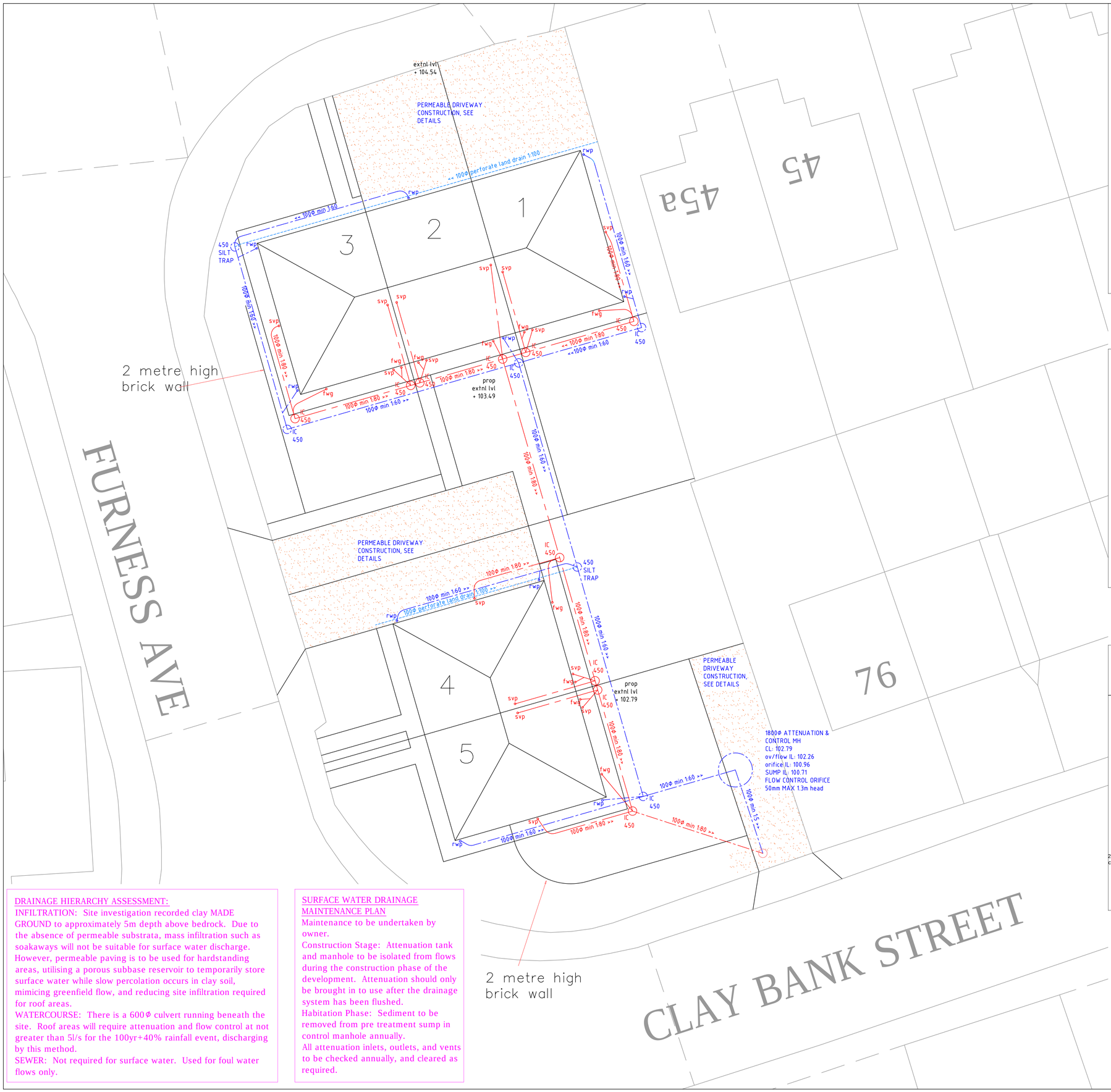


DRAINAGE HIERARCHY ASSESSMENT:

INFILTRATION: Site investigation recorded clay MADE GROUND to approximately 5m depth above bedrock. Due to the absence of permeable substrata, mass infiltration such as soakaways will not be suitable for surface water discharge. However, permeable paving is to be used for hardstanding areas, utilising a porous subbase reservoir to temporarily store surface water while slow percolation occurs in clay soil, mimicing greenfield flow, and reducing site infiltration required for roof areas.

