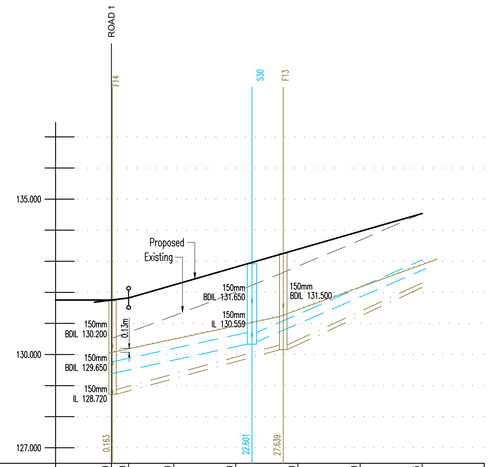
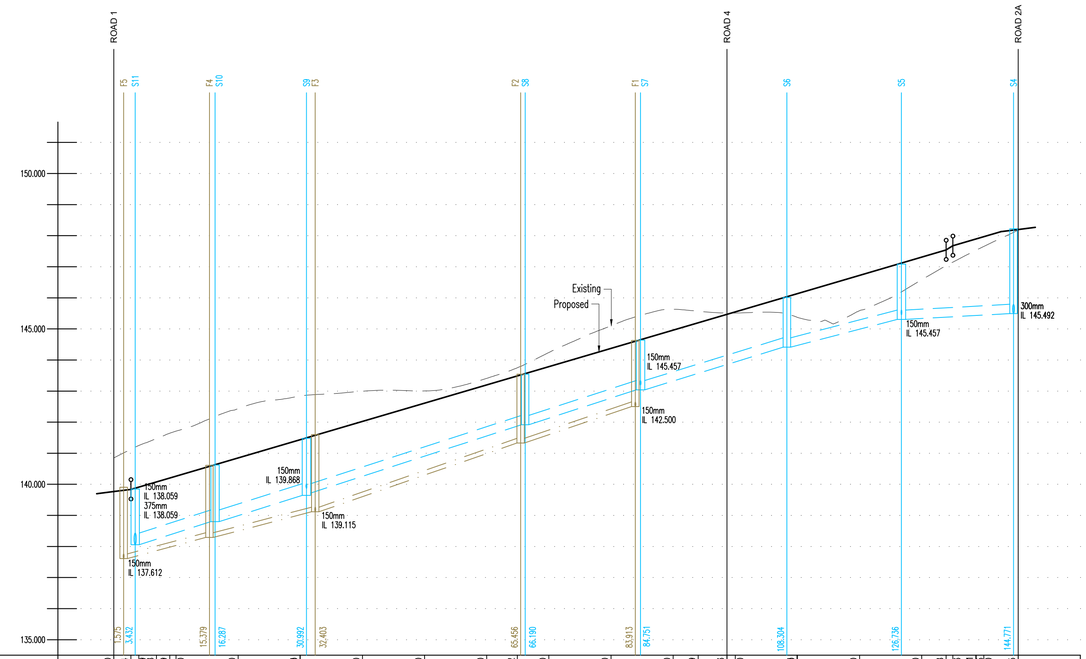
NOTE:
All UPVC pipes to be BSI Kitemarked
(certified to WIS 4-35-01 and BS EN13476

