YW REF :H-3-264-305

NORTH

LEGEND

- EX MH — Existing foul public sewer.
- EX MH — Existing foul public sewer (to be removed/grouted up).
- C1 — Proposed combined manhole and sewer.
- F1 — Proposed foul water manhole and sewer.
- Proposed foul water rising main.
- S1 — Proposed surface water manhole and sewer.
- IC1 1500 — Proposed surface water lateral drain.
- (SL11.40) — Proposed surface water inspection chamber and invert level.
- RG — Proposed surface water gully.
- Proposed rainwater down pipe.
- Proposed rodding eye.
- Proposed ACO channel drain.
- GC — Proposed dished channel and gully.
- Proposed surface water back drop.
- IC2 1500 — Proposed foul water lateral drain.
- (IL11.25) — Proposed foul water inspection chamber and invert level.
- (IL11.25) — Proposed foul water access chamber, max. 0.6m deep.
- Proposed soil vent pipe/back inlet gully.
- Proposed foul back drop.
- 225 MIN — Proposed retaining wall.
- 2.400 — Proposed additional facing bricks below F.F.L.
- [41.55] — Proposed F.F.L. level.
- 99.00 — Proposed ground level.
- +99.99 — Existing ground level.
- LC1 — Proposed street lighting.

CONSTRUCTION RISKS		
CONSTRUCTION RISKS	MAINTENANCE RISKS	DEMOLITION RISKS
Collapse of excavations.		
Un-charted buried existing services.		
Working on live sewers.		
Working adjacent to the public highway.		
In addition to the hazards/risks normally associated with this type of work detailed on this drawing take note of the above. iD Civils Design are only required to provide information about any significant risks associated with the design.		

Road opening required for works in highway. Position of utilities should be checked prior to excavation

Existing manholes to be inspected by Yorkshire Water inspector to ensure it can accommodate the proposed connection and check if any remedial works are required (it may be necessary to reconstruct the manhole at the developers expense)

Manhole S9 to be fitted with a Hydrobrake Optimum Flow control ref SHE-0084-5000-2800-5000 limiting the discharge to 5l/s with a maximum head of 2.8m

Level on top of existing pipe to be confirmed by trial pit to check for potential clashes

Existing tactile paving to be replaced

Boundary levels to be confirmed

Garden area not covered by topographical survey

DEMARCATION CHAMBER SCHEDULE.

DEMARCATION CHAMBER REFERENCE	SYSTEM	COVER LEVEL	INVERT LEVEL	DEPTH TO INVERT (m)	MANHOLE TYPE	MANHOLE DIAMETER	LATERAL DIAMETER	COVER CLASS	COVER SIZE	OUTGOING PIPE LENGTH (m)	OUTGOING PIPE GRADIENT	OUTGOING PIPE MATERIAL
IC1	SW	138.38	137.60	0.78	W.O.D.U.I.C.	500Ø	150Ø	B125	462Ø	8.5	1:10	V.C.
IC2	FW	138.12	136.81	1.31	W.N.E.I.C.	500Ø	150Ø	B125	462Ø	10.6	1:10	V.C.
IC3	FW	137.90	136.20	1.70	W.N.E.I.C.	500Ø	150Ø	B125	462Ø	4.5	1:10	V.C.
IC4	SW	137.60	136.692	0.68	W.O.D.U.I.C.	500Ø	150Ø	B125	462Ø	8.1	1:10	V.C.
IC5	SW	137.15	135.72	1.43	W.N.E.I.C.	500Ø	150Ø	B125	462Ø	2.5	1:10	V.C.
IC6	FW	136.55	134.117	2.433	Type B manhole	1200Ø	150Ø	B125	600x600	4.7	1:10	V.C.
IC7	SW	135.85	134.107	1.743	W.N.E.I.C.	500Ø	150Ø	B125	462Ø	4.0	1:10	V.C.
IC8	FW	135.82	133.475	2.345	Type B manhole	1200Ø	150Ø	B125	600x600	4.7	1:10	V.C.
IC9	SW	136.00	134.257	1.733	W.N.E.I.C.	500Ø	150Ø	B125	462Ø	5.5	1:10	V.C.
IC10	FW	134.67	132.104	2.566	Type B manhole	1200Ø	150Ø	B125	600x600	7.4	1:10	V.C.
IC11	SW	134.675	131.343	3.332	Type B manhole	1200Ø	150Ø	D400	600x600	3.5	1:10	V.C.
IC12	FW	133.40	131.916	1.49	W.N.E.I.C.	500Ø	150Ø	B125	600x600	4.8	1:10	V.C.
IC13	SW	134.30	131.31	2.99	Type B manhole	1200Ø	150Ø	B125	600x600	4.0	1:10	V.C.

