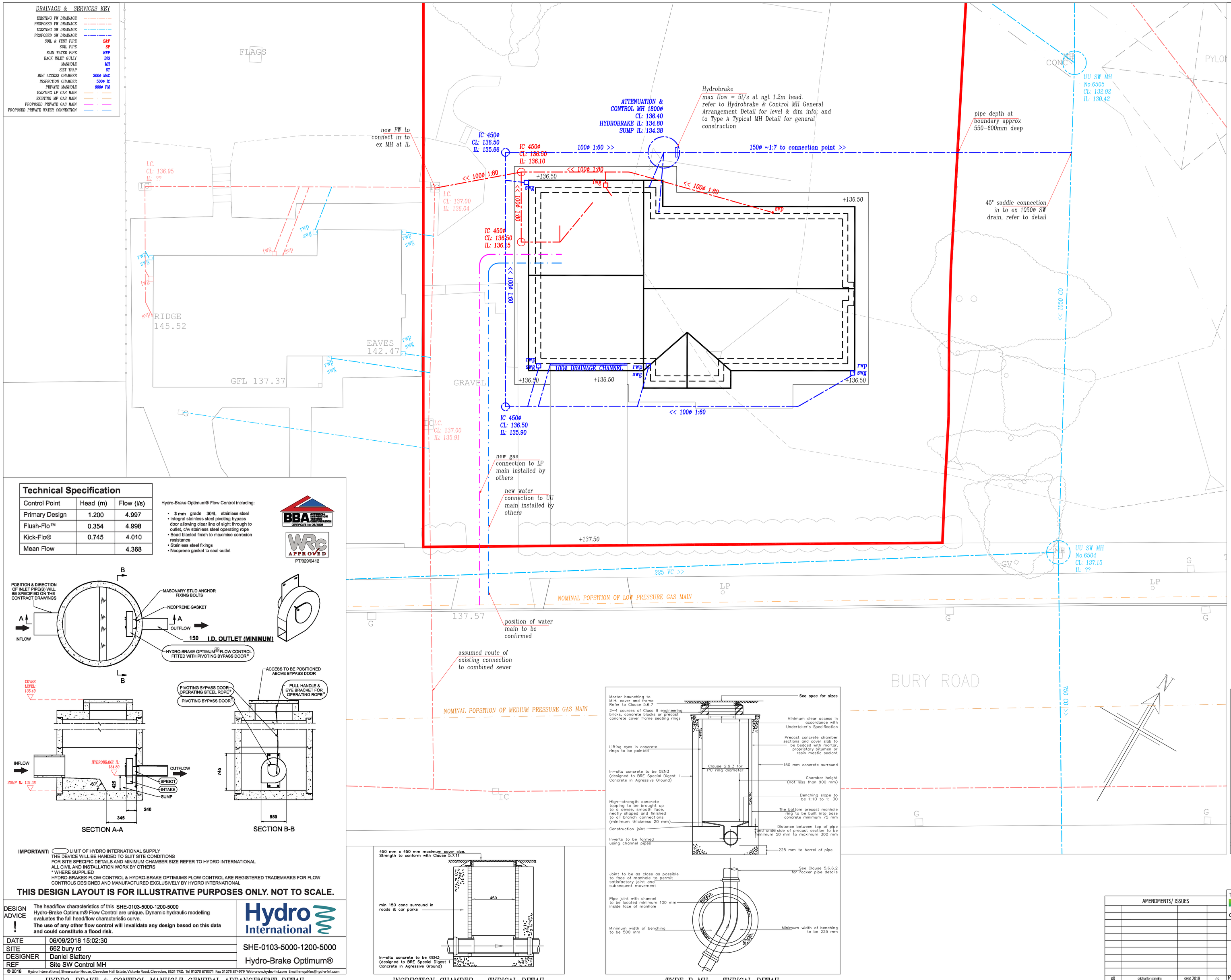
DRAINAGE & SERVICES KEY

EXISTING FW DRAINAGE	
PROPOSED FW DRAINAGE	
EXISTING SW DRAINAGE	
PROPOSED SW DRAINAGE	
SOIL & VENT PIPE	SAV
SOIL PIPE	SP
RAIN WATER PIPE	RWP
BACK INLET GULLY	BIG
MANHOLE	MH
SILT TRAP	ST
MINI ACCESS CHAMBER	300ø MAC
INSPECTION CHAMBER	500ø IC
PRIVATE MANHOLE	900ø PM
EXISTING LP GAS MAIN	
EXISTING MP GAS MAIN	
PROPOSED PRIVATE GAS MAIN	
PROPOSED PRIVATE WATER CONNECTION	