All Concrete pipes to be Class 120 to EN 1916/BS5911-1 2002



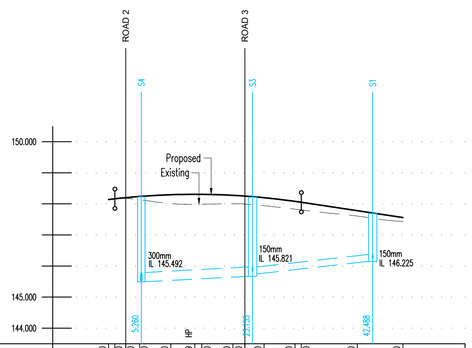
ROAD 1A

CHAINAGE	0.000	2.750	10.000	20.000	30.000	40.000	49.885									
EXISTING GROUND LEVEL	130.518			132.012		133.678	134.535									
ALIGNMENT LEVEL	131.819		132.236	132.811	133.386	133.961	134.535									
VERTICAL ALIGNMENT	G= 5.751% 1: 17.4															
HORIZONTAL ALIGNMENT																
LEFT HAND CHANNEL			132.305	132.592	132.880	133.167	133.455	133.742	134.030	134.317	134.604					
RIGHT HAND CHANNEL			132.167	132.454	132.742	133.030	133.317	133.605	133.893	134.180	134.467	134.604				
SW CL / DETAIL			Pipe 6.004 Dia 375 Circular CONC 1 in 24		132.200	Pipe 6.003 Dia 300 Circular UPVC 1 in 11										
SW IL / LENGTH			24.013		130.334	130.409	63.683									
FW CL / DETAIL			Pipe 3.002 Dia 150 Circular UPVC 1 in 19			133.250	Pipe 3.001 Dia 300 Circular UPVC 1 in 11									
FW IL / LENGTH		128.720	27.801		130.153	130.153	59.922									



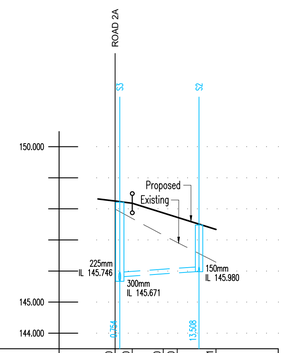
ROAD 2

CHAINAGE	0.000	2.744	4.000	6.658	9.009	10.000	20.000	30.000	40.000	50.000	60.000	64.922	70.000	80.000	90.000	94.039	98.663	100.000	110.000	120.000	130.000	133.928	135.011	138.701	139.772	140.000	145.525													
EXISTING GROUND LEVEL	140.850					141.714	142.440	142.844	142.896	143.084	143.408	143.786	144.245	145.111	145.643		145.511		145.371	145.578	146.578		147.656			148.178													
ALIGNMENT LEVEL	139.836		140.262		140.850		141.437		142.024	142.612	143.199		143.786	144.374	144.961		145.549		146.136	146.723		147.311	147.543	147.675	147.868	148.130													
VERTICAL ALIGNMENT	G= 5.874% 1: 17.0																						0.000	G=5.862% 1:17.1																
HORIZONTAL ALIGNMENT			R= 32.750										R= 37.182							R= 36.752																				
LEFT HAND CHANNEL																																								
RIGHT HAND CHANNEL			140.150 140.327		140.627	140.489	140.920	141.213	141.506	141.799	142.093	142.387	142.680	142.974	143.268	143.564	143.918	144.149	144.443	144.737	145.031	145.324	145.617	145.911	146.205	146.499	146.792	147.086	147.380	147.743	147.855	147.965								
SW CL / DETAIL	139.848		Pipe 1.008 Dia 375 Circular CONC 1 in 17		140.621		Pipe 1.007 Dia 375 Circular CONC 1 in 17		141.477		Pipe 1.006 Dia 300 Circular UPVC 1 in 16					143.540	Pipe 1.005 Dia 300 Circular UPVC 1 in 16			144.637	Pipe 1.004 Dia 300 Circular UPVC 1 in 17			146.011	Pipe 1.003 Dia 300 Circular UPVC 1 in 21			147.084	Pipe 1.002 Dia 300 Circular UPVC 1 in 100			148.224							
SW IL / LENGTH		138.059	12.583		138.799	138.799	14.357		139.643	139.718	35.168			141.916	141.916	17.983		143.040	143.040	23.310			144.411	144.411	18.808			145.307	145.307	18.537			145.492							
FW CL / DETAIL		139.907	Pipe 1.003 Dia 150 Circular UPVC 1 in 21		140.610		Pipe 1.002 Dia 150 Circular UPVC 1 in 21			141.601	Pipe 1.001 Dia 150 Circular UPVC 1 in 15				143.543	Pipe 1.000 Dia 150 Circular UPVC 1 in 16			144.630																						
FW IL / LENGTH		137.612	14.227		138.289	138.289	17.351		139.115	139.115	33.067			141.327	141.327	18.758		142.500	142.500																						



