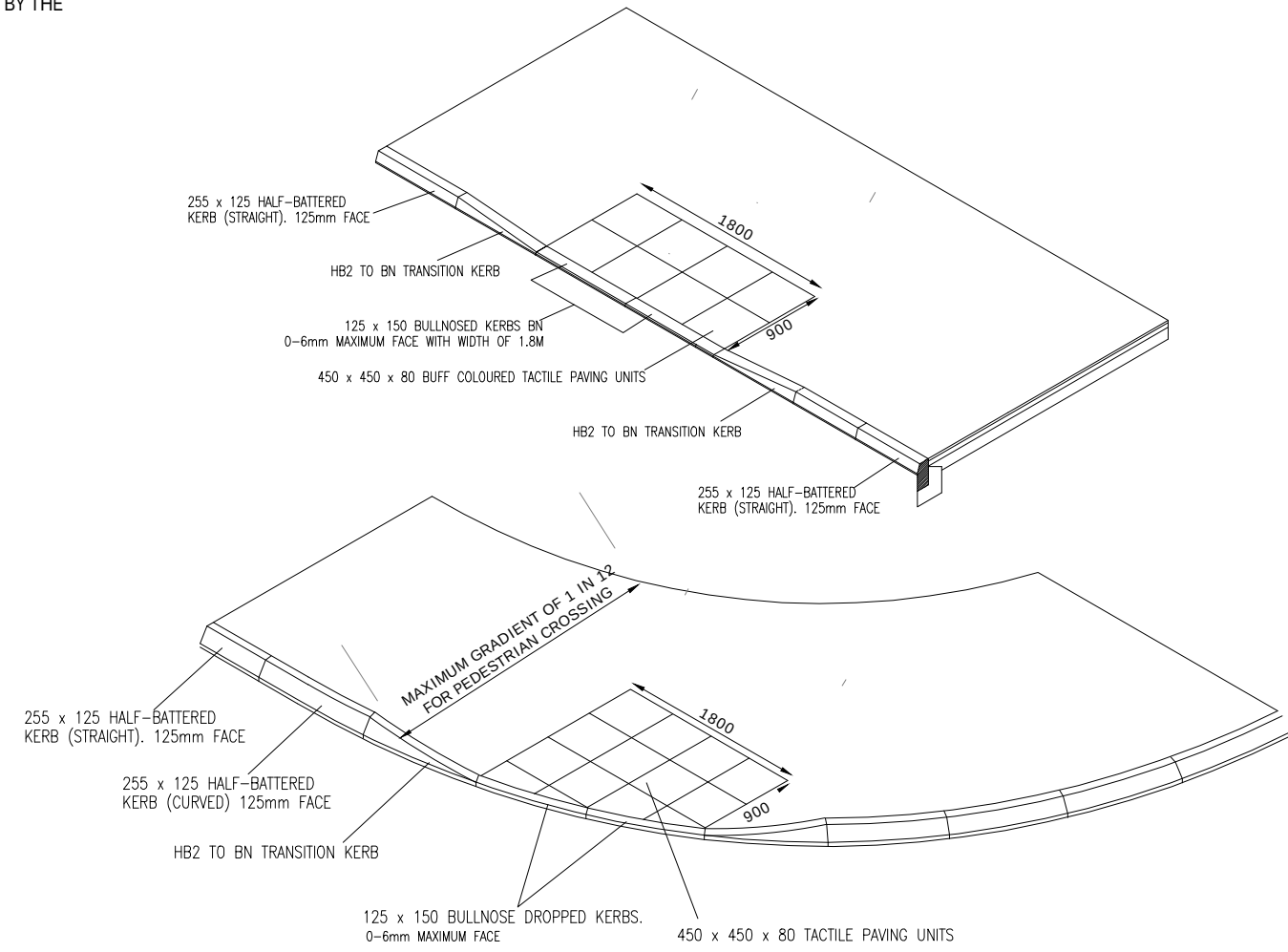


Z:\projects\3381_DD S278 Heritage Way Brymbo, Wrexham, TW\DWG\Croft Drawings\S278 Heritage Way Brymbo Mastercopy (3381).dwg

