



- Storm water manhole
- Foul water manhole
- Land Drain manhole
- Storm water sewer
- Foul water sewer
- Land Drain
- Gully
- Yard gully
- Channel Drain (min B125 grade cover)
- Drainage crossover reference
- Proposed access track

1. For longitudinal sections refer to drawing 0425/58/06.
2. No services are to be sited directly over, or within 1m of, an adoptable sewer or manhole.
3. Private drainage connections to adoptable sewers to be via 45° junction.
4. Off site manholes already built must have invert levels checked prior to connection to the off site drainage.
5. Any connections to existing sewers/manholes are to be supervised by Yorkshire Water.
6. All connections to proposed public sewers to be minimum 150mm.
7. Any land drain or water course on site to be diverted as not to pass under proposed buildings. Diversion to be approved and inspected on site by the Local Authority.

Yorkshire Water General Notes

1. All adoptable sewer works and material to be in accordance with "Code for Adoption". The relevant British/European and Yorkshire Water's Standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
2. Manhole covers shall have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways.
3. Filled ground must be filled and consolidated under the supervision, and to the satisfaction, of Yorkshire Water before any sewer works are carried out.
4. Cover slabs must carry the BS1 Kitemark or will be rejected by the Yorkshire Water 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 Yorkshire Water specified cover size. Please refer to the Concrete Pipe Systems Association (CPSA), "Technical Bulletin" issued autumn 2004 for Kitemarked cover slab opening sizes.
5. The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
6. Sewers must have 5 metre clearance from trees and hedges, (please also refer to Figure 2.3 on page 13 in "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to Sewers).
7. 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 non vehicular access areas) then a concrete slab should be provided above the granular bed and surround.
8. Adoptable plastic sewer pipes to be BS1 Kitemark (certified to WS 4-35-01 and BS EN13476). Adoptable sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer lengths.
9. 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.
10. The chamber size of manholes with more than one connection in them may need to be increased on an increment to accommodate the connections and bends.
11. Yorkshire Water policy is not to accept type "L" brick manhole and 1000mm dia or 1500mm dia. rings, with the opening sized over the channel where depth of cover to pipe soffit is 1-1.5m. Surface water and foul rising mains to be provided with marker tape above the rising mains.
12. If plastic pipes are to be used then the following should apply:
 - a. All adoptable sewers to be BS1 Kitemark (certified to WS 4-35-01).
 - b. Bedding and backfill material to conform to the requirements of Water Industry Specification 4-08-02 (Table A2)
13. 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.
14. Where plastic pipes are installed into the ground prior to getting full technical approval, the developer must provide a CCTV survey of the prospectively adoptable sewers and a deformation test (Light-Line test) of the plastic pipes.
15. Demarcation chambers to be a min. 450mm chamber for 100mm foul & 150mm 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. Maximum depth of demarcation chamber to be 2m, where depth exceeds 2m, manhole to be constructed as type B manhole.
17. Where a B125 cover and frame has been approved, this must not be coated in plastic and must have fitting eyes suitably sized to accommodate standard fitting keys. Screw down covers are not acceptable.
18. Yorkshire Water is not obliged to accept filter drain/land drainage runoff into the public sewer network or adoptable drainage system (directly or indirectly). 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.
19. Sulphate resisting cement (C20-D2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
20. The minimum crushing strength for clay pipes shall be as follows: 100mm dia. 40KN/m, 150mm dia. 40KN/m, 225mm dia. 45KN/m and 300mm dia. 72KN/m. The minimum crushing strength for concrete pipes shall be - (Class 120 to EN 1916/BS5911:2002). Plastic pipes should conform to WS 4-35-01 and BS EN13476.
21. All levels of existing drainage to be confirmed prior to work commencing on site.
22. The contractor must allow for any free's required for road and sewer opening permits, sewer connections and make the appropriate applications.
23. Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2).