W.O.D.U.I.C. = WAVIN OsmaDrain Universal Inspection Chamber (up to 1200mm deep).
W.N.E.I.C. = WAVIN NON ENTRY INSPECTION CHAMBER (Up to 2000mm deep)

REFER TO iD CIVILS DESIGN DRAWING 4759-C-D4-02 FOR DETAILS OF TYPE B MANHOLE.

Foul Water Manhole Schedule

Manhole Number	Cover Level	Inverts	Pipe Ø	MH depth to soffit of pipe	MH Ø	MH Type	Cover
F1	137.842	135.750	150Ø 150Ø (outlet)	1.942	1200Ø	B	D400 600 x 600
F2	137.543	135.345 135.345	150Ø 150Ø (outlet)	2.048	1200Ø	B	D400 600 x 600
F3	136.790	134.361 134.361	150Ø 150Ø (outlet)	2.279	1200Ø	B	D400 600 x 600
F4	136.359	133.647 133.647	150Ø 150Ø (outlet)	2.562	1200Ø	B	D400 600 x 600
F5	135.785	133.005 133.005	150Ø 150Ø (outlet)	2.630	1200Ø	B	D400 600 x 600
F6	135.104	132.104 132.104	150Ø 150Ø (outlet)	2.850	1200Ø	B	D400 600 x 600
F7	134.950	131.647 131.647	150Ø 150Ø (outlet)	3.153	1200Ø	A	D400 600 x 600
F8	134.570	131.498 131.498	150Ø 150Ø (outlet)	2.922	1200Ø	B	D400 600 x 600
F9	132.920	131.236 131.236	150Ø 150Ø (outlet)	1.534	1200Ø	B	D400 600 x 600
F10	132.700	130.860 130.860	150Ø 150Ø (outlet)	1.690	1200Ø	B	D400 600 x 600
EX MH	131.777	129.200 129.125	150Ø 225Ø (outlet)	2.652	EXMH	EXMH	D400 600 x 600

Surface Water Manhole Schedule

Manhole Number	Cover Level	Inverts	Pipe Ø	MH depth to soffit of pipe	MH Ø	MH Type	Cover
S1	138.000	136.750 136.500	150Ø 300Ø (outlet)	1.200	1500Ø	B1/E	D400 1200 x 600
S2	137.398	136.842 135.692 135.692	150Ø 300Ø 300Ø (outlet)	1.406	1500Ø	B1/E	D400 1200 x 600
S3	136.815	134.932 134.932	300Ø 300Ø (outlet)	1.605	1200Ø	B	D400 600 x 600
S4	136.250	134.150 134.150	300Ø 300Ø (outlet)	1.800	1200Ø	B	D400 600 x 600
S5	135.802	133.707 133.707 133.557 133.557	150Ø 150Ø 300Ø 300Ø (outlet)	1.945	1200Ø	B	D400 600 x 600
S6	135.113	132.656 132.656	300Ø 300Ø (outlet)	2.157	1200Ø	B	D400 600 x 600
S7	134.895	132.098 129.998	300Ø Storage Tank (outlet)	2.497	1800Ø	Special See attenuation tank drawing	D400 600 x 600
S8	134.450	129.908	Storage Tank 1200Ø (outlet)	2.142	1800Ø	Special See attenuation tank drawing	D400 600 x 600
S9	132.780	129.775 129.725	1200Ø 150Ø (outlet)	2.905	2100Ø	See drawing 4759-C-D4-03	D400 1220 x 675
S10	132.107	128.681 128.681	150Ø 150Ø (outlet)	3.276	1200Ø	A	D400 600 x 600
EX MH	131.608	127.895 127.820	150Ø 225Ø	3.788	EX MH	EX MH	D400 600 x 600

Health and Safety Notes/CDM Regulations 2015

In line with the above regulations we are obliged to inform the Contractor of the significant risks that have been identified during the design process. We have as part of the design process all the salient health & safety aspects are given full consideration and these are observed within the designs viewed on this document. Although considerable effort is undertaken to eliminate risks, the very nature of the project gives rise to some hazards and risks.

