

- GENERAL NOTES:**
- DO NOT USE THIS DRAWING IN ISOLATION. THIS DRAWING HAS BEEN PREPARED AS PART OF A SET, AND MUST THEREFORE BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER PRIOR TO COMMENCING WORKS.
 - THIRD PARTY INFORMATION IS USED TO PREPARE THE ENGINEERING DESIGN (INCLUDING ARCHITECTURAL LAYOUT, GROUND INVESTIGATION, EXISTING UTILITIES RECORDS, AND SPECIALIST DESIGN ITEMS). THE ENGINEERING DESIGN MUST THEREFORE BE READ IN CONJUNCTION WITH ALL THIRD PARTY INFORMATION PRIOR TO COMMENCING WORKS. QUEENSBERRY DESIGN LTD ARE NOT RESPONSIBLE FOR ANY THIRD PARTY INFORMATION OR DETAILS.
 - DRAWING STATUS WILL REMAIN PRELIMINARY UNTIL FULL TECHNICAL APPROVAL IS RECEIVED FROM LOCAL AUTHORITY AND SEWERAGE UNDERTAKER. WORKS COMMENCED PRIOR TO TECHNICAL APPROVAL ARE DONE AT YOUR RISK AND MAY BE SUBJECT TO CHANGE.
 - THE CONTRACTOR IS EXPECTED TO PREPARE APPROPRIATE CONSTRUCTION METHOD STATEMENTS FOR ALL ASPECTS OF PROPOSED WORK. THIS SHOULD INCLUDE ANY TEMPORARY PROTECTION WORKS.
 - LAND DRAINAGE IS NOT PERMITTED TO DISCHARGE INTO THE PUBLIC SEWER NETWORK. ANY NEED FOR LAND DRAINAGE SHOULD BE ASSESSED BY THE GROUND WORKER AND LANDSCAPER DURING CONSTRUCTION AND PLACEMENT OF GARDENS ON AN INDIVIDUAL PLOT BASIS. ANY NECESSARY WORK SHOULD BE REPORTED TO THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.
 - THE CONTRACTOR IS EXPECTED TO CHECK ALL DRAINAGE INVERTS PRIOR TO COMMENCING WORK. THE ANY INSOLE COLLECTION OF TRAP WATER FROM ALL LEVELS HAS BEEN INTERPOLATED. THE POSITION, LINE AND DIAMETER OF ALL EXISTING DRAINAGE APPARATUS SHOULD BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORKS. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER IMMEDIATELY.
 - THE CONTRACTOR MUST MONITOR THE 'AS BUILT' PROGRESS OF EACH CONSTRUCTION STAGE (ROADS/SEWERS/PLANT WORKS ETC), TO ENABLE THE NEXT STAGES OF CONSTRUCTION TO BE CHECKED BEFORE INSTALLATION.

