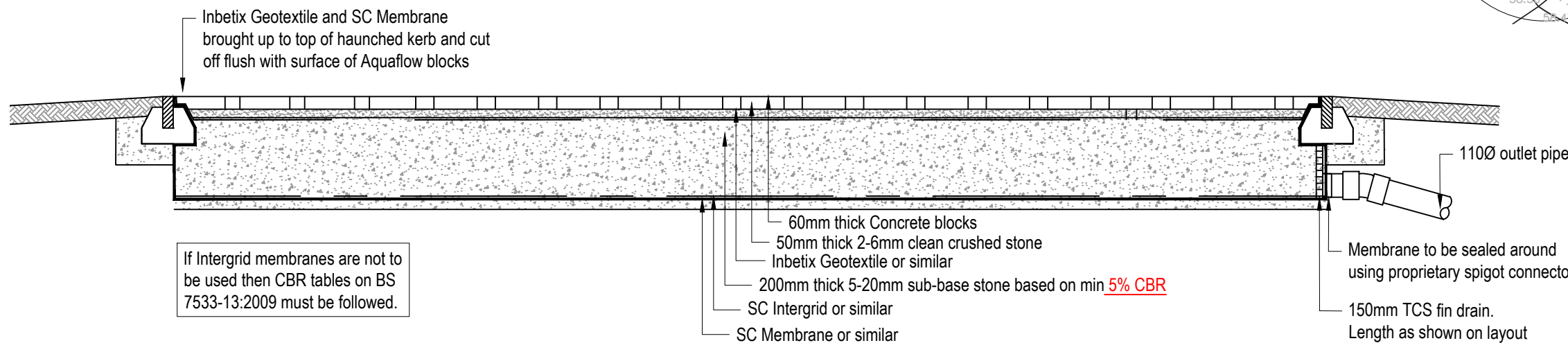


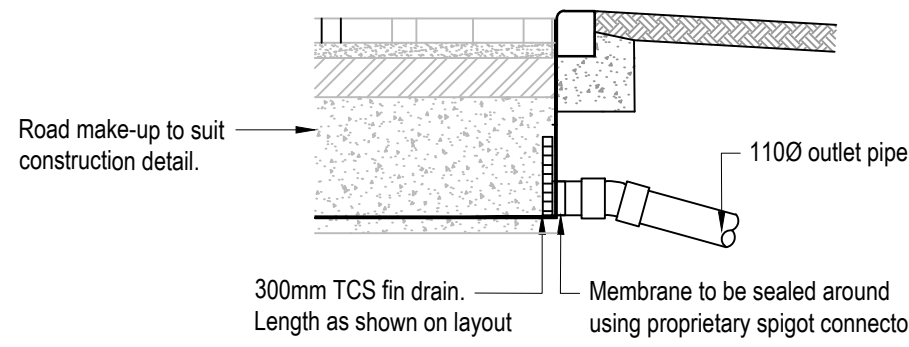
Private Drainage

- This drawing is to be read in conjunction with and checked against all other drawings, engineering details, specification and any structural, geotechnical or other specialist documents provided.
 - All lateral connections for house drainages shall be 100mm unless stated otherwise and must extend a minimum of 500mm behind the back of the footpath.
 - All pipes to be vitrified clay or UPVC and shall be 100mmØ laid to a fall of 1:80 unless noted otherwise or indicated by size and invert levels. All connections when laid shall be plugged, protected as necessary and marked with a stake for future use.
 - Building drainage shall comply with BS 8301 1985, BS EN 752 and Building Regulations Part H. Inspection chambers located within garages to have double seal bolt down covers.
 - Gully top and manhole cover specification to be in accordance with BS EN 124 and located in accordance with the intended use and loading classification as described within groups 1-6:
 - This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.
 - Cover and invert levels are indicative and may vary on site. In any case the following minimum cover to depth of cover to the crown of pipes without protection shall be as follows:
 1. Pathways without any possibility of vehicular access - 0.35m
 2. Driveways, parking areas and yards with height restrictions to prevent entry by vehicles with a gross weight in excess of 7.5 tonnes - 0.5m
 3. Driveways, parking areas with limited access for vehicles with a gross weight in excess of 7.5 tonnes - 0.9m
 4. Agricultural land and public open space - 0.9m
 5. Other highways and parking areas with unrestricted access to vehicles with a gross weight in excess of 7.5 tonnes - 1.2m
- Note:** any protection required where drainage does not comply with a-e above shall be as follows:-
- Vitrified clay pipes - provide a 100 mm min. thick concrete bed and surround (instead of class 'S' bedding) and a 13 mm thick compressible filler at each joint.
 - UPVC pipes - provide a concrete bridging (in addition to class 'S' bedding) in accordance with appendix A15, Building Regulations part 'H'.
- Note:** in-situ concrete used in connection with a) and b) above shall be standard mix GEN3 in accordance with BS 5328.
- Where pipes pass under buildings, unless beam & block floors are used, they are to be surrounded in concrete.
 - All branch drains, or connections, are to discharge to the collectors obliquely, and in the direction of the main flow.
 - Finished Floor Levels (FFL's), assumed to be typically a minimum of 150mm above finished ground level outside, refer to architects drawing for details.
 - All new private shallow 225mm diameter surface water and foul inspection chambers and rodding eyes shown without cover levels (CL) shall be assumed to be at external ground level, and invert levels (IL) are to be typically between 450 and 600mm below CL, subject to the length of the internal house connections.
 - All low spots on hardstanding areas to have double gullies.