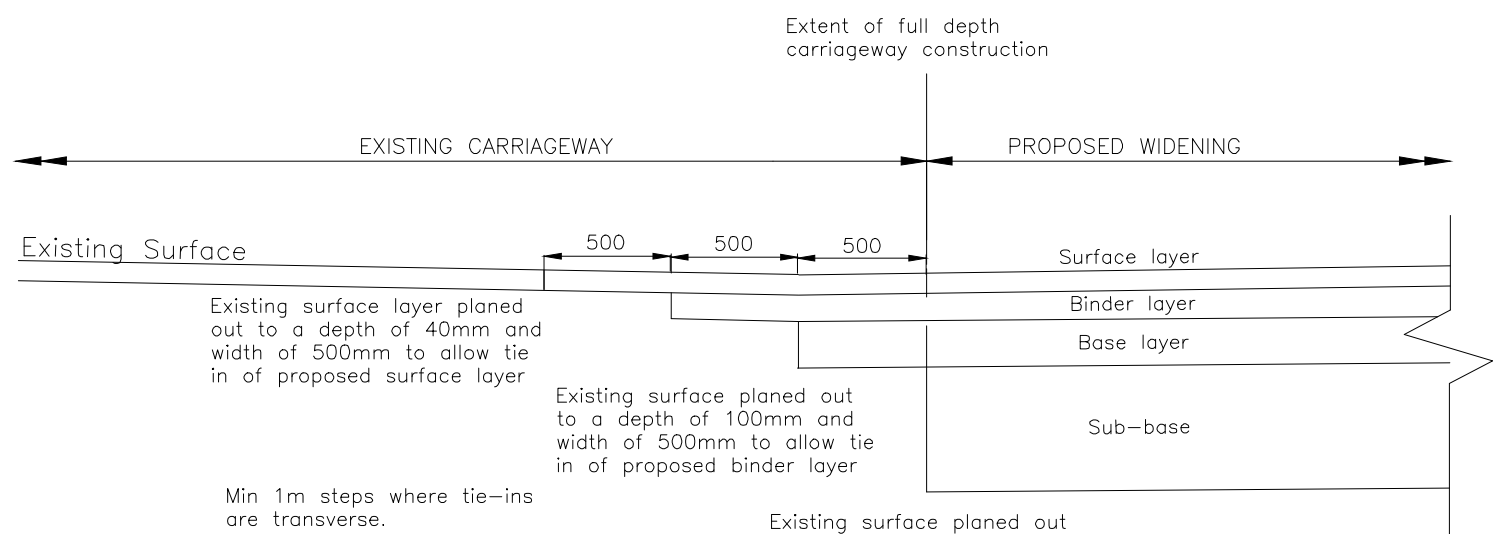
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. PERMANENT REINSTATEMENT TO BE MEASURED SEPARATELY.
3. GRADE ST4 CONCRETE AS BACKFILL TO TRENCHES TO BE SEMI-DRY MIX COMPACTED, BY MEANS OF A VIBRATING PLATE COMPACTOR/TRENCH RAMMER IN LAYERS NOT GREATER THAN 200mm.
4. SELECTED BACKFILL TO BE COMPACTED BY MEANS OF A VIBRATING PLATE COMPACTOR/TRENCH RAMMER IN LAYERS NOT GREATER THAN 200mm.
5. THE EDGE OF ALL TRENCHES TO BE SAW CUT, MINIMUM DEPTH OF 40mm.
6. ALL DUCTS TO BE 100mmØ, AND ARE TO BE COMPLETE WITH 6mmØ POLYPROPYLENE DRAWROPE SECURED AT BOTH ENDS.
7. THE DUCTING SHALL BE H.D.P.E (5mm WALL THICKNESS) AND SHALL BE CLEARLY MARKED (STREET LIGHTING/TRAFFIC SIGNALS) AS APPROPRIATE, OR FLEXIBLE WITH A RIBBED M.D.P.E OUTER PROFILE AND A SMOOTH L.D.P.E INNER BORE.
8. THE DUCTING SHALL CONFORM TO A DENSITY OF 0.9/cm3 DINS3479 WITH A BREAKINGPOINT OF 23-30N/mm2 DINS3455. THE DUCTING SHALL BE COMPATIBLE WITH THE APPROVED ACCESS CHAMBERS PRE-REPAIRED KNOCKOUT, WHERE THE DUCTS NEED TO BE JOINED A MANUFACTURER APPROVED CONNECTOR MUST BE USED AND APPROVED BY THE OVERSEEING ORGANISATION.

