



MicroDrainage Network summary results table			
Annual Exceedance Probability (AEP)	Critical Storm	Peak water depth in attenuation basin (m)	Peak outflow from basin (l/s)
100%	180-min winter	0.106	2.1
3.33%	180-min winter	0.254	3.6
1% + 40% CC	180-min winter	0.495	5.1

LEGEND

- Attenuation Basin
- Surface Water pipe
- Existing land drain
- Flow Control Manhole
- Inspection Chamber

Notes:

- All setting out to be in accordance with the Architects drawings. Any discrepancies between the Engineers and the Architects drawings to be referred to the Architect before proceeding. Dimensions must not be scaled.
- This drawing must be read in conjunction with all relevant drawings and with the drainage report (RAB2685_FRD).
- A construction phase plan, in line with CDM 2015, must be prepared by the principal contractor prior to any work taking place. The Contractor must comply with all current legislation relating to health and safety.
- Connections to Public sewers to be agreed and inspected by Water Authority.
- Until technical approval has been obtained from the relevant Authority, it should be understood that all drawings issued are Preliminary and not for construction. Should the contractor commence the work prior to such approval being given, it is entirely at his own risk.
- Drainage to be in accordance with BS 7533-13:2009, Building Regulations Part H: Drainage and Waste Disposal, 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, CIRIA SuDS Manual (C788) SuDS and CIRIA SuDS Manual (C735).
- The minimum depth of cover to the crown of gravity pipes without protection should be 0.35m for domestic gardens and pathways without any possibility of vehicular access; 0.5m in domestic driveways, parking areas and yards with height restrictions to prevent entry by vehicles weighing >7.5 tonnes; 0.9m in domestic driveways, parking areas and narrow streets without footways with limited access for vehicles with a gross vehicle weight in excess of 7.5 tonnes; 1.2m in highways and parking areas with unrestricted access to vehicles with a gross vehicle weight in excess of 7.5 tonnes.
- All pipes not meeting the criteria 5 MUST include a minimum 150mm thick Class GEN3 Concrete surround in line with the 2020 Design And Construction Guidance document.
- Where pipes are bedded and surrounded in concrete, flexible joints should be provided, compressible boards (fibreboard or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints). The boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. A board thickness of 16mm for pipes up to 450mm nominal diameter and 36mm for pipes over 450mm nominal diameter.
- The Contractor shall make allowance for raising / lowering all access covers & frames to suit finished levels.
- Cover Class to manholes/inspection chambers are to suit anticipated vehicular loadings in accordance with BSEN 124:2015 (D400 where potential for HGV loading, C250/B125/A15 in footway trafficked areas not accessible by vehicles).
- All soft / hard paved areas affected by the works shall be fully reinstated upon completion of the works. All surface markings damaged by the works shall be fully reinstated.
- Before handover, all manholes shall be inspected, all rubble removed, and the whole system shall be thoroughly flushed and cleaned.
- All levels are in Ordinance datum unless otherwise specified.
- All pipe runs near buildings to comply with the Building Regulations 2002 Part H1, where a pipe is within 1m of a foundation the trench shall be filled with class GEN3 Concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN3 Concrete to a level below the lowest level for the foundation equal to the distance from the foundation less 150mm. In both cases, the pipe shall be bedded and surrounded in 150mm thick class GEN3 Concrete.
- Backfill material to drainage trenches under carriageways to be DOT Type 1 sub-base material, elsewhere backfill to be free draining readily compacted material, free from rubbish and organic matter, frozen soil clay lumps and large stones. To be compacted in layers of not exceeding 150mm thick.
- Joints specification to be provided by manufacturers.
- Typical pipe bedding to drainage for pipes up to D=525mm is to be Class S (i.e. 10-14mm).
- Trench temporary formwork is required to all excavations exceeding 1.2m depth to provide adequate support and stability at all times.**
- Sewers are to be constructed in single sections between manholes only. Trenches to be backfilled prior to excavating the succeeding sewer run.
- All concrete products to be in accordance with BRE 363 for sulphates.
- No SuDS features should receive construction-related runoff. Alternative methods of surface water disposal must be employed.
- Where sewer or drains are to be abandoned they shall be removed or infilled by grouting in accordance with the Civil Engineer Specification for the Water Industry 7th edition, Clause S.23.
- All manholes shall be watertight.
- The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.
- RAB Consultants accepts no responsibility should the proposed drainage is not installed correctly and to standards, and structural/functional failure occurs.

Resilience and Flood Risk

Cathedral House,
Beacon Street,
Lichfield,
WS13 7AA

Client

Heath Green Ltd

Project

RAB2685 Dog Agility, Church Broughton

Drawing

Drainage Design Plan view

Checked by	GW	Approved by	GW	Scale: 1:400@ A1
Drawn by	NP	Date:	19/11/2021	

Drawing No.	RAB2685_FRD/001	Revision	2.0
-------------	-----------------	----------	-----