

Yapton Gates

Surface Water Drainage Design Notes

Drainage design is based on percolation tests carried out to BRE365 by Robert Associates Ltd in January 2014.

Test conditions comprised topsoil/made ground to 600mm below ground level over 2metres. The chalk was hard and broken below a 300mm layer of weathered al at high level.

Groundwater was found at around 1.8 to 2.0m below ground level rising to around 2.5m below ground level. Groundwater monitoring was installed.

Percolation tests gave soil infiltration rates which averaged 3.044E-6 m/s (0.06 m/hr) in the chalk.

For surface water drainage, traditional concrete ring soakaways have been designed to cater for a 100-year rainfall event with an additional 30% for climate change, without any risk of surface flooding. An alternative design using geocellular soakaways may be considered.

Concrete block permeable paving is proposed for the access and circulation areas

DRAWING LEGEND	
SURFACE WATER DRAINAGE	
	250mm DIA INSPECTION CHAMBER, Type 4
	450mm DIA INSPECTION CHAMBER, Type 3
	RODDING EYE
	CONCRETE RING SOAKAWAY
	PERMEABLE BLOCK PAVING (INFILTRATION)
FOUL WATER DRAINAGE	
	PRECAST CONCRETE RING MANHOLE
	450mm DIA INSPECTION CHAMBER, Type 3
	250mm DIA INSPECTION CHAMBER, Type 4
	PROPOSED BUILDING FINISHED FLOOR LEVEL
	CONCRETE STANK
	EXISTING SPOT LEVEL

1. All levels are related to Ordnance Datum - see separate Setting Out drawings for survey and control information.
2. All pipes with less than 1.2m of cover when laid beneath roads, footpaths or carpark areas, or 0.6m of cover in soft landscaped areas, shall be protected with ST2 concrete bed and surround or as otherwise detailed on the Construction Drawings.
3. All trenches in vehicular areas shall be backfilled with lean-mix concrete or an approved imported granular material compacted in 225mm thick layers and reinstated in accordance with the specification.
4. Unless otherwise indicated, all drains are to be 100mm diameter in vitrified clay or approved solid wall or structured wall upvc. Surface water drains are to be laid at a minimum gradient of 1:100. Foul water drains are to be laid at a minimum gradient of 1:40 where under/ partly under pavements or serving back inlet gullies and 1:30 elsewhere.
5. All private drainage work is to be carried out in accordance with the Building Regulations Approved Document "H" BS EN 752, and to the satisfaction of the local authority building control section.
6. Drains and sewers laid through roof protection areas are to be protected by Terram Rootguard Plus or similar approved wrapping to the granular bed and surround in accordance with the manufacturer's recommendations
7. Manholes/ inspection chambers situated within roads, car parks and circulation areas are to be fitted with class D400 ductile iron covers and frames to BS EN 124. Other manholes to be fitted with class B125 covers and frames where accessible to occasional light motor vehicles only with Class A15 in pedestrian restricted areas.
8. Where drains pass through foundations, a flexible joint should be provided within 150mm of the face of the structure.
9. Rocker pipes are to be min 500mm, max 700mm in length and provided either side of all manholes.
10. Any excavations within the zone of influence of an adjacent foundation are to be backfilled with an approved imported granular material / lean mix concrete up to the underside of the foundation, as indicated on the drawings.
11. All pipes are to be laid soffits level unless indicated otherwise
12. The contractor should check all dimensions on site. No dimensions are to be scaled from these drawings. The engineer is to be notified immediately of any discrepancies encountered
13. It is the contractor's responsibility to ensure compliance with current building regulations and codes of practice.
14. Reference is to be made to all statutory undertakers to ensure that any new works do not interfere or conflict with any existing apparatus.
15. All existing manholes and pipe runs on site are to be investigated and, if found to be redundant, they shall be grubbed out during the construction works.
16. Unless otherwise specified, gullies shown to private drives shall be 300mm diameter 'yard' gullies with 100mm diameter outlets from a manufacturer and in a material of the client's preference. Gullies to communal parking/ access ways to be 450mm diameter 'road' gullies, 750mm deep with 150mm diameter outlets laid at a minimum gradient of 1:100. All gullies are to be 'trapped'.
17. Concrete ring soakaways are to be 1.2m deep with an internal diameter as indicated on the layout plan with min. 500mm granular surround, all as detailed on the Construction Drawings and in the Soakaway Schedule.
18. Concrete stanks are to be provided where indicated in order to contain surface water within discrete sections of permeable paving to allow soakage to occur.

-	Original	PC	RTFC	16.11.14
Rev.	Description	App.	Chk.	Drm.
Date				
Client				

Stephen Crossley

Project	The Old Coal Yard North End Road Yapton
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Drawing Title	Drainage Layout
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Robert Clark Associates Ltd

Chartered Civil Engineers

Willow Cottage, Herne Lane, Rustington

West Sussex BN16 3EE

Tel: 01903 778945 Fax: 01903 778967

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Scale	At original
1:200	A2

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