

HGH Consulting
45 Welbeck Street
London W1G 8DZ

Date: 6th May 2021
Reference: L2466

Attention: Alfie Yeatman

Dear Alfie,

Bridge House, Oxford Road, Uxbridge UB8 1HS

I confirm that the method used to store and control surface water discharge is detailed on PJCE drawing BHR-PRJ-XX-00-DR-C-07000 rev C2. This drawing was embedded in my letter of 26th of April 2021. I attach copy of this letter and an A3 copy of the drawing.

The design includes an attenuation tank with a flow control unit to restrict the flow to 2.0l/s discharge. The attenuation tank has a storage volume of 178m³ and includes a Permavoid biomat, for hydrocarbon treatment.

The green / blue roof was omitted due to structural loading requirements on the building and the attenuation tank was proposed due to the lack of space for a bioretention pond. The bioretention pond would be a superior SuDS solution but cannot be accommodated due to the services traversing the site and electrical substation location. The site is also restricted by the access roadway that services other facilities on the site.

This attenuation tank method of storage facilitates discharge of the surface water to the River Colne and is a suitable method of sustainable urban drainage ie, discharge direct to a surface water body (river).

The note below is extracted from drawing BHR-PRJ-XX-00-DR-C-07000 rev C2:

Surface Water Attenuation :

The contractor shall supply and install the surface water attenuation system as shown on the drawing, refer to drawing numbered L2466-C-701, the attenuation shall comprise a system of below ground cellular storage crates wrapped within an impermeable membrane, Geotextile Permafilier and Permavoid biomat, for hydrocarbon treatment. To achieve a gross volume of 178m³.

A Flow control unit shall be installed on the outlet of the attenuation system to restrict the flow to 2.0 l/s as shown on drawing No. L2466-C-52-701

The Contractor shall establish that the existing storm water attenuation system and petrol interceptor. Meets the following criteria:

- 1- The storage volume 178m³.
- 2- The components have a useful life of 60 years.

Yours sincerely

Sean Pringuer-James
(for Pringuer-James Consulting Engineers Ltd)

HGH Consulting
45 Welbeck Street
London
W1G 8DZ

Date: 26 April 2021
Reference: L2466

Attention: Alfie Yeatman

Dear Alfie,

Bridge House, Oxford Road, Uxbridge UB8 1HS

Thank you for your email regarding the drainage strategy at Bridge House and your confirmation that the discharge rates are considered acceptable, as the statement below.

"The Council's Flood and Water Management Officer has reviewed the submitted details and stated that the proposed discharge rates are considered acceptable, however it is not clear that this is the most sustainable design, and that more sustainable options cannot be included. Are you able to provide additional information clarifying this point?"

You requested confirmation that the current drainage proposal complies with the sustainable urban drainage hierarchy. I respond below:

The Hierarchy of Drainage

The National Planning Practice Guidance details the hierarchy of drainage for sustainable urban drainage with the aim to discharge surface water run-off as high up the drainage hierarchy, as reasonably practicable:

1. into the ground (infiltration);
2. to a surface water body;
3. to a surface water sewer, highway drain, or another drainage system;
4. to a combined sewer.