S54 FLOW CONTROL DATA

MANUFACTURER	HYDRO INTERNATIONAL
TELEPHONE	01275 878371
TYPE	HYDRO-BRAKE OPTIMUM
FLOW/HEAD	25.0 l/s @ 3.500m
HYDRO REF	SHE-0183-2500-3500-2500

To be installed in accordance with manufacturers specifications and recommendations before the manhole cover slab is installed

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

NOTE
Lateral sewers to be Plastidrain (110 & 160 O.D.) in UPVC and manufactured by Hargreaves or similar approved by Yorkshire Water. Demarcation chamber to be polypropylene Non-Entry Inspection Chamber up to 2.0m depth manufactured by Wavin or similar approved by Yorkshire Water to BS EN 13598-1:2003.

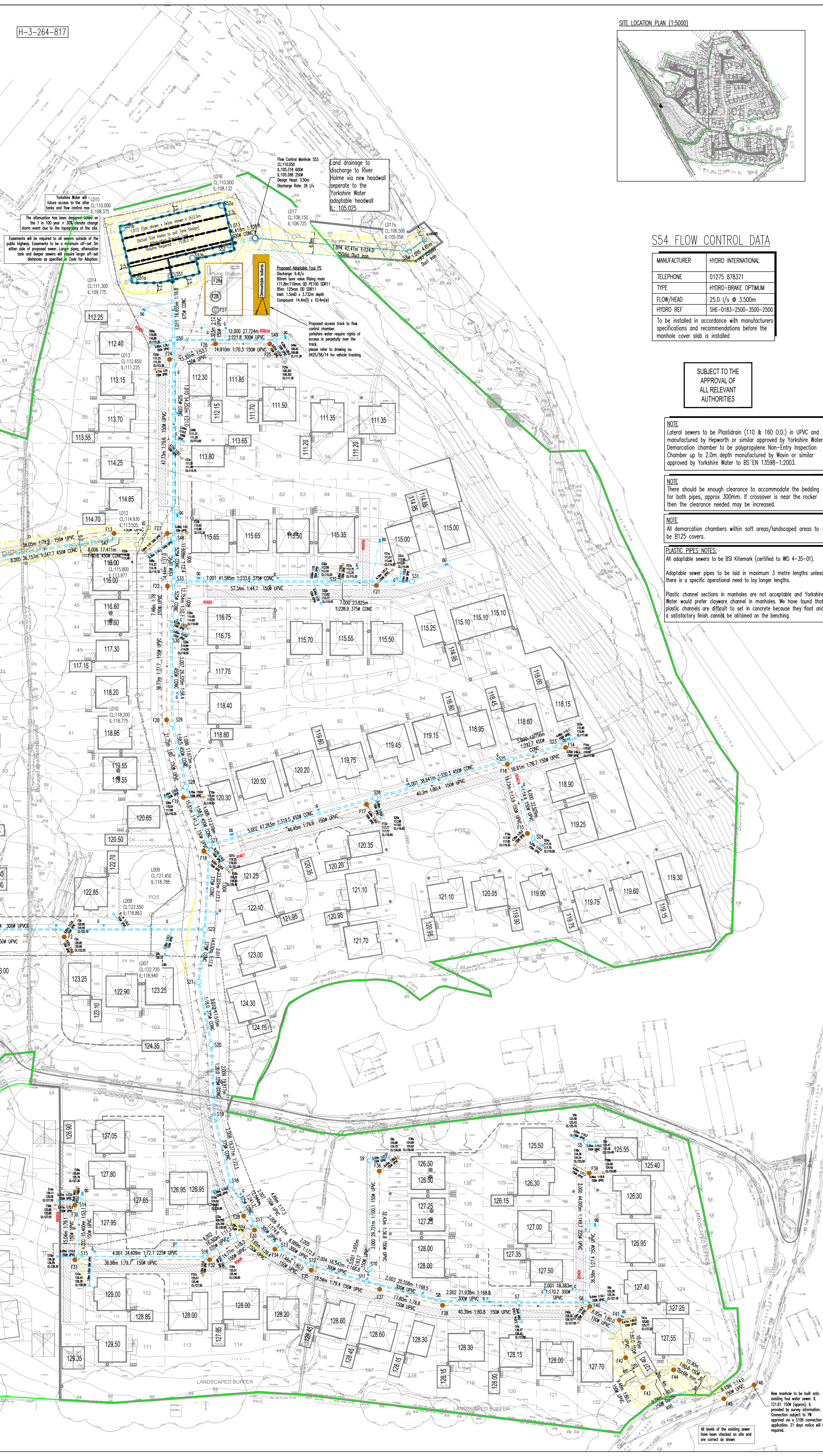
NOTE
There should be enough clearance to accommodate the bedding for both pipes, approx 300mm. If crossover is near the rocker then the clearance needed may be increased.

