

DO NOT SCALE



GENERAL NOTES

- THIS DRAWING IS BASED UPON REDROW HOMES SITE LAYOUT REFERENCE BW-16-02-03 - PROPOSED SITE LAYOUT, AND MET 620 - ENVIRONMENTAL TOPOGRAPHICAL SURVEY DRAWING REFERENCE P15-01196 DATED FEB 2019.
- ALL LEVELS AND DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF ANY WORKS. ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. IF IN DOUBT, ASK.
- ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH ICOSA'S SPECIFICATIONS/SPECIAL REQUIREMENTS.
- ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN 12052 BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REGULATIONS.
- THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT & DIVERSION WORKS AS NECESSARY TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE PUBLIC UTILITY COMPANIES.
- THE CONTRACTOR SHALL ALLOW FOR OBTAINING ALL RELEVANT APPROVALS FROM THE RELEVANT AUTHORITIES WHEN WORKING IN THE PUBLIC HIGHWAY AND ON SEWERAGE SYSTEMS.
- UPON COMPLETION OF THE WORKS, THE CONTRACTOR SHALL CLEAN ALL DRAINAGE BY JETTING, REMOVING ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE PUBLIC DRAINAGE OR WATERCOURSE SYSTEM. ALL DRAINS SHALL BE CCTV SURVEYED WITH THE DWD/CD PASSED TO THE ENGINEER FOR REVIEW.

DRAINAGE NOTES

(THESE NOTES APPLY TO ALL ADOPTABLE DRAINAGE WORKS)

- ALL ADOPTABLE SEWER WORKS AND MATERIALS ARE TO BE IN ACCORDANCE WITH DESIGN AND CONSTRUCTION GUIDANCE (DCC)/CODE FOR ADOPTION, THE RELEVANT BRITISH/EUROPEAN AND ICOSA'S STANDARDS/REQUIREMENTS/ADDENDUM TO THE MECHANICAL AND ELECTRICAL SPECIFICATION AND KITEMARKED.
- MANHOLE COVERS SHALL HAVE A CLEAR OPENING OF 675mm 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 ICOSA BEFORE ANY SEWER WORKS ARE CARRIED OUT.
- ICOSA IS NOT OBLIGED TO ACCEPT FILTER DRAIN/LAND DRAINAGE RUN-OFF INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM (DIRECTLY OR IN-DIRECTLY). AN ALTERNATIVE METHOD OF DISPOSAL OF THE LAND DRAINAGE RUN-OFF WILL THEREFORE BE REQUIRED AND YOU WILL HAVE TO LIAISE WITH THE LOCAL AUTHORITY, LAND DRAINAGE SECTION WITH REGARD TO THE DISPOSAL OF THE FILTER DRAIN/LAND DRAINAGE RUN-OFF.