Significant risks that cannot be eliminated by design and could not be foreseen by a competent contractor are noted in the risk assessment boxes on the drawings.

Notes

1. No work should commence on site until written approval is received from Yorkshire Water/Adopting Highway Authority or any relevant Authority. Works undertaken prior to approval are at the Developers risk and iD Civils Design will not be held responsible for subsequent delays in approvals, remedial costs or construction programme delays.
2. Prior to the commencement of on site works the contractor is to check the location, invert levels, soffit levels, sizes and conditions of manholes, pipes, and any ditches or watercourses in which it is intended to outfall. Any discrepancy is to be reported immediately to iD Civils Design.
3. Prior to construction the actual position and depth of services likely to be affected by the work should be established by means of a hand dig in close liaison with the statutory service authorities. The contractor shall immediately inform iD Civils Design of any services exposed that may affect the
4. The Local Authority and statutory service providers are to be notified prior to the commencement of work on site.
5. All highway works to be carried out in accordance with the Highways Authority specification for Highway Works.
6. Street lighting to be in accordance with the lighting design.
7. All sewer works to be adopted to be in accordance with "Sewers for Adoption" (6th Edition), the relevant British/European and Yorkshire Water's Standards/Requirements/Addendum and "Kitemarked".
8. Yorkshire Water 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 Local Authority, Land Drainage Section with regard to the disposal of the filter drain/land drainage runoff.
9. Adoptable sewers should be a minimum of 1.0m and manholes 0.5m from kerb faces and service margins.
10. Sewers must have 5 metres clearance from trees and hedges, any existing trees should be removed and no new trees planted within this zone. Refer to Figure 2.3 on page 23 "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to sewers.
11. Cover slabs must carry the BSI Kitemark or will be rejected by Yorkshire Water 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 600mm x 600mm for the Yorkshire Water specified cover size. Please refer to Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued autumn 2004 for Kitemarked cover slab opening sizes.
12. Manhole covers shall have a minimum clear opening of 600 x 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
13. 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.
14. Yorkshire Water policy is not to accept Type "C" brick manholes and 1050mm dia. manhole rings. Instead it is preferred that you use a type "B" manhole with 1200mm dia. or 1500mm dia. rings, with the opening sited over the channel where the depth of cover to pipe soffit is 1-1.5m.
15. Plastic channel sections in manholes are not acceptable and Yorkshire Water would prefer clayware channels in manholes. Plastic channels are difficult to set in concrete because they float and a satisfactory finish cannot be obtained on the benching.
16. Filled ground must be filled and consolidated under the supervision and to the satisfaction of Yorkshire Water before any sewer works are carried out.
17. Sulphate resistant cement (C20-0C2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
18. 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 granular bed and surround. (Ref. S.F.A.6 TABLE 2.4)
19. The minimum crushing strength for Clay pipes should be as follows:

    150mm dia. 40KN/m2
    225mm dia. 45KN/m2
    300mm dia. 72KN/m2
20. The pipe strength for Concrete pipes should be Class 120 to EN1916/BS5911-1:2002.
21. Adoptable plastic sewer pipes to be BSI Kitemarked (certified to WIS 4-35-01) and to BS/EN13476).
22. Adoptable plastic sewer pipes to be laid in maximum of 3 metre lengths unless there is a specific operational need to lay longer lengths.
23. Where plastic pipes are installed in the ground prior to getting approval, the Developer must provide a light-line CCTV Survey and report (electronic deflection testing) of the prospectively adoptable sewers which will be at the Developers expense.
24. 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.
25. Bedding and Backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).

Rev	Description	By	Date
B	Updated re Yorkshire Water comments	CR	08.08.19
A	Surface and foul water outfalls updated	CR	24.06.19

Client:

Rouse Homes

Project Title:

New Road
Tankersley

Drawing Title:

1:250 Engineering Layout

Scale	Date
1:250 @ A0	31.05.19

Drawing No	Revision	Status
4660-C-D1-01	B	A

iD Civils Design Consulting Engineers

Geo Structures Civils

North East & Yorkshire:
Aske Stables, Aske, Richmond, North Yorkshire, DL10 5HG
t: 01748 889015
f: 01565 740263

North West & Midlands:
Caledonian House,
Tatton Street, Knutsford,
Cheshire, WA16 6AG
t: 01565 755557
f: 01565 740263