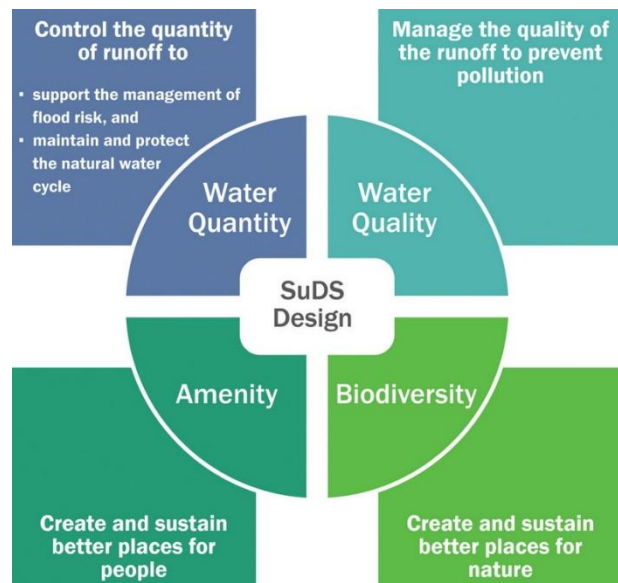
Ground Infiltration

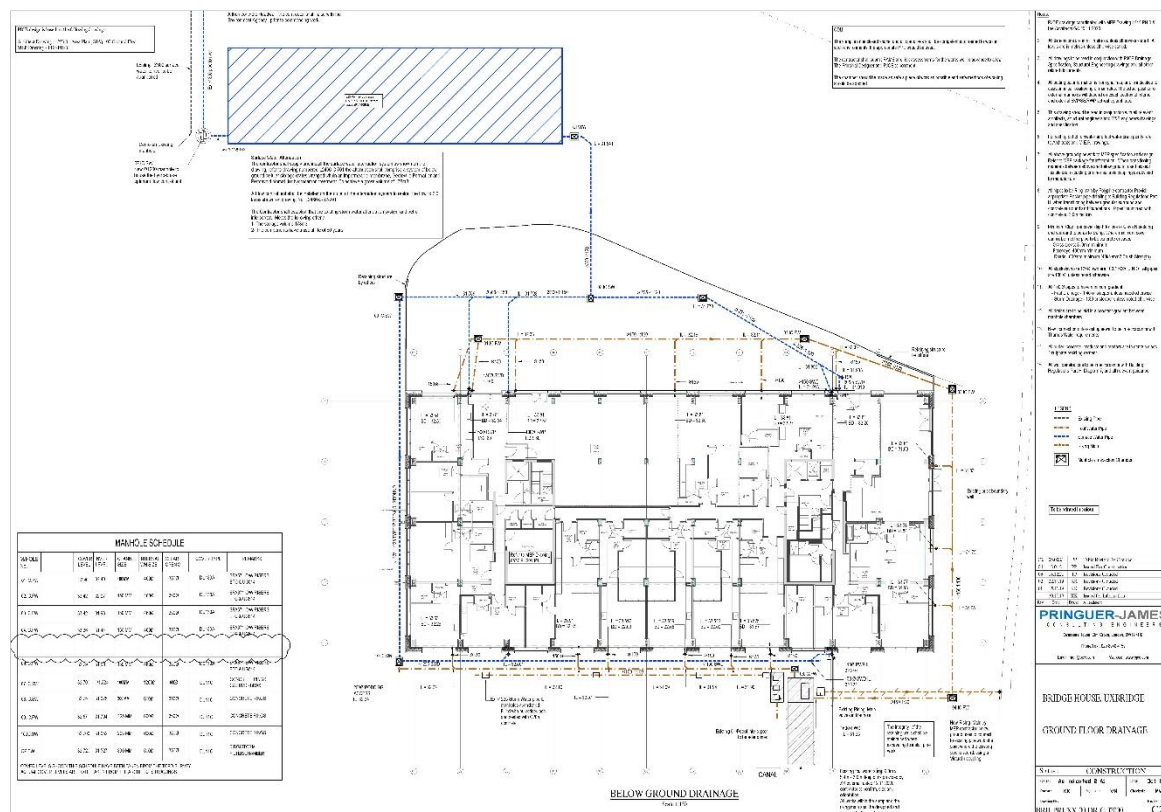
Ground infiltration tests for deep borehole surface water discharge have been undertaken on the site and has shown the scheme to be unviable.

Surface Water Body

The site is straddled by the River Colne, in the north and the Canal in the south. The most appropriate discharge for the surface water is to the adjacent River Colne.

The proposed surface water discharge is to the River Colne via a 178m³ attenuation with a permavoid biomat. This is detailed on drawing BRH-PRJ-XX-00-DR-C-07000, extract below.





Other discharge alternatives are as follows:

Surface Water Sewer or Combined Sewer

The discharge to other surface water sewers was considered but given the River Colne is immediately adjacent the site, this alternative was considered as lower on the National Planning Practice Guidance details the hierarchy of drainage and rejected.

I trust this clarifies the hierarchical process considered in preparing the current drainage discharge and that this meets with the Planning requirements.

Yours sincerely

Sean Pringuer-James
(for Pringuer-James Consulting Engineers Ltd)

PJCE design is based on the following drawings:
Architect Drawing - 1253-01-Area Plan (GIA) - 00-Ground Floor
MEP Drawing - 1424-PH-01

Althon concrete Headwall, the contractor shall liaise with the Environment Agency , prior to commencing work.

CDM
The sump is an enclosed space, and all operatives shall be competent and trained to work in such environments, the appropriate PPE should be used.
The contractor shall submit RAMS and risk assessments for the works well in advance to allow The Principal Designer and PJCE to comment.
The chamber should be made as safe a place of work as possible and safe methods of working should be adopted.