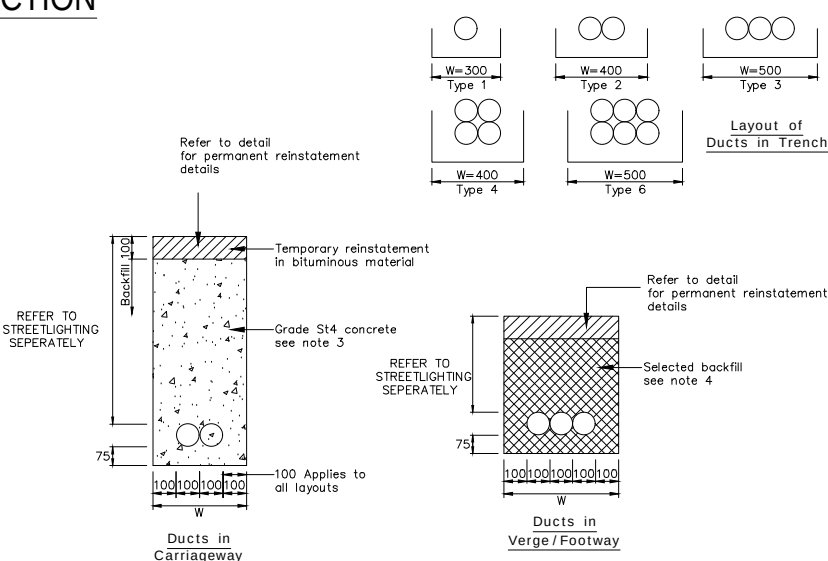
STRAIGHT DROPPED KERB DETAIL
(NOTE: THE ABOVE DETAIL SHOULD BE USED AS A GUIDE FOR GENERAL LAYOUT PURPOSES)



RADIAL DROPPED KERB DETAIL
(NOTE: THE ABOVE DETAIL SHOULD BE USED AS A GUIDE FOR GENERAL LAYOUT PURPOSES)

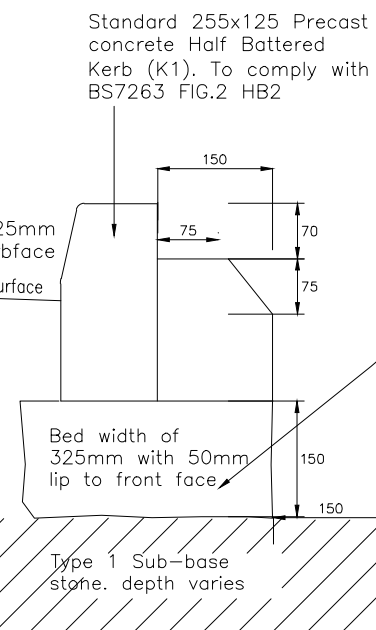


TIE IN CONSTRUCTION



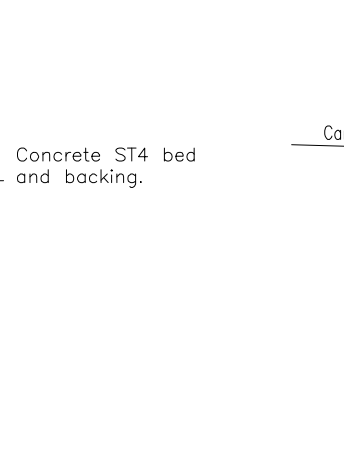
DUCT CROSSING DETAILS-FOR ALL DUCT DETAILS RELATING TO STREETLIGHTING REFER TO LIGHTING DESIGNS SEPARATELY

TYPE OF KERB AND THEIR DESIGNATIONS			
TYPE OF KERB	DESIGNATION	Fig. No.	SIZE
Kerbs:			
Bullnosed	BN	K.1a	125 x 150
45° Spigoted	SP	K.1b	125 x 255
Half Battered	HB 1	K.1c	150 x 305
Half Battered	HB 2	K.1d	125 x 255
Half Battered	HB 3	K.1e	125 x 150
Left Hand	TL	K.2a	Transition HB to SP
Right Hand	TR	K.2a	Transition HB to SP
Left Hand	DL1	K.2b	Dropper Type 1 : HB to BN
Right Hand	DR1	K.2b	Dropper Type 1 : HB to BN
Left Hand	DL2	K.2c	Dropper Type 2 : 45° to BN
Right Hand	DR2	K.2c	Dropper Type 2 : 45° to BN
Channels:			
Channel Square	CS1	K.1f	255 x 125
Channel Square	CS2	K.1g	150 x 125
Channel Dashed	CD	K.1h	255 x 125
Edgings:			
Round Top Edging	ER	K.3a	50 x 150, 200 or 250
Flat Top Edging	EF	K.3b	50 x 150, 200 or 250
Bullnosed Edging	EBN	K.3c	50 x 150, 200 or 250
Quadrants:			
Quadrant	QBN	K.3d	305 or 455 x 150 or 255
Quadrant	QBH	K.3d	305 or 455 x 150 or 255
Quadrant	QSP	K.3d	305 or 455 x 150 or 255
Angles:			
Internal Angle	IA	K.3e	125 x 255, HB1 or SP
External Angle	XA	K.3f	125 x 255, HB1 or SP