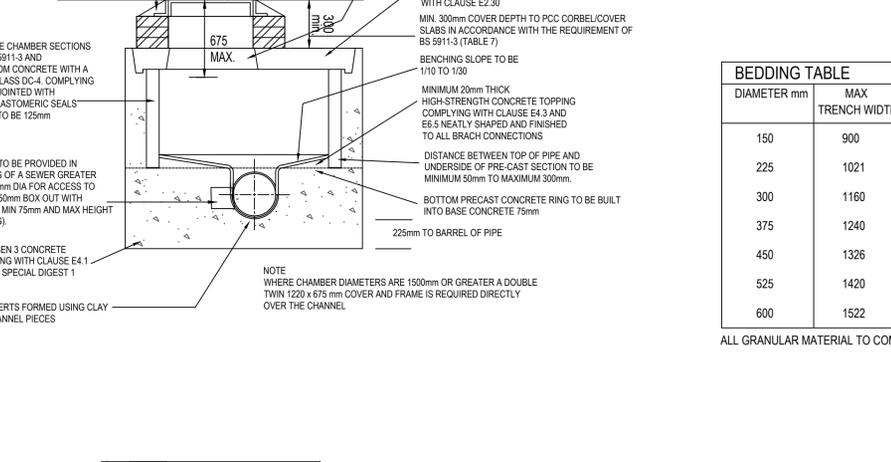
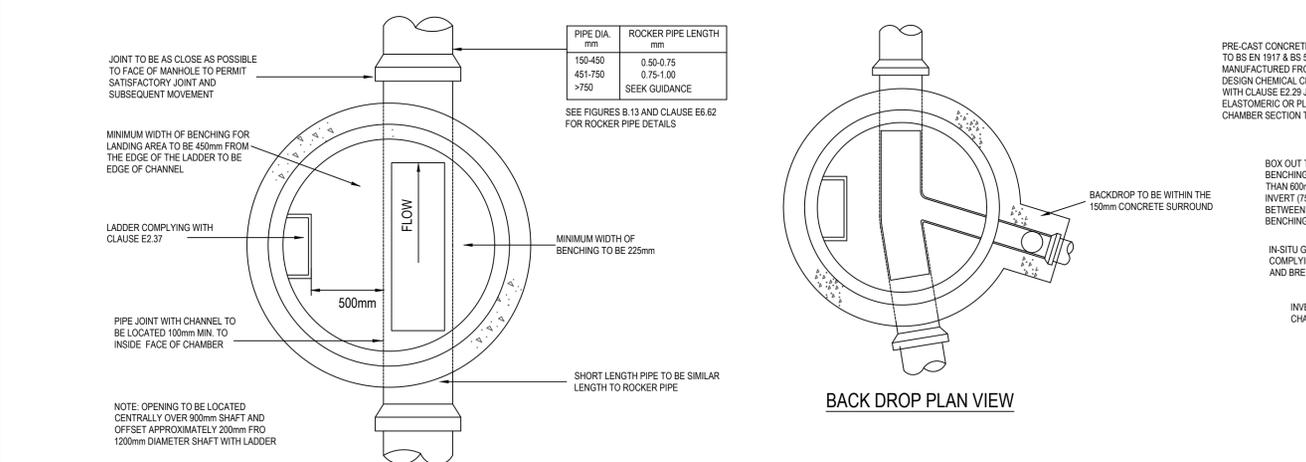
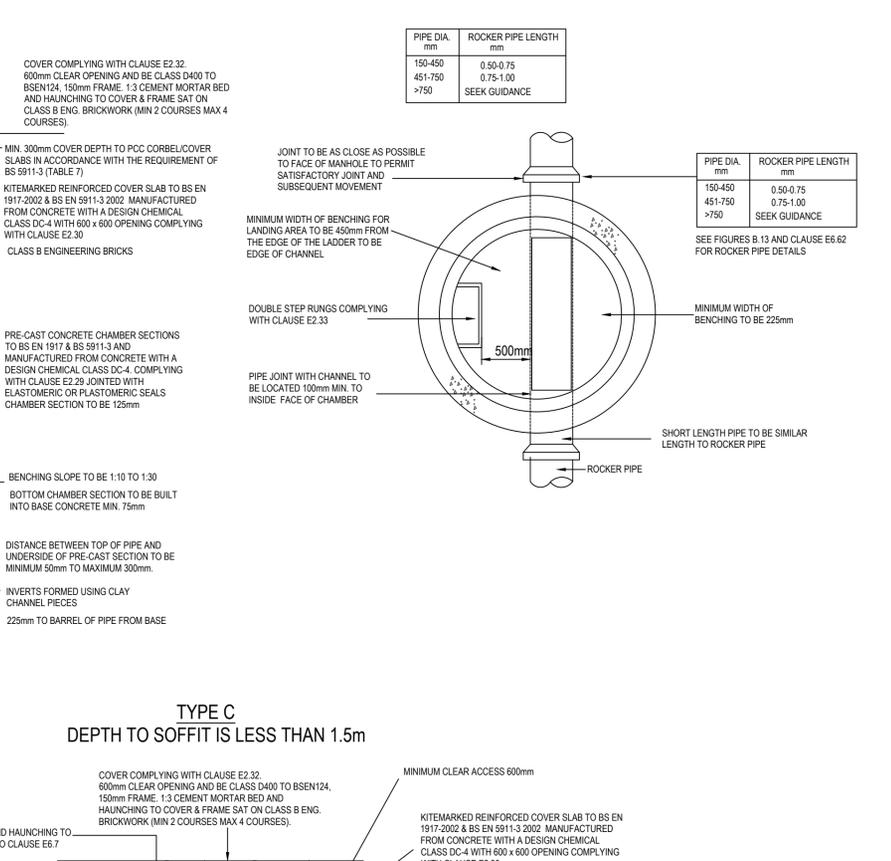
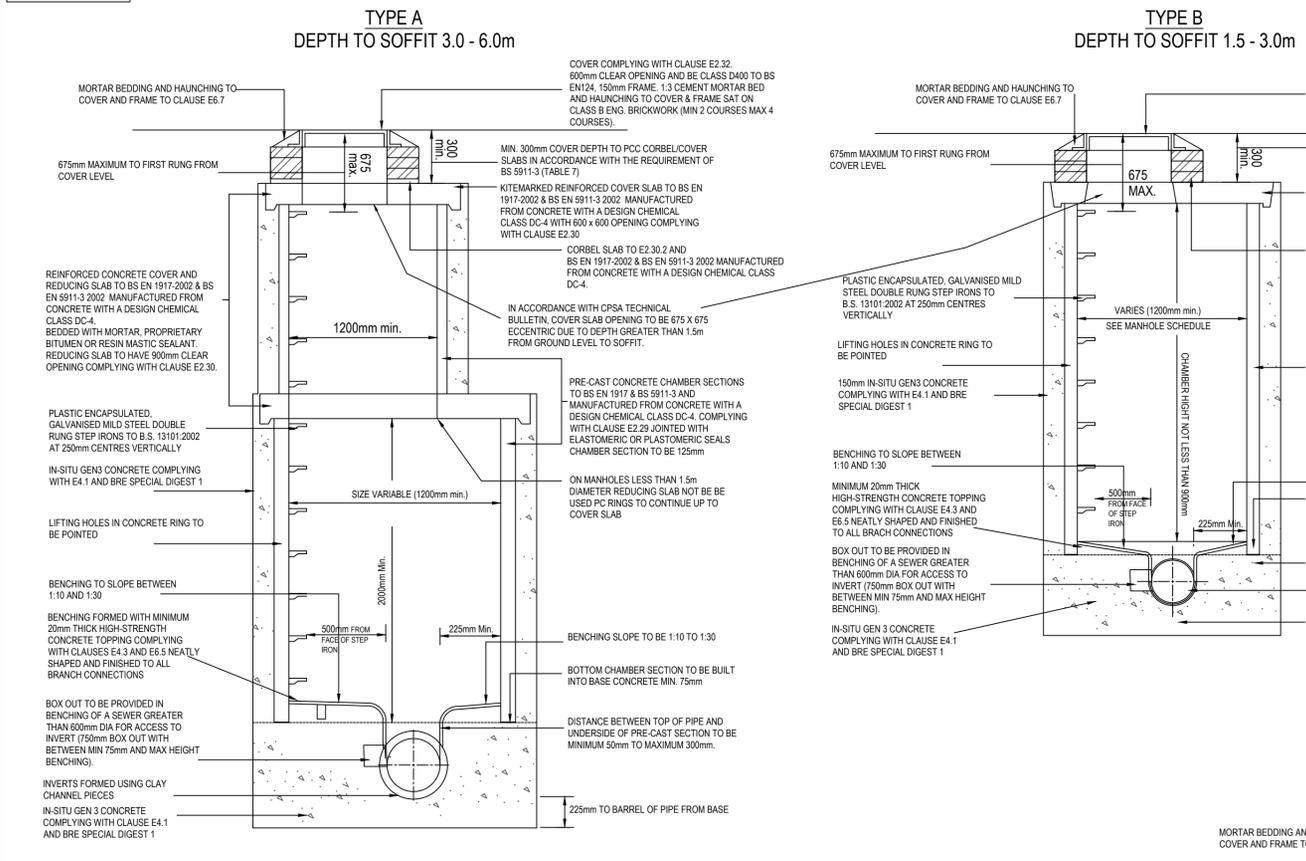
- REMARKS:**
- ALL HIGHWAY WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT LOCAL AUTHORITY DESIGN GUIDE AND SPECIFICATION.
 - ALL EXCAVATIONS BELOW PROPOSED AND EXISTING HIGHWAYS TO BE BACK FILLED WITH GRANULAR TYPE 1 SUB-BASE AND WELL COMPACTED IN LAYERS NOT EXCEEDING 150MM UNLESS OTHERWISE SPECIFIED.
 - HIGHWAY AUTHORITY TO BE NOTIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS.