WATERCOURSE: There is a 600ø culvert running beneath the site. Roof areas will require attenuation and flow control at not greater than 5l/s for the 100yr+40% rainfall event, discharging by this method.

SEWER: Not required for surface water. Used for foul water flows only.

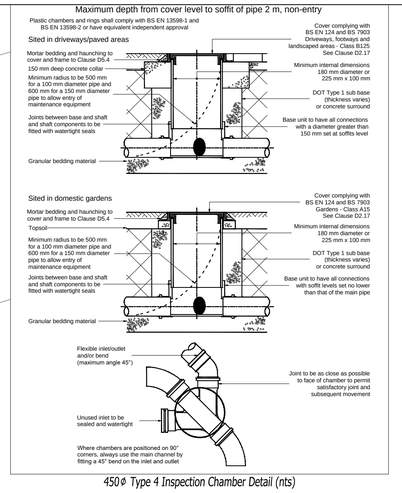
SURFACE WATER DRAINAGE MAINTENANCE PLAN

Maintenance to be undertaken by owner.

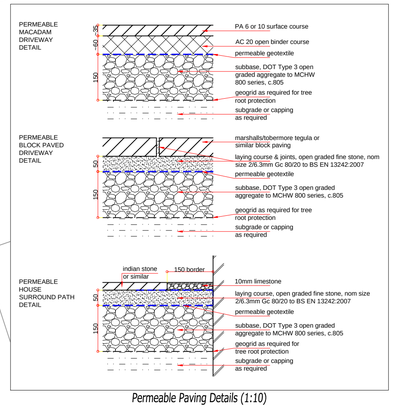
Construction Stage: Attenuation tank and manhole to be isolated from flows during the construction phase of the development. Attenuation should only be brought in to use after the drainage system has been flushed.

Habitation Phase: Sediment to be removed from pre treatment sump in control manhole annually.

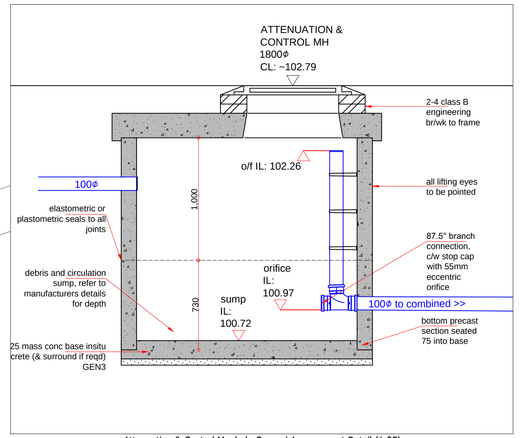
All attenuation inlets, outlets, and vents to be checked annually, and cleared as required.



450ø Type 4 Inspection Chamber Detail (nts)



Permeable Paving Details (1:10)



Attenuation & Control Manhole General Arrangement Detail (1:25)

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: calc-tjba-holmetree-furness ave-drainage-230920.
2.2 Manhole 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 s 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.
4.0 SURFACE WATER DRAINAGE
4.1 SW drainage to attenuate up to 100yr + 40%, flow control by orifice as per plan & details.
4.2 Attenuation to comprise oversize manholes as per plan & details.
4.3 Attenuation for ROOF AREAS ONLY. All external hardstanding areas to comprise permeable paving to details and have general falls to soft landscaping.
5.0 ATTENUATION MAINTENANCE
5.1 Maintenance to be undertaken by owner. Should maintenance responsibility become part of a Site maintenance agreement, a copy of this plan should be included in the deed pack.
5.2 Construction Stage: All drainage and attenuation manholes to be isolated from flows during the construction phase of the development. Attenuation should only be brought in to use after the drainage system has been flushed.
5.3 Habitation Phase: Sediment to be removed from pre treatment sump in control manhole annually.
All attenuation inlets, outlets, and vents to be checked annually.
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 5.7.1.1) comprising minimum strength for location as follows:

Roads/Highways	D400 Vehicle Impact;
Car Parks	C250 Light Vehicle loading;
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 seated 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.

PLANNING

AMENDMENTS/ ISSUES

REVISION	REASON/ CHANGE	DATE	BY
0	original for approval	sept 2020	ds

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Holmetree Developments / Furness Ave, Heywood

Residential Development

PROPOSED DRAINAGE PLAN & DETAILS

FILE NAME: dwg-tjba-holmetree-furness ave-170920

SCALE: 1 : 100 & as indicated @ A1