- COVER SLABS MUST CARRY THE BS KITEMARK OR WILL BE REJECTED BY ICOSA INSPECTOR. WHERE THE CLEAR OPENING OF THE KITEMARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOAD BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN TO 675mm x 675mm FOR THE ICOSA SPECIFIED COVER SIZE.
- SULPHATE RESISTANT CEMENT (C20-D22) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY.
- SEWERS MUST HAVE 3m CLEARANCE FROM TREES AND 1.5m FROM SHRUBS / BUSHES.
- SEWERS TO BE Laid IN CLASS 'S' BEDDING AND SURROUND. WHERE DEPTH OF COVER TO TOP OF THE SEWER IS LESS THAN 1.2m IN HIGHWAYS AND KEYS (OR LESS THAN 800mm IN NON-VEHICULAR ACCESS AREAS) THEN A CONCRETE SLAB SHOULD BE PROVIDED ABOVE THE GRANULAR BED AND SURROUND.
- BEDDING AND BACKFILL MATERIAL IS TO CONFORM TO THE REQUIREMENT OF WATER INDUSTRY SPECIFICATION 4-08-02 (TABLE A2).
- THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED TO ACCOMMODATE THE CONNECTIONS AND BENDS.
- ICOSA POLYESTER IS THAT TYPE 'C' BRICK MANHOLES AND 1050mm DIA MANHOLE RINGS ARE NOT PREFERRED. INSTEAD IT IS PREFERRED THAT YOU USE A TYPE 'B' MANHOLE WITH 1200mm DIA OR 1500mm DIA RINGS, WITH THE OPENING SIZED OVER THE CHANNEL WHERE DEPTH OF COVER TO PIPE SOFFIT IS BETWEEN 1-1.5m.
- ADOPTABLE PLASTIC SEWER PIPES TO BE BS KITEMARKED (CERTIFIED TO MIS 4-35-01 AND BS EN 13476) AND TO THE RELEVANT BRITISH STANDARDS (SOLID WALL PIPES TO BS EN 1401, SPIRAL WOUND WELDED PIPES TO EN 13476 PARTS 1 & 2, POLYPROPYLENE TO BS EN 1885). ADOPTABLE PLASTIC SEWER PIPES ARE TO BE Laid IN MAXIMUM 3m LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS. PLASTIC CHANNEL SECTIONS IN MANHOLES ARE NOT ACCEPTABLE AND ICOSA WOULD PREFER CLAYWARE CHANNEL IN MANHOLES. WE HAVE FOUND THAT PLASTIC CHANNELS ARE DIFFICULT TO SET IN CONCRETE BECAUSE THEY FLOAT AND A SATISFACTORY FINISH CANNOT BE OBTAINED ON THE BENCHING.
- WHERE A B125 COVER AND FRAME HAS BEEN APPROVED, THIS MUST NOT BE COATED IN PLASTIC AND MUST HAVE LIFTING EYES SUITABLY SIZED TO ACCOMMODATE STANDARD LIFTING KEYS. SCREW DOWN COVERS ARE NOT ACCEPTABLE.