- ADAPTABLE DRAINAGE:**
- ALL ADAPTABLE SEWER WORKS AND MATERIALS TO BE IN ACCORDANCE WITH CODE FOR ADOPTION: THE RELEVANT BRITISH/EUROPEAN AND YORKSHIRE WATER STANDARDS/REQUIREMENTS ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
 - MANHOLE COVERS SHALL HAVE A CLEAR OPENING OF 600MM AND SHALL BE CLASS D400 TO BS EN 124 WITH 150MM DEEP FRAMES IN HIGHWAYS.
 - FILLED GROUND MUST BE FILLED AND CONSOLIDATED UNDER THE SUPERVISION AND TO THE SATISFACTION OF YORKSHIRE WATER BEFORE ANY SEWER WORKS ARE CARRIED OUT.
 - YORKSHIRE WATER IS NOT OBLIGED TO ACCEPT FILTER DRAINAGE DRAINAGE RUN-OFF INTO THE PUBLIC SEWER NETWORK OR ADAPTABLE DRAINAGE SYSTEM (DIRECTLY OR INDIRECTLY). AN ALTERNATIVE METHOD OF DISPOSAL OF THE FILTER DRAINAGE DRAINAGE RUN-OFF.
 - THE ADAPTABLE SEWERS SHOULD BE A MINIMUM OF 1M AND MANHOLES 0.5M FROM KERB FACES AND SERVICE MARGINS.
 - SEWERS MUST HAVE 5 METRES CLEARANCE FROM TREES AND HEDGES OR THE WIDTH OF THE CANYON AT ANY POINT.
 - SEWERS TO BE LAD IN CLASS '3' BEDDING (150MM GRANULAR BED SURROUND), WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2M IN HIGHWAYS AND VERGES OR LESS THAN 900MM IN NON-VEHICULAR ACCESS AREAS. THEN A CONCRETE SLAB SHOULD BE PROVIDED ABOVE GRANULAR BED SURROUND.
 - RETDING AND BACKFILL MATERIAL TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4.8-02 (TABLE A2).
 - YORKSHIRE WATER POLICY IS THAT THE 'B' BRICK MANHOLES AND 150MM DIAMETER MANHOLE RINGS ARE NOT PREFERRED. INSTEAD, IT IS PREFERRED THAT YOU USE A TYPE 'B' MANHOLE WITH 1200MM DIAMETER OR 1500MM DIAMETER RINGS, WITH THE OPENING SIZED OVER THE CHANNEL, WHERE DEPTH OF COVER TO PIPE IS 1.1 - 1.5M.
 - ADAPTABLE PLASTIC SEWER PIPES TO BE BS 8516 (CERTIFIED TO WIS 4-301 AND BS EN 13476). ADAPTABLE PLASTIC SEWER PIPES TO BE LAD IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHAMBER SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND YORKSHIRE WATER WOULD REQUIRE CLAY WARE CHAMBER IN MANHOLES.
 - THE MINIMUM CRUSHING STRENGTH FOR CLAY PIPES SHOULD BE AS FOLLOWS: 100MM DIA. 40KNM, 150MM DIA. 40KNM, 225MM DIA. 40KNM AND 300MM DIA. 70KNM. THE MINIMUM CRUSHING STRENGTH FOR CONCRETE PIPES SHOULD BE: CLASS 20 TO EN 1916/BS 11: 2003. PLASTIC PIPES SHOULD CONFORM TO WIS 4-301 AND BS EN 13476.
 - WHERE A B125 COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE 175mm ELEVATION TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.
 - THERE MUST BE ENOUGH CLEARANCE AT CROSSOVERS TO ACCOMMODATE BEDDING TO BOTH PIPES. APPROX. 300MM. IF CROSSOVER IS NEAR THE ROCKER THEN THE CLEARANCE NEEDED MAY NEED TO BE INCREASED.

