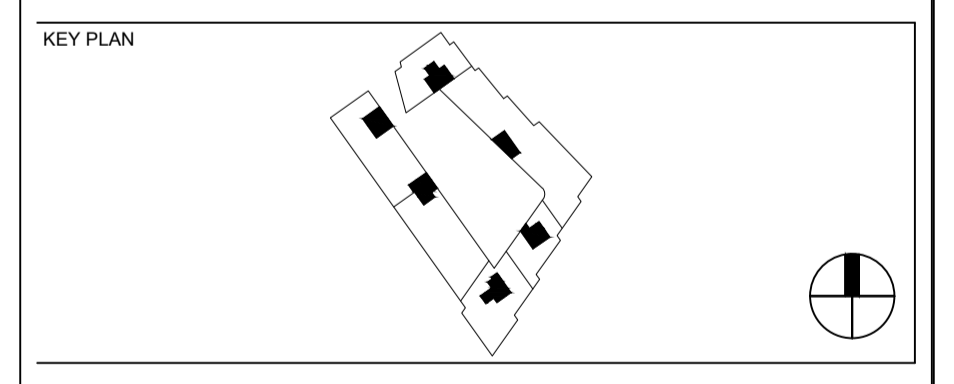


- Notes**
- This drawing is to be read in conjunction with all relevant architects, engineers and specialist drawings.
  - Blue Roof Rainwater Management System design and construction to Engineering Specification.
  - All work is to be carried out in accordance with the latest edition of Building Regulations, BS1 Codes of Practice and Local Authority requirements.
  - Stormwater attenuation/retention system shall be Permavoid pre-formed modular geocellular system with minimum 95% volumetric void ratio and minimum 52% effective perforated surface area. Units shall be manufactured with integral interlocking ties (Permaties) to maintain rigidity and minimise deflection.
  - Designs shall be based on sound structural calculations supported with clear laboratory test results and shall consider both collapse and unit deflection. Consideration shall also be given to the effect of unit deflection on the overlying surface materials. Permanent dead loads (including lateral loads) from overlying surfacing or structural elements shall be based upon the construction drawings. Live loading from vehicles and activities at the surface including maintenance shall be considered. Modular geo-cellular systems must be designed as structural components, using structural design theory in accordance with CIRIA Report C680.
  - Geocellular units to be encapsulated with geotextile (Note 5) and/or impermeable membrane (Note 6) in accordance with the Engineers specification. Units are to be installed in accordance with the manufacturer's recommendations.
  - The geocellular system shall be encapsulated with a hydrophilic geotextile suitable to provide separation, filtration between the geocellular layer and the overlying landscape finishes and shall also be compatible with and protect the underlying waterproof membrane system. The geotextile shall be laid with 300mm overlaps, and be applied to external surface surfaces of the Permavoid units as detailed on the Engineering drawing(s). Geotextile to be installed in accordance with the manufacturer's recommendations.
  - Waterproof geomembrane to be single layer cold applied robust welded flexible membrane suitable for waterproofing to structures and for water containment. Membrane to be nominal 1mm thick laid with minimum 120mm laps and welded seams. All welded seams shall be tested using appropriate non-destructive techniques such as air pressure testing of twin-wedge welded seams, air lance testing or similar. Geomembrane to be installed in accordance with the manufacturer's recommendations. The whole area of the installed membrane shall be visually inspected and tested using appropriate techniques such as dialectic testing or similar.
  - Multi-layered Permavoid tank configurations shall be fixed with proprietary shear connectors between each vertical layer to maintain rigidity and minimise lateral displacement. Shear connectors to be installed in accordance with the manufacturer's recommendations.
  - Permavoid units shall generally be laid with zero falls unless notes otherwise and laid on a prepared even formation that shall be free from undulations, sharp steps or protrusions. The formation shall achieve a maximum deflection of 5mm in 3.0m in any direction. The formation shall be inspected by the Engineer and installing contractor to ensure acceptability for the construction of Permavoid.
  - The installer shall ensure that all expected temporary construction loads have been considered as part of the structural design. Any load additional/unplanned to that considered as part of the structural design shall be immediately brought to the attention of the Engineer. All necessary precautions shall be taken to prevent the overloading of the geocellular structure.
  - Proprietary flow control rainwater outlets shall be provided to suit the roof finish and these shall connect to the internal/external gravity rainwater pipework system installed by others. Flow control outlets shall be sized to suit the required attenuation/retention application and be located where indicated in the Engineering drawings.
  - All attenuated roof areas shall incorporate raised overflow outlets and/or warning pipes where indicated in the Engineering drawings.
  - All dimensions are in millimetres unless otherwise stated.
  - Do not scale from this drawing. If in doubt ask.
  - Should there be any conflict between the details indicated on this drawing and those on other drawings the Engineer should be informed PRIOR to works proceeding on site.
  - Until technical approval has been obtained from the relevant Authority, it should be understood that all drawings are PRELIMINARY and NOT FOR CONSTRUCTION.
  - At all times the works are to be executed in accordance with the requirements of the Health and Safety at Work Act 1974 and current CDM Regulations.
  - Copyright in this document belongs to The Environmental Protection Group Ltd & all rights in it are reserved by the owner.
  - No part of this drawing may be copied, transferred, or made available to users other than the original recipient, including electronically, without prior permission from The Environmental Protection Group Ltd.
  - Builders work elements, including manhole covers, surrounds, pipe surrounds, etc are by others.

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A	13.2.19	FIRST ISSUE	PW	PW	JR	PC

CLIENT LOGO

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DRAWING TITLE

Phoenix Place, Phase 1 Mount Pleasant

Blue Roof Attenuation Proposals  
General Arrangement

Designed by	Name	Signature	Date
	P. Williams	GR	01.12.17
	P. Williams	GR	08.05.18
	J. Roberts	MG	08.05.18
	P. Culleton		---

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FIRST ISSUE DATE	12/02/2019	PROPOSED STATUS	FOR REVIEW

PROJECT	ISSUER	AREA	LEVEL	TYPE	TRADE	SEQUENCE	REV
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