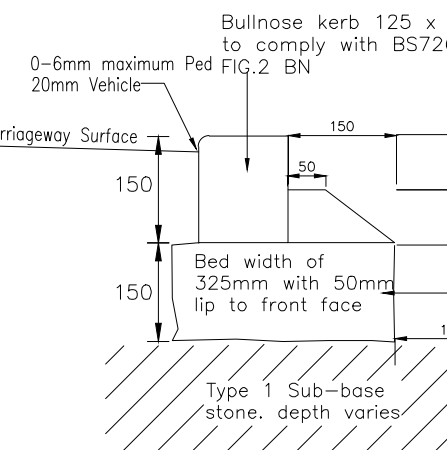


HALF BATTERED KERB

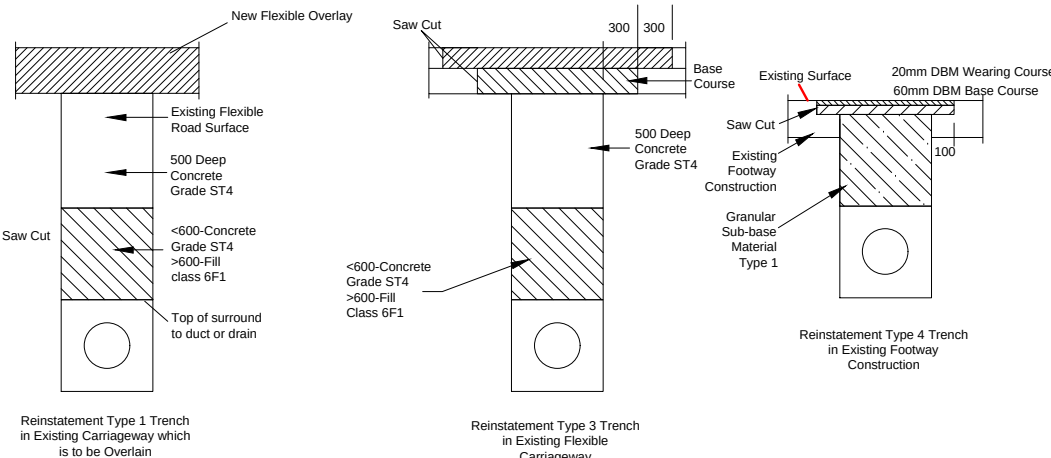
KERB BASE, KERB AND KERB BACKING LAID BEFORE CONCRETE SETS



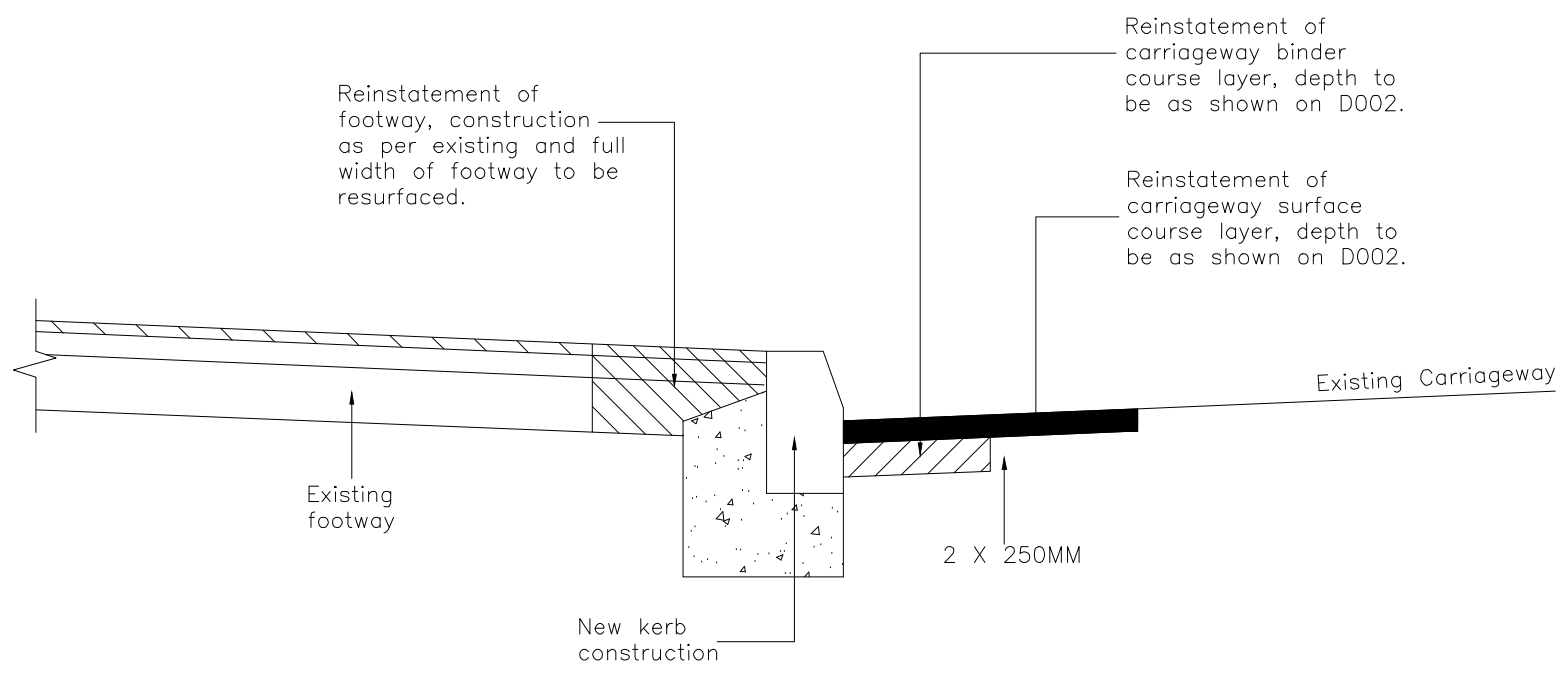
BULLNOSED KERB