- DRAINAGE WITHIN HIGHWAY REQUIREMENTS:**
- ALL ADAPTABLE SEWER WORKS AND MATERIALS TO BE IN ACCORDANCE WITH CODE FOR ADOPTION AND NATIONAL SPECIFICATION DESIGN MANUAL FOR ROADS AND BRIDGES.
 - ALL PCC UNITS IN OVERSIZE MANHOLES MUST HAVE A DESIGN WORKING LIFE OF 100 YEARS (MIN) IN ACCORDANCE WITH BS 800-1:2015-A2:2018-TABLE A5.
 - PRE-CAST CONCRETE MANHOLE UNITS INCLUDING THEIR PCC COVER SLABS SHALL CONFORM WITH THE RELEVANT PROVISIONS OF BS EN 1917 AND BS 8813, AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4 UNLESS SATISFACTORY EVIDENCE THROUGH ANALYSIS CAN BE PROVIDED THAT A LOWER CLASS WILL RESIST ATTACK FROM SOILS AND GROUND WATER.
 - PRE-CAST CONCRETE CORBEL SLABS SHALL COMPLY WITH BS 5911-3 TABLE 3 AND FIGURE 8.
 - COVER SLABS SHALL BE INSTALLED WITH A MINIMUM OF 300mm COVER TO FINISHED GROUND LEVEL.
 - SUBMISSION OF A CONSTRUCTION COMPLIANCE CERTIFICATE SHALL BE PROVIDED UPON COMPLETION OF DRAINAGE WORKS.

