENTS

SCALE SIZE DRAWN CHECKED AUTHORISED DATE  
NTS A1 AH LO AH AUG 24

PARAGON HIGHWAYS  
20 – 21 THE WALLED GARDEN  
NOSTELL ESTATE YARD  
WAKEFIELD WF4 1AB

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