TRENCH REINSTATEMENT



KERB RENEWAL / CARRIAGEWAY REINSTATEMENT

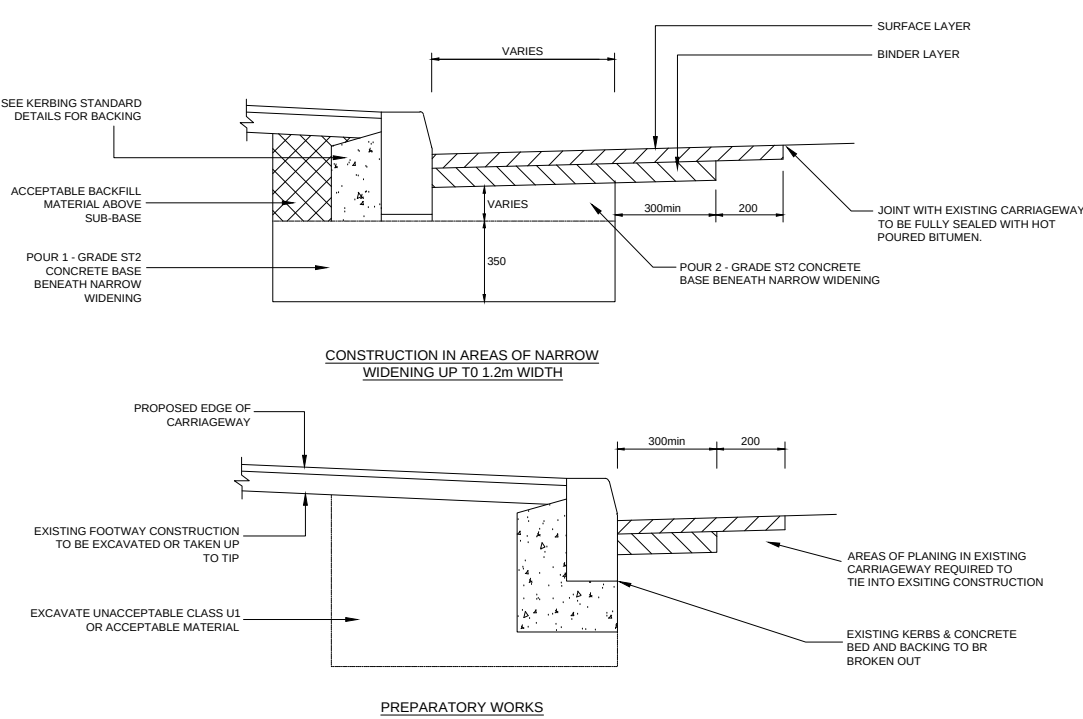


Reinstatement of footway, construction as per existing and full width of footway to be resurfaced.