GENERAL NOTES

0.0 THIS DRAWING IS COPYRIGHT & IS SENT TO YOU IN CONFIDENCE IT MUST NOT BE COPIED, USED OR DISCLOSED, IN WHOLE OR IN PART, TO THIRD PARTIES WITHOUT WRITTEN PERMISSION. IT REMAINS THE PROPERTY OF TJBA AND MUST BE RETURNED ON REQUEST.
0.1 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTUAL DOCUMENTS.
0.2 All dims in mm unless o/w stated.
0.3 All levels in m aOD unless o/w stated.
0.4 Refer to architects details for SBM.
0.5 Contractor to confirm SOP/SOL's prior to ordering material/ construction.
0.6 Do not scale, the contractor must verify all dims prior to commencing shop drawings or work on site.
0.7 All work to be carried out in accordance with CDM 2015.
1.0 HIGHWAYS
1.1 N/A.
2.0 DRAINAGE.
2.1 To be read in conjunction with T J Booth Associates drainage calculations ref: rep-tjba-riley-662 bury rd-detailed drainage design-rev0.
2.2Manhole cover levels indicative only, to be adjusted to suit final finish site levels.
2.3 Sewers/manholes to be constructed in accordance with the water authorities sewers for adoption (edition as applicable), B. Regs. Approved Doc. H, and BS EN 752-4.
2.4 Class b granular bed and surround to all new sewers.
2.5 Any sewers or drains with less than 1.2m of cover under adoptable highways (either during or after construction), Or with less than 900mm of cover under private access/driveways, to be protected with min 150mm thick. conc surround unless otherwise specified.
2.6 All conc including pipes and manholes to be sulphate resisting unless otherwise agreed in writing by eng.
3.0 FOUL WATER DRAINAGE
3.1 Foul water system laid as indicated and in line with the following: 100ø at gradients not less than 1:80 where at least 1 WC is connected and not less than 1:40 where no WC is connected. 150ø foul drain gradients to be not less than 1:150 with at least 5 WCs connected. Guidance in line with current b.regs and SFA 6.
3.2 Foul system to connect in to existing UU sewer network via existing FW manhole to W side of Site.
4.0 SURFACE WATER DRAINAGE
4.1 SW drainage to attenuate up to 100yr + 30% by use of 1800ø oversized manhole & flow controlled by a Hydro-Brake vortex control unit.
4.2 Hydro-Brake vortex flow control unit code is SHE-0103-5000-1200-5000, designed to restrict SW flow to ngt 5l/s at max 1.2m head up to and including the 100yr+30% climate change event.
4.3 Hydro-Brake to have pivoting steel bypass door with steel rope and pull cord attached to inside of MH access.
5.0 MANHOLES
5.1 Manhole diameters to be in accordance with SFA clause 2.9.3, and according to largest manhole pipe diameter:

Pipe dia	MH dia
<375	1200;
375–700	1500;
750–900	1800.

5.2 Rocker pipes (clause 5.6.6.2) to be the following lengths:
150–600ø 0.6m;
>600–700ø 1.0m;
>750ø 1.25m.
5.3 Inspection chambers/manholes to have min 150granular surround in soft landscaping areas and not less than 150 conc surround to driveways/car parks.
5.4 Manhole covers and frames shall comply with the relevant provisions of bs. en 124 and shall be of non-rocking design which does not rely on the use of cushion inserts.
5.5 Cover sizes and access in accord with SFA Table 2.3 & to be 600x600 in United Utilities & Yorkshire Water areas.
5.6 Cover strength (clause 5.7.11) comprising minimum strength for location as follows:

Road	D400	Vehicle Impact;
Footway/Driveway	B125	Occasional vehicle loading;
Gardens	A15	Pedestrian & cyclist ONLY.