- Notes:**
- PJCE drawings coordinated with MEP Drawing 1242 PH-0 & the Architects GA 25.11.2020
 - All dimensions are in millimetres unless otherwise stated. All levels are in metres unless otherwise stated.
 - All drawings to be read in conjunction with PJCE Drainage Specification, Structural Engineering drawings and all other related documents.
 - All setting out information is from gridlines, and is indicative to assist in initial positioning of manholes. The actual position of external manholes will depend on exact location of internal and external SVP/SS/RWP set-out by architect.
 - This drawing should be read in conjunction with all relevant architects, structural engineers and M&E engineers drawings and specification.
 - For setting out of rainwater and foul water drain points refer to Architects and M.E.P. drawings.
 - All above ground pipework to MEP specification and design. Refer to MEP package for information. When transitioning materials between above and below ground, use Flexseal flexible drain coupling or other suitable coupling as advised by manufacturer.
 - All pipes to be Rigidrain by Polypipe contractor Provide appropriate Rocker pipe detailing to Building Regulations Part H, when transitioning between granular surround and concrete surround and foundations. Pipes haunched with concrete at 3.0m centres.
 - Minimum Clay Pipe cover depth for use of Class N bedding and surround to be as following. Where minimum cover cannot be met the pipe to be concrete encased.
-Grass areas: 300mm minimum
-Footways: 400mm minimum
-Roads: 600mm minimum (40kN/mm2 Crush Strength)
 - All stacks/svp are 1250 rwp are 100 /1500 U.N.O. All pipes are 100 Ø unless noted otherwise.
 - All 100 Ø pipes to have minimum gradient:
- Foul Drainage - 1:40 or steeper unless noted otherwise
- Storm Drainage - 1:80 or steeper unless noted otherwise
 - All drains are to be laid in a constant gradient between manhole chambers.
 - New connection onto existing sewer to be in accordance with Thames Water requirements.
 - All buried concrete products and mortars are to contain class 2 sulphate resisting cement.
 - All wall penetrations to be in accordance with Building Regulations Part H, Diagram 7, and all relevant guidance.

- LEGEND**
- Existing Pipe
 - Foul Water Pipe
 - Surface Water Pipe
 - Rising Main
 - Manhole / Inspection Chamber

To be printed in colour

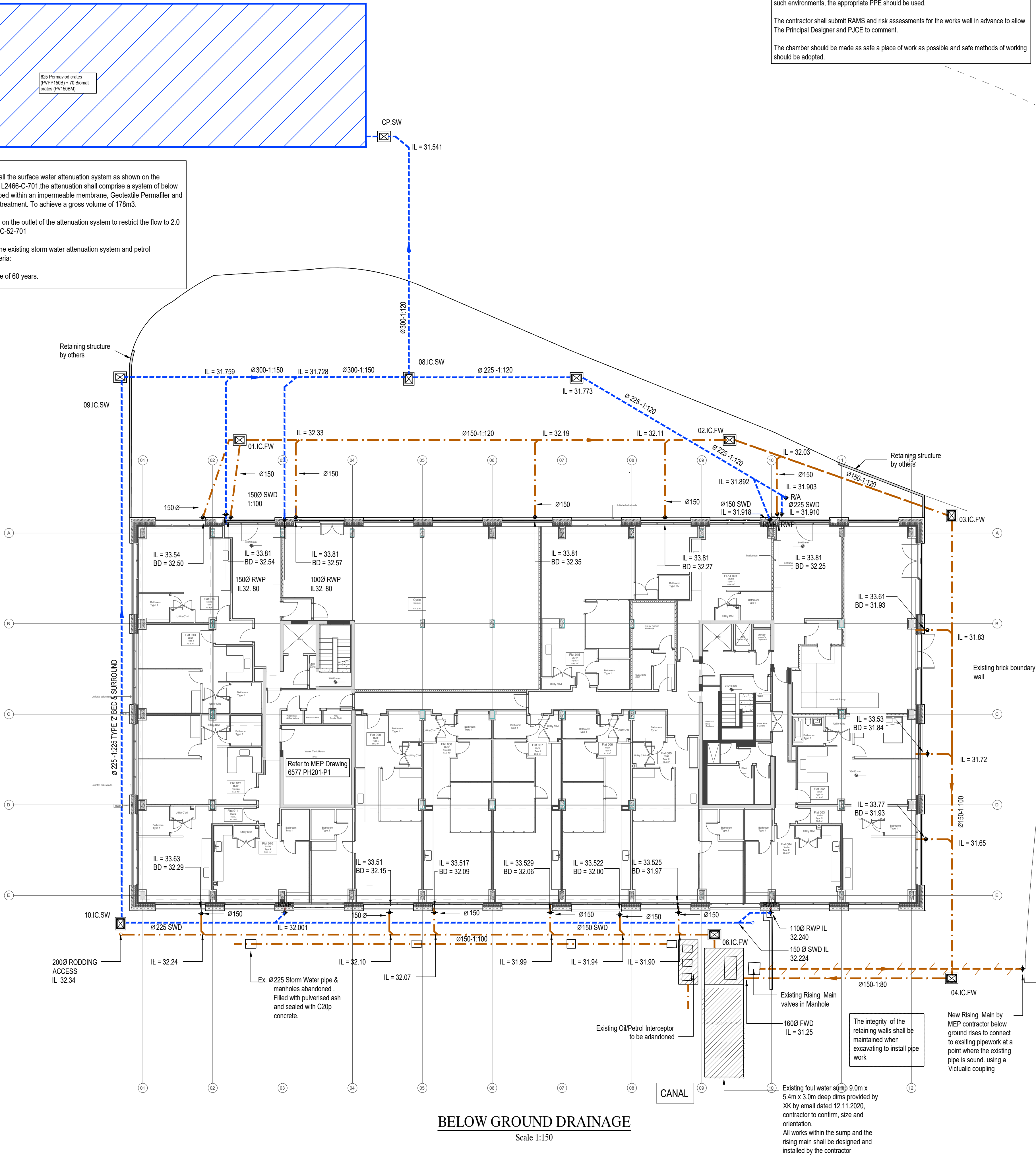
C2	26.02.21	PP	Table Revised As Clouded
C1	13.01.21	PP	Issued For Construction
03	18.12.20	TP	Revisions Clouded
02	22.11.19	KK	Revisions Clouded
01	15.11.19	KK	Revisions Clouded
-	30.10.19	KK	Issued for Information
Rev.	Date	Drawn	Amendment