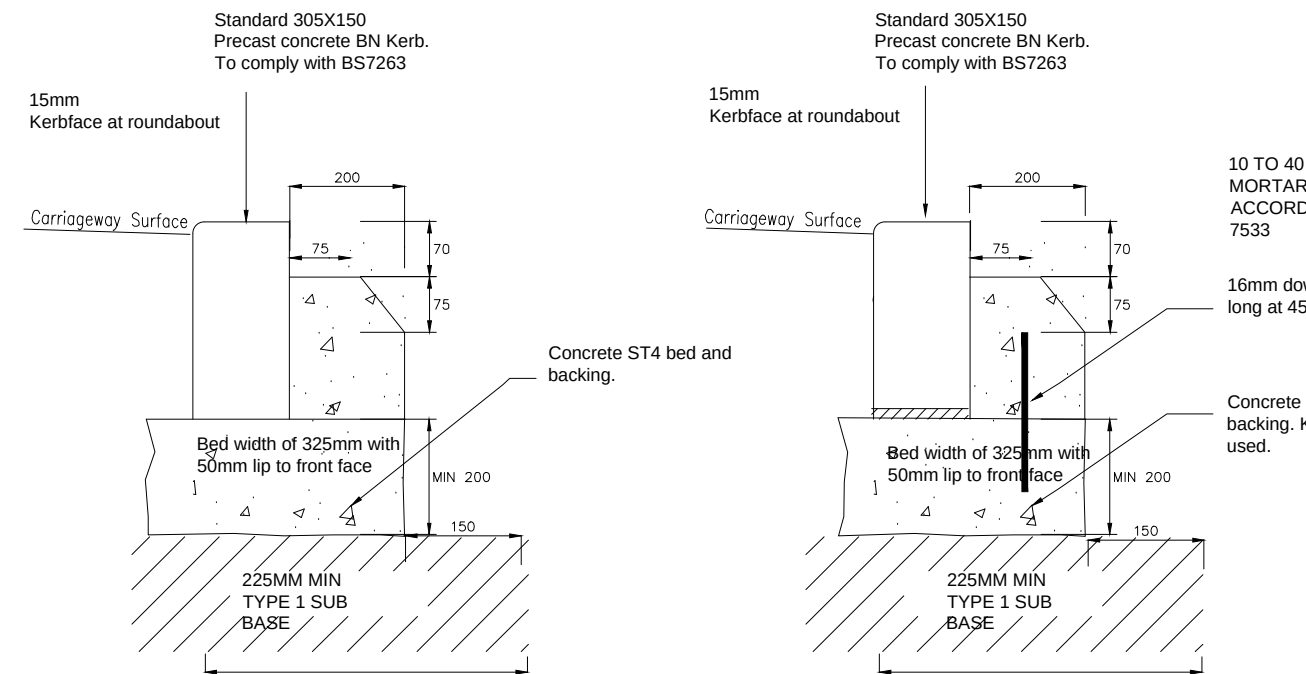
Reinstatement of carriageway binder course layer, depth to be as shown on D002.

Reinstatement of carriageway surface course layer, depth to be as shown on D002.

