SURFACE WATER DRAINAGE HIERARCHY

INFILTRATION:
unable to infiltrate due to bedrock geology at shallow depth bgl. the boundary between site & car park to south is also an excavated cliff face where surface water infiltration would recharge causing nuisance and runoff to the neighbouring site.

WATERCOURSE:
no watercourses in reasonable/accessible proximity to site.

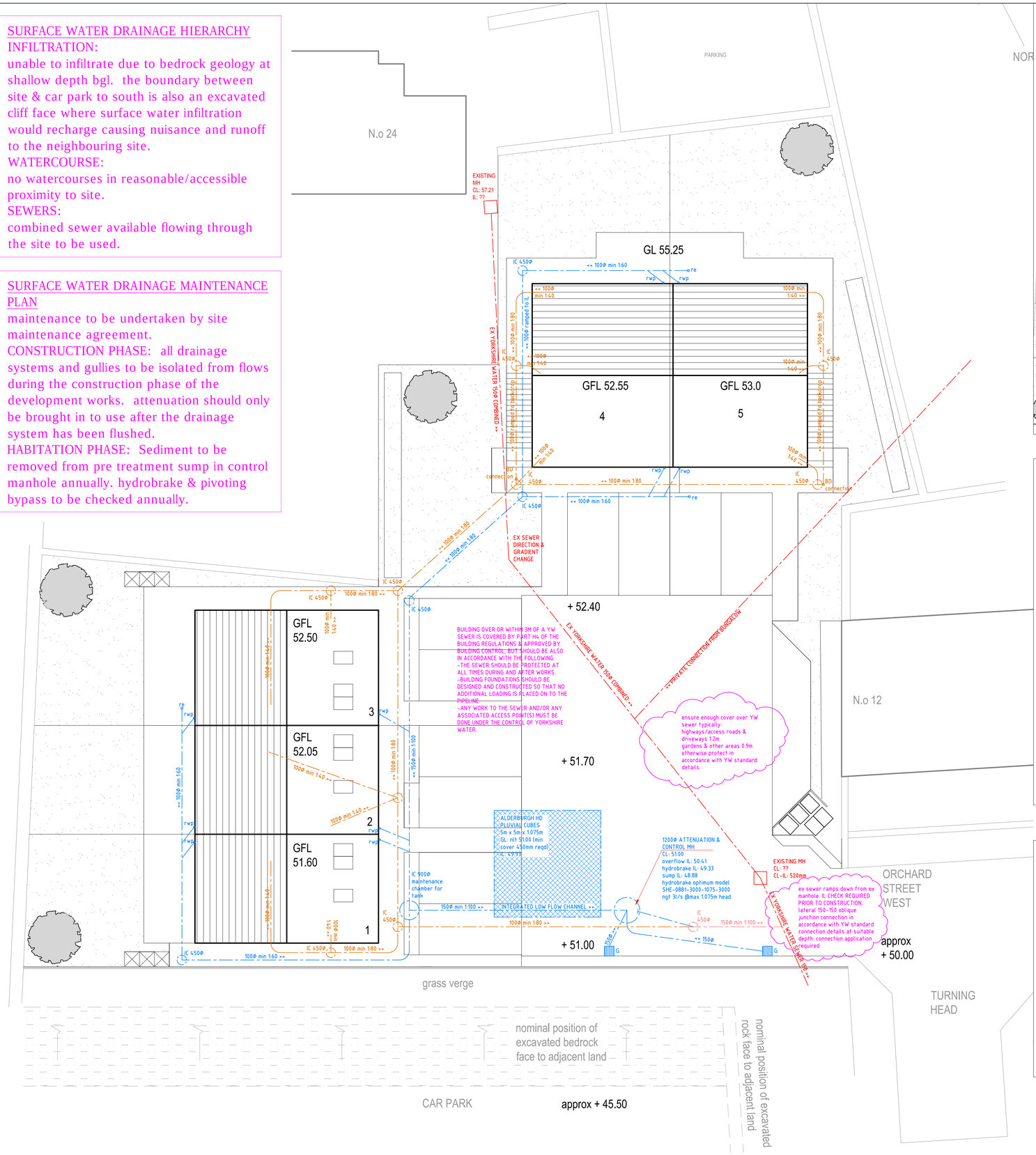
SEWERS:
combined sewer available flowing through the site to be used.