PRINGUER-JAMES
CONSULTING ENGINEERS
Overseas House, Elm Grove, London, SW19 4HE
Phone/Fax : 020 8940 4159
Email : mail@pjce.com Website : www.pjce.com

BRIDGE HOUSE, UXBRIDGE
GROUND FLOOR DRAINAGE

Status :		CONSTRUCTION	
Scales : As indicated @ A1		Date : Oct 19	
Drawn : KK	Engineer : VM	Checked : M	
Drawing No.		Revision:	
BRH-PRJ-XX-00-DR-C-07000		C	

MANHOLE SCHEDULE							
M/HOLE No.	COVER LEVEL	INVERT LEVEL	CHANNEL SIZE	INTERNAL M/H SIZE	CLEAR OPEN'G	COVER TYPE	REMARKS
01.IC.FW	32.90	32.40	100 MM	460Ø	350Ø	DU130A	SFA671 C/W RISERS ETC & UG514
02.IC.FW	33.42	32.07	150 MM	460Ø	350Ø	DU130A	SFA671 C/W RISERS ETC & UG514
03.IC.FW	33.42	31.93	150 MM	460Ø	350Ø	DU130A	SFA671 C/W RISERS ETC & UG514
04.IC.FW	33.36	31.44	150 MM	460Ø	350Ø	DU130A	SFA671 C/W RISERS ETC & UG514
05.IC.FW	32.79	31.90	150 MM	460Ø	350Ø	DU130A	SFA671 C/W RISERS ETC & UG514
07.IC.SW	32.700	31.324	100 MM	1200Ø	600Ø	DU11C	CONCRETE RINGS C/W HYDRBRAKE
08.IC.SW	32.75	31.675	300 MM	600Ø	350Ø	DU11C	CONCRETE RINGS
09.IC.FW	32.67	31.794	225 MM	600Ø	350Ø	DU11C	CONCRETE RINGS
10.IC.SW	32.700	31.952	225 MM	600Ø	350Ø	DU11C	CONCRETE RINGS
CP.SW	32.720	31.527	300 MM	600Ø	350Ø	DU11C	RIDGISTORM FILTER/CHAMBER
COVER LEVELS SHOWN THIS SCHEDULE HAVE BEEN TAKEN FROM THE TOPO SURVEY ACTUAL COVER LEVELS ARE TO BE TAKEN FROM THE ARCHITECTS DRAWINGS.							



BELOW GROUND DRAINAGE
Scale 1:150