TYPICAL PRECAST CONCRETE GULLY DETAIL



CARRIAGEWAY NARROW WIDENING



OVERRUN KERB CONSTRUCTION TYPE A

KERB BASE, KERB AND KERB BACKING LAID BEFORE CONCRETE SETS

OVERRUN KERB CONSTRUCTION TYPE B

KERB BASE SET PRIOR TO LAYING KERB AND KERB BACKING

NOTES

1. ALL ADAPTABLE SEWERS AND ASSOCIATED WORKS ARE TO COMPLY FULLY WITH "SEWERS FOR ADOPTION" 7TH EDITION. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE ON-SITE DRAWINGS PRIOR TO UNDERTAKING ANY WORKS AND ANY DISCREPANCIES WITH BOUNDARIES, FENCIBLES, EARTHWORKS OR OTHERWISE REPORTED IMMEDIATELY TO THE ENGINEER PRIOR TO WORKS COMMENCING.
2. ALL HIGHWAY AND DRAINAGE WORKS TO BE TO ADAPTABLE STANDARDS AND SHALL COMPLY FULLY WITH THE LOCAL AUTHORITY SPECIFICATION, APPROVED STANDARD DETAILS AND THE RELEVANT SECTIONS OF THE DESIGN MANUAL FOR ROADS AND BRIDGES, SPECIFICATION FOR HIGHWAY WORKS AND BRITISH STANDARDS. CONTRACTOR TO ENSURE POSITIVE DRAINAGE TO ALL GULLIES PRIOR TO UNDERTAKING ANY PAYMENT WORKS.
3. ANY PRIVATE WORKS ARE TO COMPLY FULLY WITH THE LATEST EDITIONS OF THE BUILDING REGULATIONS
4. ALL EXISTING STATIONS, INVERT LEVELS AND DRAINAGE NETWORK TO BE CHECKED BY THE CONTRACTOR AT THE START OF WORKS AND ANY DISCREPANCIES NOTIFIED TO THE ENGINEER. ALL LEVELS ARE BASED ON TOPOGRAPHICAL SURVEY INFORMATION PROVIDED BY OTHERS. ANY DISCREPANCIES BETWEEN THIS AND OTHER DRAWINGS TO BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.
5. ALL MATERIALS TO BEAR THE RELEVANT B.S. ITEM MARK AND COMPLY FULLY WITH THE SPECIFICATIONS. ALL MATERIALS TO BE AGREED WITH THE OVERSEEING LOCAL AUTHORITY REPRESENTATIVE PRIOR TO ORDERING. ALL CONCRETE & CONCRETE PRODUCTS MUST USE SULPHATE RESISTANT CEMENT (UNLESS THE SITE INVESTIGATION REPORT PROVES THAT SULPHATE ATTACK FROM SOILS AND GROUNDWATER WILL NOT OCCUR).
6. ALL STATUTORY CONSENTS, OPENING NOTICES ETC. AS REQUIRED UNDER HIGHWAYS ACTS AND WATER INDUSTRIES ACTS, ARE TO BE OBTAINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF THE WORKS (UNLESS OTHERWISE STATED). ALL WORKS ARE TO BE INSPECTED BY L.A., INHC OR STATUTORY AUTHORITY AS APPLICABLE.
7. CONTRACTOR TO MAKE ADVANCE ALLOWANCE FOR THE MANAGEMENT AND COORDINATION OF STATUTORY UNDERTAKERS DIVERSIONS WITHIN THEIR PROGRAMME OF WORKS. PRESENCE OF STATUTORY UNDERTAKERS EQUIPMENT IN THE HIGHWAY SHOULD BE VERIFIED BY THE CONTRACTOR ON SITE PRIOR TO STARTING ANY WORKS. THE LOCATION OF STATUTORY PLANT SHOWN ON ANY PLANS IS INDICATIVE ONLY AND SHOULD NOT BE RELIED UPON FOR THE LOCATION OF ANY PIPEWORK OR CABLEING. THE CONTRACTOR SHOULD CONFIRM THE LOCATION OF ALL STATS. PLANT BY HAND DUG TRIAL TRENCHES PRIOR TO COMMENCING ANY WORKS. ALLOWANCE FOR THE PRESENCE OF ALL STATS. APPROPRIATE PROTECTION / DIVERSION MEASURES (INCORPORATING SPLIT DUCT AND 150MM CONCRETE SURROUND OR SIMILAR STATUTORY APPROVED METHOD) IS TO BE PUT IN PLACE BY THE CONTRACTOR (UNLESS STATED OTHERWISE) WHERE STATS EQUIPMENT ARE FOUND TO BE WITHIN THE AREA OF HIGHWAY WORKS.
8. PRIOR TO ORDERING THE CONTRACTOR IS TO AGREE ALL SIGN POSTLIGHTING COLUMN MATERIALS AND FINISHES WITH THE LOCAL AUTHORITY. ALL SIGNS TO COMPLY WITH BS EN 12899:2007 AND ITS NATIONAL ANNEX. TYPE OF POSTS, FINISHES AND LIGHTING UNITS/COLUMNS TO BE AGREED WITH LA STREETLIGHTING ENGINEER PRIOR TO ORDERING. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE PROVISION OF ALL REQUIRED EQUIPMENT AND ELECTRICAL FEEDS TO LIGHTING AND ANY SIGNALS PRIOR TO WORKS COMMENCING. CONTRACTOR TO MAKE ALLOWANCE FOR ANY LEADS WITHIN THEIR PROGRAMME.
9. ALL ROADMARKINGS TO BE LAID IN ACCORDANCE WITH THE REQUIREMENTS OF THE TRAFFIC SIGNS MANUAL CHAPTER 5, TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS. ROADMARKING MATERIALS, LAYING AND PERFORMANCE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF BS EN 14846. ACCESS COVERS WITHIN THE VICINITY OF THE WORKS TO HAVE HIGH FRICTION COVERS AND AGREED WITH LA ENGINEER. PSV OF ALL LINING AND COVERS TO SUIT ADJACENT SURFACING.
10. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL ADVANCE NOTICES ARE IN PLACE AND TRAFFIC MANAGEMENT AGREED FOR THE WORKS PRIOR TO COMMENCING. THE CONTRACTOR IS TO MAKE ALLOWANCE FOR THE ADVANCE PROVISION OF ALL ELECTRICAL WORKS AND EQUIPMENT FOR SIGNALS AND STREETLIGHTING WITHIN THEIR PROGRAMME OF WORKS.