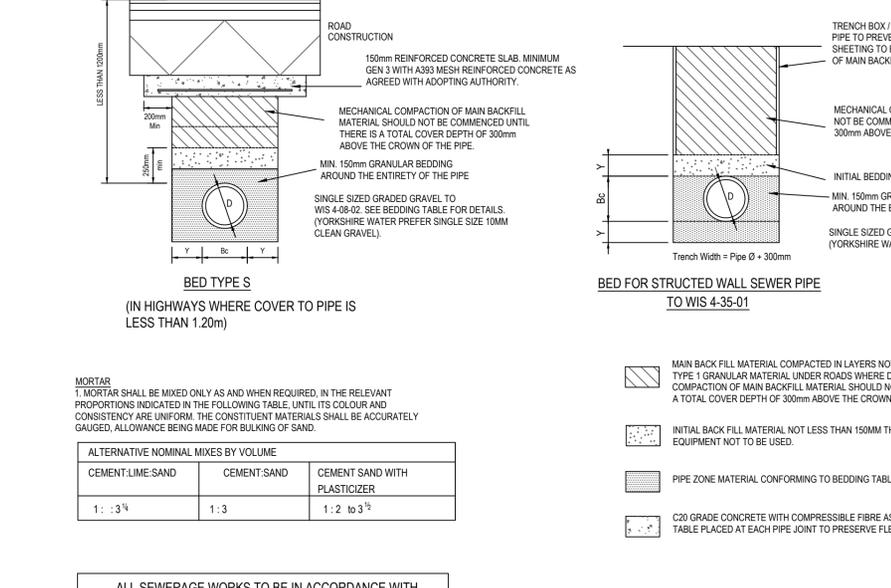
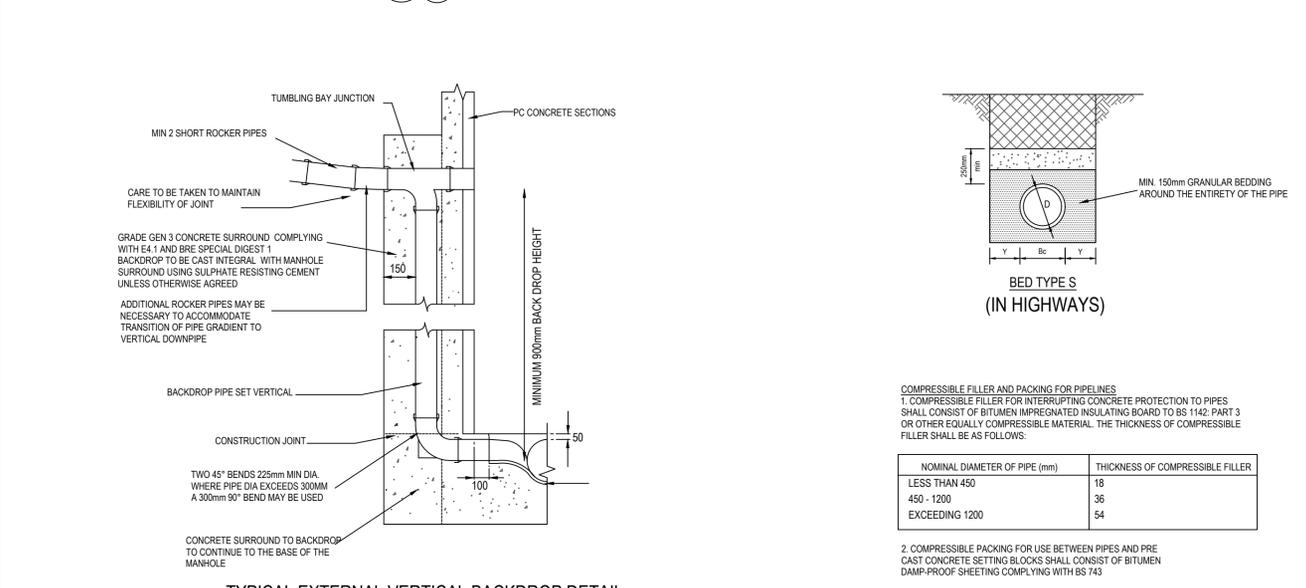
- EXISTING SERVICES:**
- PRIOR TO THE COMMENCEMENT OF ANY WORKS UNDER GROUND MAPPING SURVEYS AND CONSTRAINTS PLAN IS TO BE REFERRED TO ANY DISCREPANCIES ARE TO BE REPORTED TO ENGINEER.
 - ANY EXISTING SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS SHOULD BE LOCATED BY MEANS OF A HAND DIG IN CLOSE LIAISON WITH THE STATUTORY SERVICE AUTHORITIES. THE CONTRACTOR SHALL INFORM THE DEVELOPER OF ANY SERVICES THAT MAY AFFECT THE PROPOSED DESIGN. THE CONTRACTOR TO NOTIFY STATUTORY SERVICE AUTHORITIES PRIOR TO COMMENCEMENT OF WORK AS CONSTRUCTED INFORMATION IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE FOLLOWING AS CONSTRUCTED DRAWINGS TO THE DEVELOPER UPON THE COMPLETION OF THE WORKS COVERED BY THE CONTRACT:
 - POSITION CO-ORDINATES OF ALL ADAPTABLE MANHOLES.
 - INVERT AND COVER LEVELS OF ALL ADAPTABLE MANHOLES.
 - NEW GULLY POSITIONS AND CONNECTIONS.
 - POSITION AND DEPTH OF SERVICE DUCTS FOR WATER, GAS, ELECTRIC, BT, CABLE AND STREET LIGHTING, STATING SIZE AND NUMBER OF DUCTS.

