

Drainage Notes:

1.0 Standards

- 1.1. All works shall be Read in conjunction with the CampbellReith specification and these notes are intended to support the specification.
- 1.2. All private drainage works shall be in accordance with 'The Building Regulations Approved Document H' and British Standard EN 752.
- 1.3. All works in or adjacent to the Public Highway shall be in accordance with the requirements of the Highway Authority. The Contractor shall obtain all necessary licences to carry out works within the Public Highway.
- 1.4. All works to new or existing Public Sewers shall be to the approval of the Water Authority and in accordance with 'Sewers for Adoption'-latest edition.

2.0 Generally

- 2.1. Prior to commencement of the works the Contractor shall liaise with all relevant authorities to obtain their requirements and to obtain approval for his method of working and where appropriate his intended choice of materials.
- 2.2. Refer to site survey for details of existing site conditions and benchmarks.
- 2.3. Prior to commencement of the works the Contractor shall liaise with all relevant authorities to locate, protect and where necessary divert all existing services affected by the works.
- 2.4. All excavations shall be kept free of standing water.
- 2.5. The Contractor shall ensure the stability of all excavations is maintained at all times.
- 2.6. Prior to commencement of the works all drainage outfall points, whether existing sewer, drain or watercourse, shall be verified on site by the Contractor. If the outfall point is found to be higher or significantly lower than shown on the drawings then the Contract Administrator shall be notified immediately. (Significant redesign of drainage and levels may be necessary). Prior to commencement of construction on-site the Contractor shall install all off-site drainage connections, or satisfy himself that there are no obstructions or other reasons why, the drain connections can not be made.
- 2.7. All cover levels shown on this drawing are approximate. Exact levels of new covers and frames to be determined on site to match level and profile of finished surface.
- 2.8. Exact location of gullies to be determined on site to suit low points. The Contractor shall ensure that all finished surface are laid to falls that are sufficient for all surface water to drain without surface ponding.
- 2.9. For the exact location of soil pipes, stubstacks, W.C.'s and other drainage connections refer to the large scale

architectural building plans.

- 2.10. Rainwater downpipes that do not connect directly to an access point, shall be fitted with a rodding access.
- 2.11. Prior to commencement of any works the existing drainage must be traced to ensure that no 'live' connections remain. Any such connections must be reported to the Contract Administrator, prior to diversion into the new drains.
- 2.12. All new service installations shall be strictly in accordance with NJUG recommendations
- 3.0 Pipework

3.1. Unless noted otherwise all pipework shall be 150mm diameter laid to a fall of 1 in 150 or steeper for surface water and 100mm diameter at 1 in 40 or steeper for foul water. Foul drains with one or more W.C. connected may be laid at 1 in 80 or steeper.

3.2. Unless noted otherwise all pipework shall be constructed from 'super strength' vitrified clay to BS 65,BS EN 295 or UPVC to BS EN 1201 bedded and backfilled as per the manufacturers recommendations and the above listed publications.
- 4.0 Concrete works

4.1. Refer to Site Investigation Report for existing ground conditions and any special requirements for buried concrete (special requirements for buried concrete shall include all pre-cast and in-situ concrete and mortars). Where appropriate refer to contamination reports for details of chemicals affecting choice of materials and other additional requirements. Unless otherwise stated all buried concrete shall be designed to BRE Special Digest 1 - Concrete in Aggressive Ground.

4.2. All mortar's specified for drainage works shall be Class (i) in accordance with BS EN 998-2, unless otherwise specified on the detail.

4.3. All pre-cast and in-situ concrete and mortars used in the construction of foul drains and sewers shall be made from sulphate resisting cement.
- 5.0 Manholes / Inspection chambers

5.1. Access fittings, inspection chambers and manholes shall be constructed to the dimensions shown in Tables 11 and 12 of 'The Building Regulations Approved Document H' and from the materials listed in Table 14. Access points, inspection chambers and manholes shall be constructed from products designed/rated for the location in which they are to be used. They shall be installed in accordance with the manufacturers/suppliers recommendations.