C.D. REGULATIONS 2015

IN LINE WITH THE ABOVE REGULATIONS WE ARE OBLIGED TO INFORM THE CLIENT OF THE RISKS THAT MAY BE ENCOUNTERED IN THE CONSTRUCTION OF THESE WORKS. WHEREVER POSSIBLE RISKS HAVE BEEN ELIMINATED FROM THE DESIGN. HOWEVER DUE TO THE VERY NATURE OF THIS TYPE OF WORK IT IS NOT POSSIBLE TO REMOVE ALL THE RISKS FROM THE DESIGN. WE WOULD ALSO RESPECTFULLY REMIND THE CLIENT OF HIS OBLIGATIONS TO TAKE ALL REASONABLE STEPS IN ENSURING THAT ONLY COMPETENT CONTRACTORS WHO HAVE A VALID SAFETY POLICY ARE EMPLOYED. THEY SHOULD ALSO PROVIDE SATISFACTORY RESPONSES AT TENDER STAGE AS TO THE MANNER IN WHICH THEY WILL DEAL WITH THE ELEMENTS OF RISK INVOLVED IN THIS TYPE OF WORK AND IN PARTICULAR THOSE HIGHLIGHTED BY CROFT BELOW:-

1. TRENCH EXCAVATIONS IN EXCESS OF 1.2M DEEP.
2. GUARDING TO EDGES OF EXCAVATIONS TO PREVENT PEOPLE, MATERIALS AND VEHICLES FALLING INTO EXCAVATION.
3. GUARDING OF EXCAVATIONS OUTSIDE WORKING HOURS TO PREVENT UNAUTHORISED ACCESS.
4. UNDERMINING TO ADJACENT ROADS OR STRUCTURES.
5. CONFINED SPACE OPERATIONS.
6. DEALING WITH EXISTING SERVICES.
7. TRAFFIC MANAGEMENT ON EXISTING HIGHWAYS AND PROTECTION OF SITE PERSONNEL AND MEMBERS OF THE PUBLIC.
8. PROCEDURE TO BE FOLLOWED IN EVENT OF ACCIDENT OR EMERGENCY.
9. METHOD OF WORKING WHERE CONTAMINATED GROUND IS PRESENT ON SITE.
10. CONFIRMATION WILL BE REQUIRED THAT ALL OPERATIVES ARE ADEQUATELY TRAINED. COPIES OF RELEVANT TRAINING CERTIFICATES TO BE SUPPLIED.
11. ANY CONSTRUCTION PERSONNEL, INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE HAD SIGHT OF:

- i) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND RISK REGISTERS.
- ii) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN
- iii) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

THE ABOVE LIST IS BY NO MEANS EXHAUSTIVE BUT IT DOES HIGHLIGHT OPERATIONS THAT PRESENT A RISK TO CONTRACTORS AND THE GENERAL PUBLIC.

TAYLOR WIMPEY

HERITAGE WAY, BRYMBO, WREXHAM

S278 STANDARD DETAILS

SCALES:

NTS @ A1

DRAWN:

JC

CHECKED:

MC

DATE:

APR 21

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