ALL GRANULAR MATERIAL TO COMPLY WITH THE REQUIREMENTS OF BS 882:1983



BEDDING TABLE

DIAMETER mm	MAX TRENCH WIDTH	Bc	Y (min)	PIPE BEDDING MATERIAL	
				SINGLE SIZE (mm)	GRADED (mm)
150	900	178	150	10 or 14	14-5
225	1021	271	150	10, 14 or 20	14-5 or 20-5
300	1160	410	150	10, 14 or 20	14-5 or 20-5
375	1240	490	150	14 or 20	14-5 or 20-5
450	1326	576	150	14 or 20	14-5 or 20-5
525	1420	670	150	14, 20 or 40	14-5, 20-5 or 40-5
600	1522	772	150	14, 20 or 40	14-5, 20-5 or 40-5



REVISIONS

Rev	Date	Revision Details	Drawn	Checked
F	22.07.24	BENCHED DIMENSION AMENDED	ND	ND
E	18.02.24	NOTES RELATING TO PRE-CAST CONCRETE PRODUCTS REVIEWED	ND	ND
D	09.02.23	ADDITIONAL NOTES ADDED	ND	ND
C	15.01.24	SSG CLAUSES REVISED	ND	ND
B	10.01.24	DRAINAGE WITHIN HIGHWAY NOTES ADDED	ND	ND
A	06.09.23	YORKSHIRE WATER COMMENTS ADDED	ND	ND
-	18.02.22	FIRST ISSUE	ND	ND

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Project: **WESTGATE CLECKHEATON**

Title: **ADAPTABLE DRAINAGE DETAILS**

Drawn: **FA** Checked: **ND** Date: **14.02.2022**

Drawing Number: **QD1776-08-01**

Drawing Status: **TENDER** Scale: **1:25 - A1** Rev: **F**

ALL SEWERAGE WORKS TO BE IN ACCORDANCE WITH THE DESIGN AND CONSTRUCTION GUIDANCE DOCUMENT (DCG)