NOTE
All demarcation chambers within soft areas/landscaped areas to be B125 covers.

PLASTIC PIPES NOTES:
All adoptable sewers to be BS1 Kitemark (certified to WS 4-35-01).

Adoptable sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer lengths.

Plastic channel sections in manholes are not acceptable and Yorkshire Water 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.



Z	MI	18.07.24	Control chamber access reinstated	MI	MI
Y	ZT	13.06.24	New layout rev FF inserted	MI	MI
X	MI	15.05.24	S14s, S15s, F30s, F30b moved or added	MI	MI
W	DJG	07.05.24	Site boundary revised to exclude outfall		
V	DJG	09.04.24	New layout rev CC inserted	DJG	DJG
U	DJG	03.04.24	Revised to Kirklees Section 38 comments		
T	DJG	02.02.24	Revised to suit headwall detail		
S	RJ	17.11.23	Revised to Kirklees Section 38 comments	RJ	MI
R	RS	18.10.23	Revised to suit latest layout	RJ	MI
Q	RJ	02.10.23	Drawing revised to new outfall alignment	RJ	MI
P	RJ	07.09.23	Drawing revised to new outfall alignment	RJ	MI
O	RJ	19.05.23	Amended to Kirklees S38 comments	RJ	MI
N	BHE	16.01.23	Drainage Easement Amended	RJ	MI
M	MD	16.12.22	Demarcation details updated to suit S104	RJ	MI
L	MD	23.11.22	Drawing revised to S104 comments	RJ	MI
K	RJ	15.08.22	Drawing revised to S104 comments	RJ	MI
J	RJ	12.08.22	Drawing revised to phasing strategy	RJ	MI
I	RJ	27.07.22	Drawing revised to updated layout/comments	RJ	MI
H	RJ	23.06.22	Drawing revised to suit new layout	RJ	MI
G	RJ	29.03.22	Drawing revised to suit new layout	RJ	MI
F	RJ	28.03.22	Drawing revised to suit new layout	RJ	MI
E	RJ	22.03.22	Drawing revised following client comments	RJ	MI
D	RJ	11.03.22	Drawing revised following client comments	RJ	MI
C	JMG	04.03.22	Drawing revised to suit new layout	RJ	MI
B	RJ	07.01.22	Drainage outfall revised	RJ	MI
A	RJ	23.12.21	Drawing revised to suit new layout	RJ	MI
/	RJ	06.08.21	Issued for approval	RJ	MI
Rev	By	Date	Revision	Chk	Apvd

ARP ASSOCIATES
Chartered Consulting Engineers

Northwest House, 5 & 6 Northwest Business Park, Servia Hill, Leeds, LS6 2QJ
0113 245 8458 or 0113 245 8465 | info@arpassociates.co.uk | www.arpassociates.co.uk
ARP Associates is a trading division of ARP Geotechnical Ltd, a company registered in England and Wales with company number 3773811, whose registered office is at 5/5 Northwest Business Park, Servia Hill, Leeds LS6 2QJ

TITLE
SECTION 104 LAYOUT SHEET 2 OF 2

PROJECT
WOODHEAD ROAD, BROCKHOLES

CLIENT
MILLER HOMES (YORKSHIRE) LTD

DRAWING STATUS
PRELIMINARY

Scale	Date	Drawn
1:500 @ A1	AUG 21	RJ
		Chk.
		RJ

Drg. No. **0425/58/03.02** Rev **Z**

New manhole to be built onto existing foul water sewer. It is 121.61 150w (approx). It provided by survey information. Connection subject to HW approval via a S105 connection application. 21 days notice will be required.

All levels of the existing sewer have been checked on site and are correct as shown