ROAD 2A

CHAINAGE	0.000	1.000	2.750	5.000	10.000	13.859	15.000	20.000	21.920	25.000	30.000	31.000	40.000	47.340																										
EXISTING GROUND LEVEL	148.143				148.009		148.005				147.829		147.808	147.436																										
ALIGNMENT LEVEL	148.140 148.142		148.239		148.294	148.307 148.308	148.274		148.199		148.079 148.080		147.780	147.580																										
VERTICAL ALIGNMENT	2.250% 1:44.4		L= 30.000 KF= -5.71495										G= -2.999% 1: -33.3																											
HORIZONTAL ALIGNMENT																																								
LEFT HAND CHANNEL	148.071		148.170		148.225		148.337		148.205		148.130		148.010		147.861		147.711		147.561		147.491																			
RIGHT HAND CHANNEL	148.209		148.307		148.353		148.375		148.343		148.267		148.148		147.999		147.849		147.699		147.629																			
SW CL / DETAIL		148.224		Pipe 1.001 Dia 300 Circular UPVC 1 in 100				148.213		Pipe 1.000 Dia 225 Circular UPVC 1 in 48				147.887																												
SW IL / LENGTH			145.492		17.895			145.671	145.746		19.334			146.150																										



ROAD 3

CHAINAGE	0.000	2.750	7.750	10.000	16.241																																			
EXISTING GROUND LEVEL	147.992		146.920		146.283																																			
ALIGNMENT LEVEL		148.102	147.728		147.338																																			
VERTICAL ALIGNMENT			G= -6.250% 1: -16.0																																					
HORIZONTAL ALIGNMENT																																								
LEFT HAND CHANNEL			147.938	147.797	147.485	147.407																																		
RIGHT HAND CHANNEL			147.800	147.660	147.347	147.270																																		
SW CL / DETAIL		148.213	Pipe 2.000 Dia 150 Circular UPVC 1 in 80		147.478																																			
SW IL / LENGTH		145.821	12.754		145.980																																			

N O T E S

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

DO NOT SCALE | ORIGINAL DRAWING SIZE A1

Water Authority's General Notes

1. This drawing is to be read in conjunction with all relevant OEC Consulting Engineers and Architects drawings and project specifications.
2. All adoptable sewer works and material to be in accordance with Sewerage Sector Guidance Design and Construction Guidance [Code for Adoption]. The Relevant British/European and the Water Authority's Standards/Requirements/Local Practice for the Adoption of Small Submersible Foul and Surface Water Pumping Stations and must be Kitemarked.
3. The location, size and depth of all existing drains/sewers and services shall be established by the contractor prior to commencement of works on site. Any discrepancies from the information indicated on these drawings shall immediately be brought to the attention of the engineers.
4. 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 engineers.
5. Sewers must have 5 metres clearance from trees and hedges or the width of the canopy at mature height. (please also refer to Figure 2.3 on page 33 in "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to Sewers).
6. The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
7. All connections to public sewers to be a minimum of 150mm ø via a 45° junction.
8. Sewers to be laid in Class "S" bedding (150mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in none vehicular access areas) then a concrete slab should be provided above the granular bed and surround.
9. The Water Authority's policy is that brick manhole and 1050mm dia manhole rings are not preferred. Instead it is preferred that you use a type "B" manhole with 1200mm dia, 1350mm dia or 1500mm dia rings, with the opening sited over the channel where depth of cover to pipe soffit is 1-1.5m.
10. The chamber size of manholes with more than one connection in them may need to be increased an increment to accommodate the connections and bends.
11. Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways. 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.
12. Cover slabs must carry the BSI Kitemark or will be rejected by the Water Authority inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600x600mm for the Water Authority's specified cover size. Please refer to the Concrete Pipe Systems Association (CPSA), "Technical Bulletin" issued autumn 2004 for kitemarked cover slab opening sizes.
13. Plastic channel sections in manholes are not acceptable and clayware is preferable. Plastic channels are difficult to set in concrete and a satisfactory finish cannot be obtained on the benching.
14. Maximum depth of demarcation chamber to be 2m, where depth exceeds 2m, manhole to be constructed as type B manhole.
15. Demarcation chambers to be a min. 450mmø chambers for 100mmø foul & 150mmø surface water pipes up to 1.2m deep. For depths greater than 1.2m, restricted access opening to 350mm is required for safety reasons.
16. Where plastic pipes are proposed for adoptable sewers, structural calculations for the plastic pipes and a site investigation report to prove that the ground condition is suitable for the plastic pipes are to be produced.
17. There should be enough clearance to accommodate the bessding for both pipes, approx 300mm. If the crossover is near the rocker then the clearance needed may be increased.
18. If plastic pipes are to be used then the following should apply:-