**CLAY PIPE STRENGTH REQUIREMENTS**  
 150mm DIA. MINIMUM CRUSHING STRENGTH = 40kN/m  
 225mm DIA. MINIMUM CRUSHING STRENGTH = 45kN/m  
 300mm DIA. MINIMUM CRUSHING STRENGTH = 72kN/m

**CONCRETE PIPE STRENGTH REQUIREMENTS**  
 ALL CONCRETE PIPES SHOULD BE CLASS 120 TO EN 1916 / BS 5911-1:2002

REV	DATE	BY	DESCRIPTION	APPROVED
B	NOV 2022	MA	AMENDED FOLLOWING INTERNAL REVIEW	MA
A	NOV 2022	MA	DRAINAGE DESIGN AMENDED TO REDUCE DEPTH	MA



PROJECT: BRADLEY VILLA FARM HUDDERSFIELD

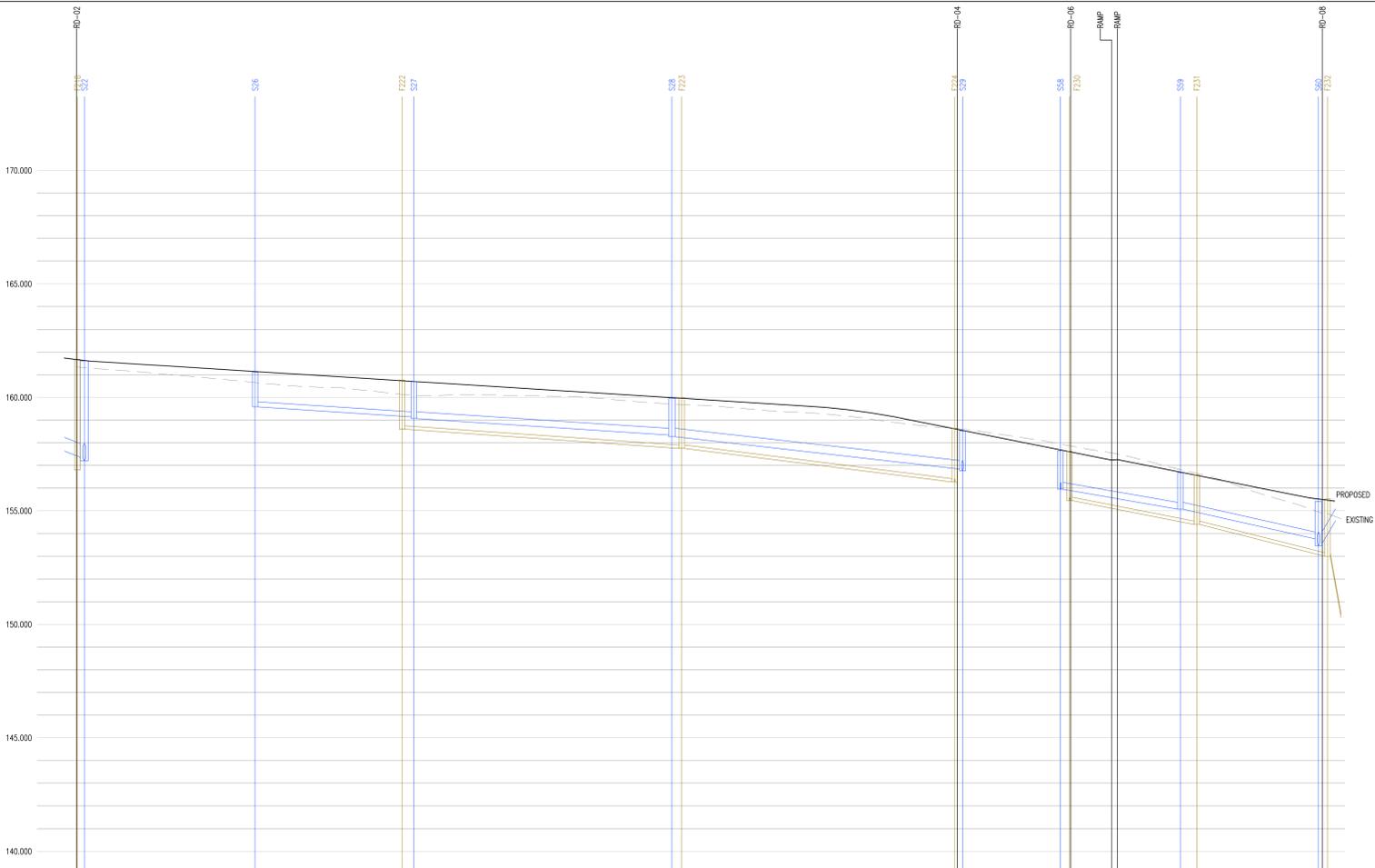
TITLE: LONGITUDINAL SECTIONS ROAD 3 AND ROAD 4