 - Pipe bedding to be Class 'S' Bedding (100mm granular bed and surround).
 - Excavations for manholes, pipe runs etc located within a 45 degree load distribution splay from any adjoining existing foundations, are to be adequately supported for the duration of the works and building drainage protected.
 - Foundations adjacent to pipe runs or manholes are to have their formation level set above the invert level no higher than the equivalent of the horizontal distance between the pipe/excavation trench and the foundation, minus 500 mm.
 - Where excavations for pipe runs are parallel and in close proximity to each other and/or other service trenches, the contractor shall ensure that adequate safety measures, including temporary shoring, are provided in line with current Health & Safety Legislation and good practice. Particular attention is to be paid to adjacent trenches of differing invert levels.
 - All existing drainage found on site during the works shall be investigated, its operational status confirmed, and the following applied:-
 - 17.1. Inoperative drainage shall be cut back and pipe runs filled with concrete grout.
 - 17.2. 'Live' drainage shall be temporarily re-routed to allow the new drainage to be constructed.
 - Where existing drainage is to be re-used including road, building and external drainage systems, the contractor shall ensure that all chambers and drainage runs are cleaned, de-silted and made good.
 - All interpolated Invert levels to be checked and confirmed on site prior to any drainage related works.
 - Covers to existing chambers to be re-used shall be replaced where necessary to suit proposed development loading class, see note 5. Chamber covers shall also be adjusted to suit final ground levels as necessary.
 - Where necessary, existing chambers shall be re-benched to suit new pipework arrangement.
 - All sewer closures/diversion agreements to be in place and agreed with service provider prior to works on site.
 - Positions of all RW/SVP/ISS points to be confirmed by Architect.



Formpave Aquaflo Attenuation System Private Driveway Construction

(Scale 1:25)



TCS Fin Drain Outlet Detail

(Scale 1:25)

Key Legend

- Site Boundary
- Finished Floor Level

Storm Water Drainage Legend (Dimensions are approx. internal sizes).

- New Surface Water Concrete Manhole 1050mm (unless stated otherwise)
- New Surface Water Inspection Chamber 450 dia. polypropylene up to 3000mm deep.
- New Private Surface Water PVC Pipe 1000 1in80 unless otherwise noted
- Deep Trapped Road Gully
- Linear Drainage Channel (ACO) with silt bucket
- Linear Drainage Channel (ACO) with silt bucket
- Flood exceedance path
- Overland flow path

Foul Water Drainage Legend (Dimensions are approx. internal sizes).

- Packaged Treatment Plant, Klargester or similar. Refer to manufacturer documents for details.
- New Private Foul Inspection Chamber 450mm dia. polypropylene up to 3000mm deep
- New Private Foul PVC Pipe 1000 1in80 unless otherwise noted
- Polystorm cellular attenuation crates.
- Block paved permeable driveway

Notes: Foundations to be checked and locally lowered (where required) to accommodate private drainage.