a) All adoptable sewers to be BSI Kitemark (certified to WIS 4-35-01 and BS EN13476)

b) Bedding and backfill material to conform to the requirements of the Water Industry Specification 4-08-02 (Table A1)

19. Adoptable plastic sewer pipes to be BSI Kitemarked (Certified to WIS 4-35-01 and BS/EN13476). Adoptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer.
20. Filled ground or soft spots must be excavated, backfilled and consolidated under the supervision, and to the satisfaction, of the Water Authority before any sewer works are carried out.
21. Sulphate resisting cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
22. The minimum crushing strength for clay pipes should be as follows : 100mm dia. 40KN/m, 150mm dia. 40KN/m, 225mm dia. 49KN/m and 300mm dia. 72KN/m. The minimum crushing strength for concrete pipes should be - (Class 120 to EN 1916/BS5911-1 2002). Plastic pipes should conform to WIS 4-35-01 and BS EN13476.
23. Surface water and foul rising mains to be provided with marker tape above the rising mains.
24. The Water Authority is not obliged to accept filter drain/land drainage runoff into the public sewer network or adoptable drainage system (directly or in-directly). An alternative method of disposal of the land drainage runoff will therefore be required and you will have to liaise with the Land Drainage Authority/Land Drainage Section with regard to the disposal of the filter drain/land drainage runoff is required.
25. All excavations in areas of high water tables and granular materials with high sand/silt contents shall be wrapped with a suitable geotextile filter membrane to prevent migration of sands/silts. Full height clay stanks across trenches and/or at manhole locations at 25m intervals to restrict water movement along the excavation shall be provided.
26. All works within the public highway to be reinstated to the highway authority requirements. All drainage connections onto adoptable drainage systems shall be carried out to the water authority's approval.
27. The contractor must allow for any fee's required for road and sewer opening permits, sewer connections and make the appropriate applications.
28. Where there are double road gullies, the gully leads shall be connected onto separate pipe lengths.

Rev	By	Date	Description	Chk
C	RB	14.09.26	Rising main updated.	RB
B	RB	27.08.26	Updated to suit latest drainage layout.	RB
A	RB	19.06.26	Road 1A Updated	RB
/	RB	11.05.26	Issued for approval.	WW

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Client
KEEPMOAT HOMES WEST YORKSHIRE

Project
GOMERSAL

Title
LONGITUDINAL SECTIONS
SHEET 2 OF 3

Scale	Drawn	Checked	Date
1:500	RB	WW	MAY.26

Drawing Status
APPROVAL

Job No.	Drawing No.	Revision
104.019	06.02	C