SCALE	REVISION	APPROVED	DATE
1:500H 1:100V	MML	MML	FEB 22

PROJECT NO.	DRAWING NO.	REV
4607	4607-16-06-115	B

SUBJECT TO THE APPROVAL OF KIRKLEES COUNCIL

SUBJECT TO THE APPROVAL OF YORKSHIRE WATER



CHANGEG	EXISTING GROUND LEVEL	CENTRE LINE	VERTICAL ALIGNMENT	HORIZONTAL ALIGNMENT	LEFT HAND CHANNEL	RIGHT HAND CHANNEL	STORMWATER COVER LEVEL	STORMWATER INVERT	STORMWATER DETAILS	STORMWATER LENGTHS	FOULWATER COVER LEVEL	FOULWATER INVERT	FOULWATER DETAILS	FOULWATER LENGTHS																																																					
0.000	161.341	161.572	G = -1.255% L = 20.000 KF = -7.31628	R = 100.000	161.483	161.572	161.608	159.580	Pipe 4.000 Dia 225 Circular CLAY 1 in 79	34.895	161.676	158.600	Pipe 4.000 Dia 150 Circular CLAY 1 in 41	61.780																																																					
2.200	161.540	161.572			161.483	161.339	161.009	161.608			159.580	Pipe 4.001 Dia 300 Circular CLAY 1 in 78			56.797	161.676	157.750	Pipe 4.001 Dia 150 Circular CLAY 1 in 41	60.148																																																
8.925	161.540	161.572			161.483	161.076	159.846	161.608			159.580					Pipe 4.002 Dia 375 Circular CONC 1 in 45	64.035			161.676	157.626	Pipe 5.001 Dia 150 Circular CLAY 1 in 27	28.015																																												
10.000	161.185	161.572			161.483	161.013	159.883	161.608			159.580									Pipe 10.002 Dia 300 Circular CLAY 1 in 30	26.375			161.676	155.450	Pipe 5.002 Dia 150 Circular CLAY 1 in 21	28.808																																								
20.000	161.025	161.572			161.483	160.950	159.820	161.608			159.580													Pipe 10.003 Dia 450 Circular CONC 1 in 12	45.762			161.676	153.100	Pipe 4.004 Dia 450 Circular CONC 1 in 38	13.291																																				
30.000	160.836	161.572			161.483	160.887	159.758	161.608			159.580																	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	150.825	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																
40.000	160.643	161.572			161.483	160.825	159.695	161.608			159.580																					Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	148.475	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																												
50.000	160.479	161.572			161.483	160.762	159.632	161.608			159.580																									Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	146.125	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																								
60.000	160.306	161.572			161.483	160.699	159.569	161.608			159.580																													Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	143.775	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																				
70.000	160.168	161.572			161.483	160.636	159.506	161.608			159.580																																	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	141.425	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																
80.000	160.086	161.572			161.483	160.574	159.443	161.608			159.580																																					Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	139.075	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110												
90.000	160.027	161.572			161.483	160.511	159.380	161.608			159.580																																									Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	136.725	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110								
100.000	159.984	161.572			161.483	160.448	159.317	161.608			159.580																																													Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	134.375	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110				
110.000	159.941	161.572			161.483	160.385	159.254	161.608			159.580																																																	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110			161.676	132.025	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110
120.000	159.900	161.572			161.483	160.322	159.191	161.608			159.580																																																					Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110		
130.000	159.858	161.572	161.483	160.259	159.128	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	127.325	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
140.000	159.816	161.572	161.483	160.197	159.065	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	124.975	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
150.000	159.774	161.572	161.483	160.134	159.002	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	122.625	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
160.000	159.732	161.572	161.483	160.071	158.939	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	120.275	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
170.000	159.690	161.572	161.483	160.009	158.876	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	117.925	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
180.000	159.648	161.572	161.483	159.946	158.813	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	115.575	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
190.000	159.606	161.572	161.483	159.883	158.750	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	113.225	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
200.000	159.564	161.572	161.483	159.820	158.687	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	110.875	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
210.000	159.522	161.572	161.483	159.758	158.624	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	108.525	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
220.000	159.480	161.572	161.483	159.695	158.561	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	106.175	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
230.000	159.438	161.572	161.483	159.632	158.498	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	103.825	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
240.000	159.396	161.572	161.483	159.569	158.435	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	101.475	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
250.000	159.354	161.572	161.483	159.506	158.372	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	99.125	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
260.000	159.312	161.572	161.483	159.443	158.309	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	96.775	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
270.000	159.270	161.572	161.483	159.380	158.246	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	94.425	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
280.000	159.228	161.572	161.483	159.317	158.183	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	92.075	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
290.000	159.186	161.572	161.483	159.254	158.120	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	89.725	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
300.000	159.144	161.572	161.483	159.191	158.057	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	87.375	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
310.000	159.102	161.572	161.483	159.128	157.994	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	85.025	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
320.000	159.060	161.572	161.483	159.065	157.931	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	82.675	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
330.000	159.018	161.572	161.483	159.002	157.868	161.608	159.580	Pipe 4.004 Dia 150 Circular CLAY 1 in 27	8.110	161.676	80.325	Pipe 4.003 Dia 150 Circular CLAY 1 in 27	8.110																																																						
340.000	158.976	161.572	161.483	158.																																																															