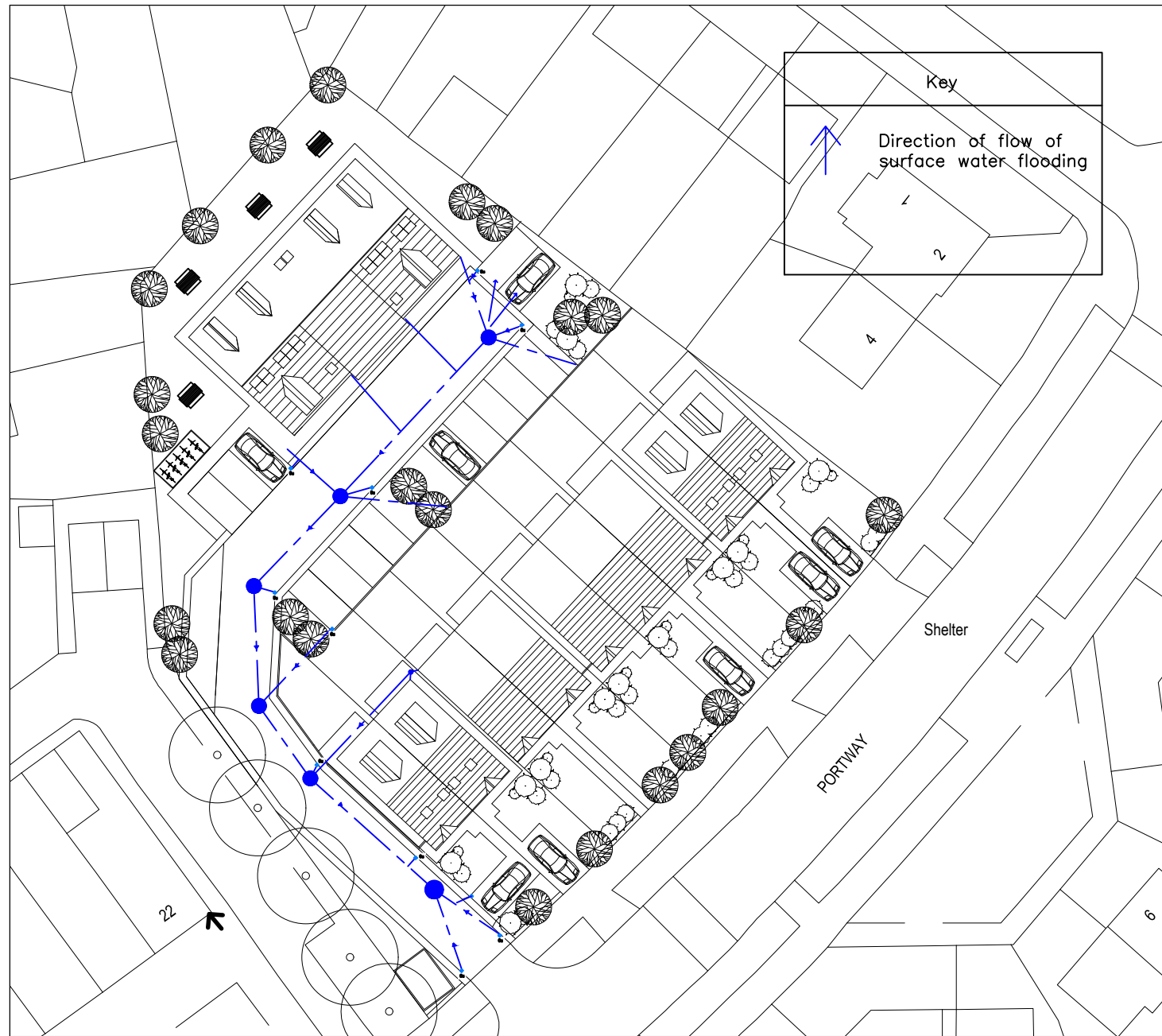
RWP and SVP positions are assumed and must be checked against Architectural drawings prior to construction.

Existing site levels taken from topographic survey used to indicate drainage levels and gully locations. Levels beyond site extents based on LIDAR data.

Levels to be reviewed and gully positions revised (if required) to suit gravity outfall to discharge point.

Hydrobrake CTL-SHE-0152-1350-2000-1350		
Control Point	Head (m)	Flow (L/s)
Primary design	2.000	13.500
Flush Flow	0.586	13.495
Kick Flow	1.217	10.665
Mean Flow		11.807

Under the provisions of section 111 of the Water Industry Act 1991 it is unlawful to pass into any public sewer (or into any drain or private sewer communicating with the public sewer network) any items likely to cause damage to the public sewer network interfere with the free flow of its contents or affect the treatment and disposal of its contents. Amongst other things this includes construction materials. Contravention of the provisions of section 111 is a criminal offence.



General Notes

- Do not scale from this drawing.
- Only figured dimensions are to be relied upon.
- All dimensions in millimetres unless otherwise noted. All levels in metres unless noted otherwise.
- This drawing is to be read in conjunction with relevant architectural, engineering and specialist drawings and specifications.
- Any discrepancies noted on site are to be reported to the engineer immediately.
- Where this drawing has been issued in electronic format, Holdgate Consulting do not accept responsibility for any inaccuracies in the electronic data (including third party content used for reference), which should be checked against the paper (or pdf) drawing issue.
- Copyright reserved. This drawing may only be used for the client and location noted in the project title. It may not be copied or disclosed to any third party without the prior written consent from Holdgate Consulting.
- This drawing should only be used for construction if the drawing status is "Construction". Holdgate Consulting takes no responsibility for construction works undertaken to drawings that are not marked with this status.

Rev	Date	Description	Draw/Chk/App'd
P06	19/10/2023	Notes updated for attenuation tank	EH / NM / NM
P05	27/07/2023	Drainage layout updated to suit LA comments	EH / NM / NM
P04	31/05/2023	Invert levels updated	EH / NM / NM
P03	14/04/2023	Flow control discharge updated to suit LA requirement	EH / NM / NM
P02	04/04/2023	Revised attenuation location	EH / NM / NM
P01	02/02/2023	First issue	NM / NM / NM

Comment / Review

Project Title
Former Happy Man, PH

Drawing Title
Drainage Plan



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Job No.	23-058	Scale @ A1	1:200
Drawing No.	D01	Revision	P06