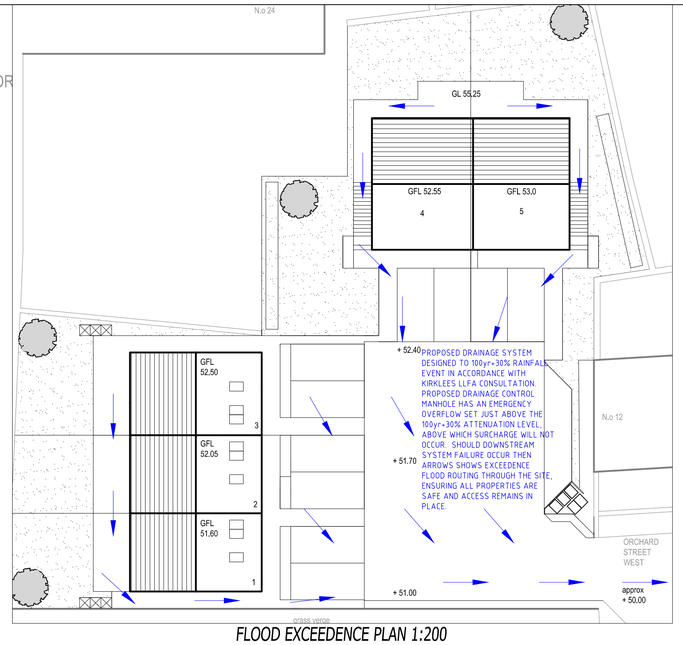
SURFACE WATER DRAINAGE MAINTENANCE PLAN

maintenance to be undertaken by site maintenance agreement.

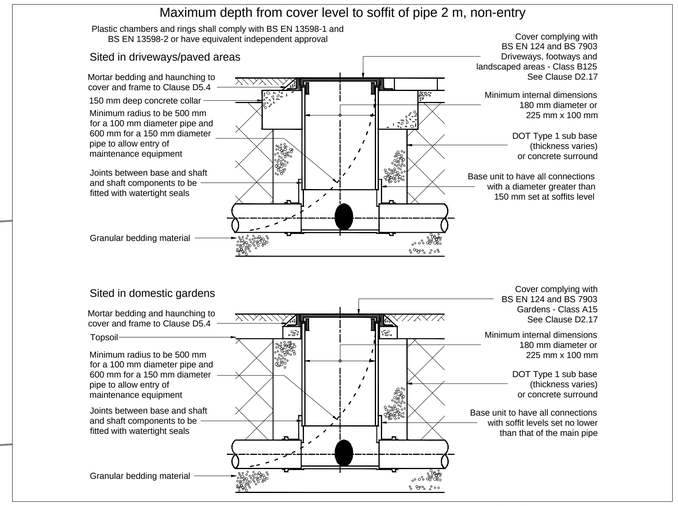
CONSTRUCTION PHASE: all drainage systems and gullies to be isolated from flows during the construction phase of the development works. attenuation should only be brought in to use after the drainage system has been flushed.

HABITATION PHASE: Sediment to be removed from pre treatment sump in control manhole annually. hydrobrake & pivoting bypass to be checked annually.

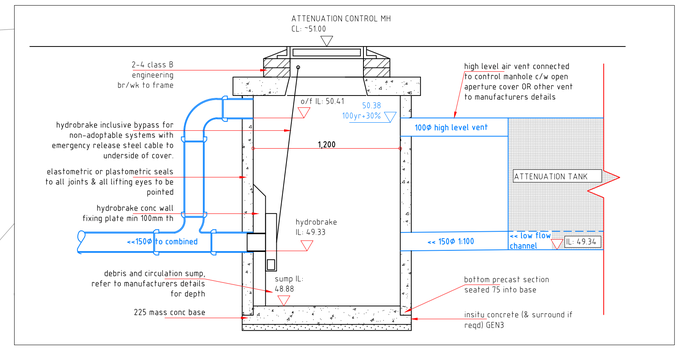




FLOOD EXCEEDENCE PLAN 1:200



TYPICAL 450Φ SFA TYPE 4 INSPECTION CHAMBERS (NTS)



ATTENUATION & CONTROL MANHOLE GENERAL ARRANGEMENT 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 to site datum.
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-khan-orchard st west-drainage design-rev0.
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 private 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: 100Φ 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. 150Φ 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.
4.0 SURFACE WATER DRAINAGE.
4.1 SW drainage to attenuate up to 100yr + 30% in accordance with Kirklees LLFA requirements.
4.2 Attenuation chamber to comprise Alderburgh Heavy Duty Pluvial Cube modular attenuation crates to be constructed in line with Alderburgh Ltd construction details & sequence of works. Cover to be not less than 450mm. No construction or any other traffic allowed over attenuation area. Crates to be provided with air vents to manufacturers details.
4.3 Control manhole to comprise a Hydrobrake Optimum flow control unit as specified on plan to head and flow specifice requirements, and departure from these may result in flooding.
4.4 Hydrobrake Optimum must have pivoting bypass door and steel rope control fitted.
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:
150-600Φ 0.6m;
>600-700Φ 1.0m;
>750Φ 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			
1	low flow channel & u/s maintenance chamber to attenuation tank	april 2021	ds
0	original for planning	march 2021	ds
REVISION	REASON/ CHANGE	DATE	BY

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KHAN / ORCHARD STREET WEST, LONGWOOD

DRAINAGE PLAN & DETAILS

FILE NAME: dwg-tjba-khan-orchard st west-010321.dwg

SCALE: 1 : 100 & as indicated at A1