NOTES:

1. D400 covers & frames with kitemark to be used on all adoptable manholes. All covers to be embossed with FW/SW as appropriate. 150mm deep, non rocking cover and frames to be used.
2. Cover and Reducing slabs, shaft and chamber rings to be bedded with mortar, proprietary bitumen or resin mastic sealant. All lifting holes to be pointed.
3. Ensure all slab openings and step irons, ladders are properly aligned. At the foot of each ladder or set of step rungs, a minimum of 450 mm landing area should be provided from the outer edge of the step or rung. This may consist of:
   a) a single area adjacent to the foot of the ladder or steps; or
   b) where the channel is no more than DN450, one area of at least 225 mm adjacent to the foot of the ladder or steps with the remainder on the other side of the channel.
4. Chamber Diameters;

Dia. of largest pipe in M.H. (mm)	Dia. of chamber ring (mm)
Less than 375	1200
375-450	1500
500-700	1500
750-900	1800
1050-1200	2100
1350-1500	2400
1650-1800	2700

5. Above sizes are minimum and may need increasing for more than one incoming pipe to accommodate adequate benching.
6. Concrete mix to be in accordance with the chemical analysis report for buried concrete for the site concerned. High strength topping to BS EN 12620 and PD 6682-1 to be brought up to a dense smooth face neatly shaped and finished to all branch connections. Benching slope to be not flatter than 1 in 30.
7. Rocker/Short pipe lengths:

Pipe dia. (mm)	Rocker pipe length (m)
150-600	0.6
601-750	1.00
over 750	1.25

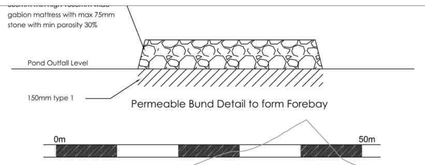
Short length pipes to be similar length to rocker pipe. Manhole to large diameter sewers. Chambers with outgoing pipes greater than 600mm dia. to be constructed as per detail. Toe holes to be provided in benching of sewers greater than 450mm dia. for access to invert.

8. Bricks to be solid type and either Class B engineering bricks complying with the relevant provisions of BS EN 771-1 or special bricks shall comply with the relevant provisions of BS 4729 with Sulphate-resisting Portland cement binder. Brickwork to be in English bond.
9. Brick Manhole Widths: Chamber widths to be increased for pipes larger than 225mm dia. to give 225mm benching each side with the brickwork corbelled down to suit cover.
10. All pipes built into manhole invert should be installed with soffits level.
11. PIPE BEDDING AND BACKFILL MATERIALS Granular bedding and sidefill Type A material shall be imported or selected as-dug material complying with the recommendations of WAA Notes 4-08-02. Selected fill Type B shall consist of uniform readily compactible material, free from vegetable matter, building rubbish and frozen materials, or materials susceptable to spontaneous combustion, and excluding clay of liquid limit greater than 80 and/or plastic limit greater than 55 and materials of excessively high moisture content. Clay lumps and stones retained on 75mm and 37.5mm sieves respectively shall be excluded from the fill material. Pipe bedding and fill materials to concrete pipes shall not contain more than 0.3% sulphate, expressed as sulphur trioxide.

TRENCH WIDTHS

Pipe dia. (mm)	BC(mm)	BD(mm)
150	190	600
225	280	700
300	380	750
375	500	1050
450	580	1150
525	670	1200
600	750	1350
750	960	1560
900	1160	1760
1350	1620	2220
1500	1740	2340
1800	2090	2690

12. All Adoptable Drainage pipes to be of spigot & socket type connection.
13. During construction all outfall manholes to be fitted with debris screen (mesh size 25mm), over the outgoing pipes
14. All Adoptable Drainage Works shall comply with the requirements of Design and Construction Guidance for foul and surface water sewers offered for adoption under the Code for adoption agreements for water and sewerage companies operating wholly or mainly in England ("the Code") Approved Version 2.0



SEE INSET FOR CONTINUATION TO OUTFALL

S101
CONTROL CHAMBER
Hydrobrake 4.8l/s
@ 1.2m Head
High level Overflow pipe 150mmØ
Linking to S103

ATTENUATION POND
TOP OF BANK 1.5m AOD
PERMANENT WATER LEVEL 0.1m AOD
BASE LEVEL -0.25m
WATER LEVELS (m AOD):

EVENT	FEH	FSR
2yr	0.189	0.087
30yr	0.512	0.236
100yr + 40%CC	0.872	0.469
100yr + 40%CC + 6%	0.916	0.497

Attenuation Basin Forebay for inlets - formed from 300mm high gabion mattress with maximum 75mm stone with min porosity 30%, laid on 150mm Type 1.