5.7 All manhole covers shall be the non-venting type (unless indicated otherwise) and shall have closed keyways.
5.8 Manhole frames (clause 5.6.7) to be set to level, bedded and haunched externally over the base and sides of the frame in mortar, in accordance with the manufacturers instructions. The frame shall be sealed on not less than 2 courses of class B engineering brick, on precast concrete masonry units or on precast concrete cover frame seating rings to regulate the distance between the top of the cover and the top rung to no greater than 675mm. A mortar fillet shall be provided where the corners to an opening in a slab are chamfered and the brickwork is not flush with the edges of the opening.
6.0 GENERAL FINISHES
6.1 N/A.

Technical Specification

Control Point	Head (m)	Flow (l/s)
Primary Design	1.200	4.997
Flush-Flo™	0.354	4.998
Kick-Flo®	0.745	4.010
Mean Flow		4.368

Hydro-Brake Optimum® Flow Control including:

- **3 mm** grade **304L** stainless steel
- Integral stainless steel pivoting bypass door allowing clear line of sight through to outlet, c/w stainless steel operating rope
- Bead blasted finish to maximise corrosion resistance
- Stainless steel fixings
- Neoprene gasket to seal outlet

BBA APPROVALS FOR STATIC CONSTRUCTION CERTIFICATE No 08/4536

WRc APPROVED PT/329/0412

IMPORTANT: LIMIT OF HYDRO INTERNATIONAL SUPPLY
THE DEVICE WILL BE HANDED TO SUIT SITE CONDITIONS
FOR SITE SPECIFIC DETAILS AND MINIMUM CHAMBER SIZE REFER TO HYDRO INTERNATIONAL
ALL CIVIL AND INSTALLATION WORK BY OTHERS
* WHERE SUPPLIED
HYDRO-BRAKE® FLOW CONTROL & HYDRO-BRAKE OPTIMUM® FLOW CONTROL ARE REGISTERED TRADEMARKS FOR FLOW CONTROLS DESIGNED AND MANUFACTURED EXCLUSIVELY BY HYDRO INTERNATIONAL

THIS DESIGN LAYOUT IS FOR ILLUSTRATIVE PURPOSES ONLY. NOT TO SCALE.

DESIGN ADVICE !

The head/flow characteristics of this **SHE-0103-5000-1200-5000** Hydro-Brake Optimum® Flow Control are unique. Dynamic hydraulic modelling evaluates the full head/flow characteristic curve.

The use of any other flow control will invalidate any design based on this data and could constitute a flood risk.

Hydro International

DATE	06/09/2018 15:02:30
SITE	662 bury rd
DESIGNER	Daniel Slattery
REF	Site SW Control MH

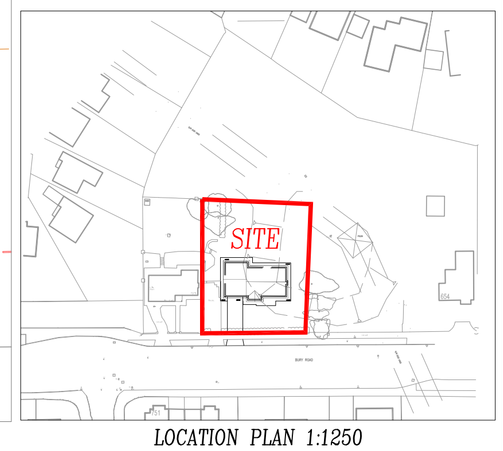
SHE-0103-5000-1200-5000
Hydro-Brake Optimum®

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HYDRO–BRAKE & CONTROL MANHOLE GENERAL ARRANGEMENT DETAIL

INSPECTION CHAMBER – TYPICAL DETAIL

TYPE B MH – TYPICAL DETAIL



LOCATION PLAN 1:1250

PLANNING

ISSUE	REASON/ CHANGE	DATE	BY
	AMENDMENTS/ ISSUES		
p0	original for planning	sept 2018	ds

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riley / 662 bury rd, bamford, rochdale

PROPOSED DRAINAGE PLAN & DETAILS

FILE NAME: dwg-tjba-riley-662 bury rd, rochdale-250315
SCALE: 1 : 100; details not to scale @ A1