5.2. All covers, gratings and frames to chambers, gullies, channels etc. shall be of the correct load class to suit

their location.

- Load Class B125 Pedestrian areas (not accessible by vehicles)
- Load Class C250 Lightly trafficked areas.
- Load Class D400 Main Roads.

Gratings in pedestrian areas to be designed for pedestrian use (i.e. heel safe).

- 5.1. All existing chambers, gullies channels, pipes and other drainage apparatus shall be protected from damage during the works. The Contractor shall take all necessary measures to ensure that no material enters the drains (other than that which they are designed to carry).
- 5.2. Unless noted otherwise all drains and sewers to connect with soffit's level. Chamber invert levels shown on this drawing are to outgoing pipe.
- 5.3. Invert levels at catchpits relate to invert of outgoing pipe.
- 6.0 Infiltration drainage

6.1 Upon commencement of site works, the Contractor is to undertake location specific infiltration tests in strict accordance with BRE365 at the proposed formation level and location of each infiltration device to verify the design percolation rates. The results of these tests are to be provided to CampbellReith for review at least 5 working days prior to the infiltration device installation.

6.2 Where the results of location specific infiltration tests confirm that the infiltration rates are less favourable than the design rates, the size or nature of the proposed infiltration device will need to be reviewed and potentially amended. The contractor should be aware of this when placing orders for drainage materials/products and programme any additional testing accordingly.

6.3 Please note, unless otherwise noted or instructed, location specific infiltration tests may not be required for infiltration devices receiving catchment areas of 500 sq.m. or less (e.g. house soakaway's).
- 7.0 Proprietary products

7.1 Installation of proprietary products, such as petrol interceptors, grease traps or flow restricting devices, shall be strictly in accordance with the manufacturers' specification and installation instructions. Any variance or conflict between specifications shall be brought to the attention of the Contract Administrator immediately.

Notes

1. Do not scale from this drawing on print or electronically. Work from figured dimensions only.

2. No deviation from the details on this drawing is allowed without CampbellReith's prior permission in writing.

3. Read this drawing with all Architect's, Service Engineer's and CampbellReith's relevant details, specifications and drawings.

4. All work is to be done in accordance with the relevant specifications issued by CampbellReith, British Standard Codes of Practice, Statutory Requirements and the Contract Documents.

5. Drawing revision:

P: Preliminary

Evolving drawings for approvals, tenders, billings etc.

C: Contractural

Drawings authorized and approved for stage completion i.e. Stage-Tender or Stage 5-Construction .

6. Drawing status:

Work in progress

S0 - Initial status

Shared (Non-contractual)

S1 - Suitable for coordination, S2 - Suitable for information, S3 - Suitable for review and comment, S4 - Suitable for stage approval.

Published (For contractors purposes)

A1, An etc - Authorised and accepted ('n' relates to work stages)

B1, Bn etc - Partial sign-off (with comments)

CR - As constructed record document (Final Construction ONLY. Any deviations to that which is on site is not the liability of CampbellReith)

7. Work Stages:

2 - Concept, 3 - Definition, 4 - Design, 5 - Build & commission, 6 - Handover

8. Only drawings with revision Cn and status A5 to be used for Construction

P1	Issued for Information	07/08/09	IC
Rev	Description	Date	By

CampbellReith consulting engineers

London	020 7340 1700	☐	☒ Manchester	0161 819 3060
Surrey	01737 784 500	☐	☐ Birmingham	01675 467 484
Bristol	0117 916 1066	☐	☐ Dubai	00 971 4345 7088
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Job Title	Gwersyllt, Wrexham
Client	J10 Planning

Proposed Drainage Standard Notes

Drawn by	Date made	Scale @ A1	Checked by	Suitability	CR Project
IC	17/08/23	NTS	LM	S2	14009

Project No.	Originator	Volume	Lvl/Loc	Type	Role	Number	Rev
14009	CRH	ZZ	XX	DR	C	5300	P1