Existing Services present, follow relevant health and safety procedures. See section for details.

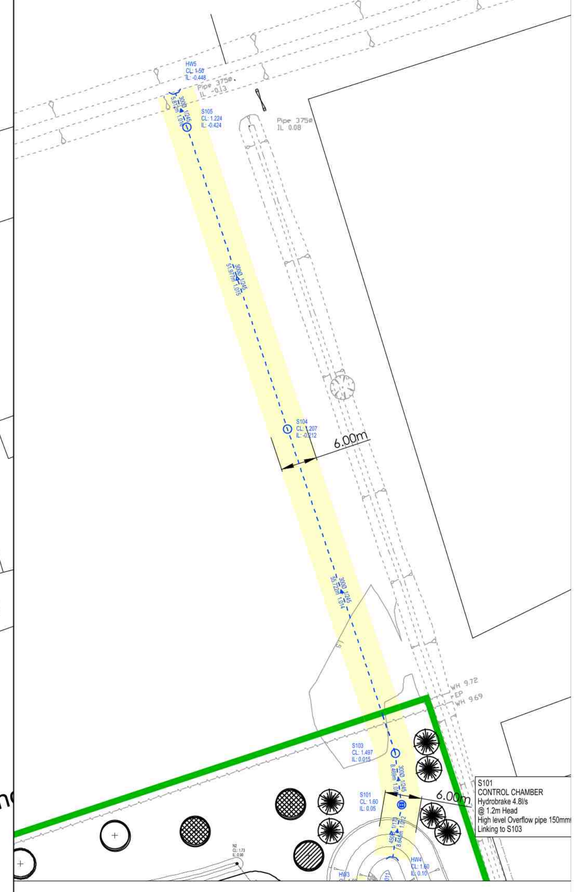
Piped watercourse with sand bag headwalls

Silo

Normanton Road

GIRDLESTONE WALK

INSET LOCATION OF OUTFALL
1:500



KEY

- Adoptable Surface Water Sewer
- Adoptable Foul Water Sewer
- S38 Highway Drain
- Adoptable Surface Water Headwall
- S38 Road Gulley
- S38 Swale Outlet typically 150mmØ unless noted otherwise
- Node & Levels relating to Swales in Hydraulic Calculations
- Lateral Drain
- S104 Sewer Easement
- S104 Boundary

NOTES

- For details of gradients and routes of house drainage connections refer to house drainage layout drawings.
- This drawing to be read in conjunction with the standard Details, Schedules and the specification for this project.
- All manholes and gullies are to be positioned at the chainages given on the long-sections.
- All lateral connections for house drainage shall be as stated on private drainage layouts and must extend a minimum of 500mm behind the back of the footpath. All connections when laid shall be plugged, protected as necessary and marked with a stake for future use.
- Connections into existing sewers to be "SOFFIT TO SOFFIT" unless noted, otherwise on the longitudinal sections.
- The contractor is to check the level of existing sewers to be used as out-fall immediately they are exposed PRIOR to laying of pipes. Any discrepancies are to be reported to the Engineer.
- All pipes 300mmØ or less to be plastic.
- Refer to Drawings 1279-04 series of drawings for Longitudinal Sections.

ALLISON HOMES
Allison Homes East
Peet House
Cygnet Road, Hampton
Peterborough
PE7 8FD

REV	DESCRIPTION	DATE
G	Amended to Highway comments	09.10.26
F	Swale nodes added S4 removed	29.09.26
E	SWS Pipes 3.000, 3.001 & 1.006 Upsized	17.09.26
D	Pond to outfall amended	11.08.26
C	F18 & F5, swale inverts added	06.02.26
B	Amended to AWIN comments	05.02.26
A	Amended to AWIN comments	13.01.26
	Amended to Client comments	

STATUS: Preliminary

SCALE: 1:500 @ A1
DATE: DEC 2025
DRAWN: IDL

TITLE: S104 Drainage Layout

PROJECT: Normanton Road, Crowland

DRG. No: 1279-03-01 Rev G

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