From: David McCormack
Sent: 21 May 2019 13:53
To: Hilary Saunders
Cc:
Subject: FW: 19183 - Hambleton Inn - Drainage Strategy

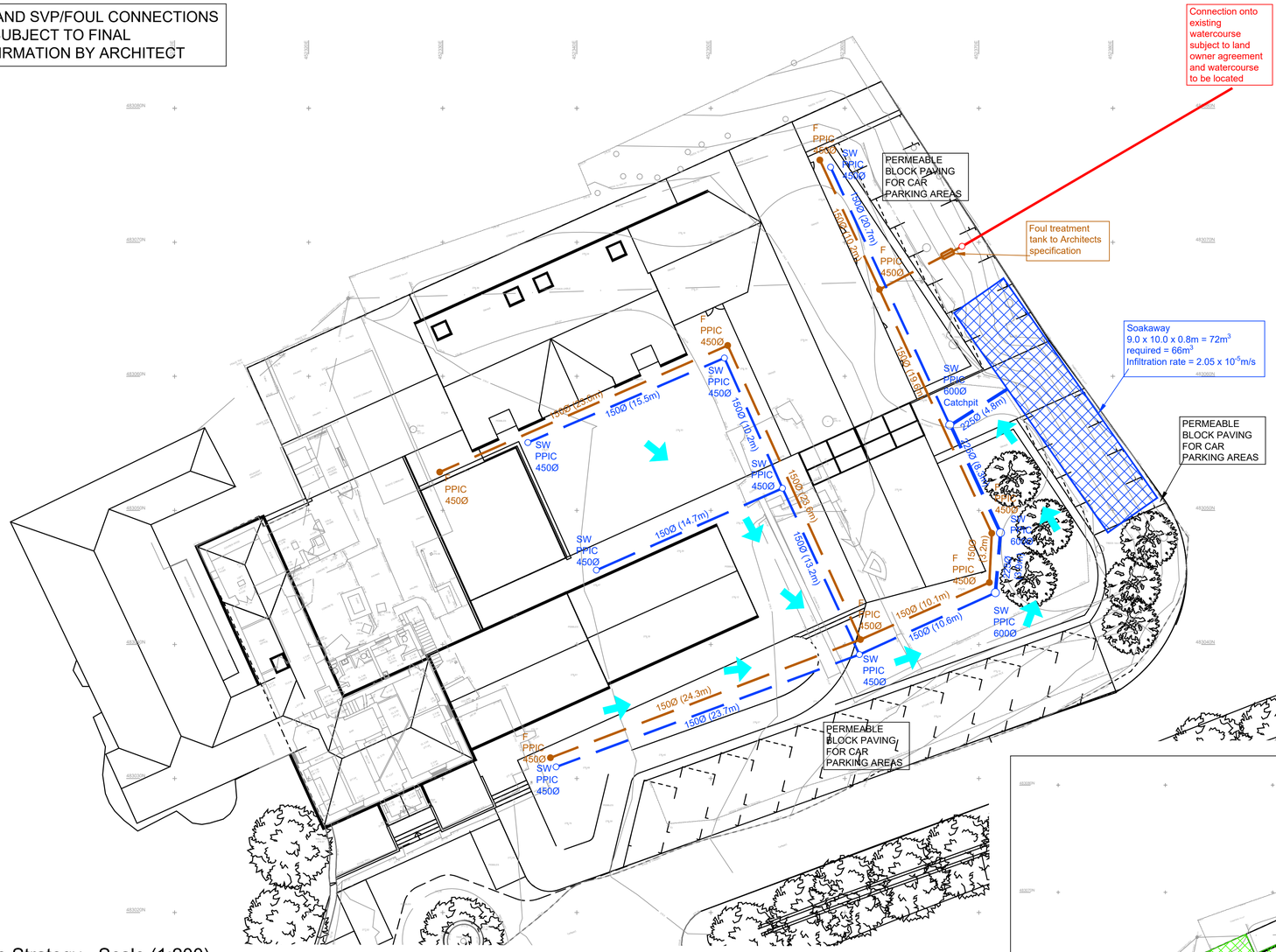
Dear Hilary

Please see attached our consulting engineers drainage strategy for the above.

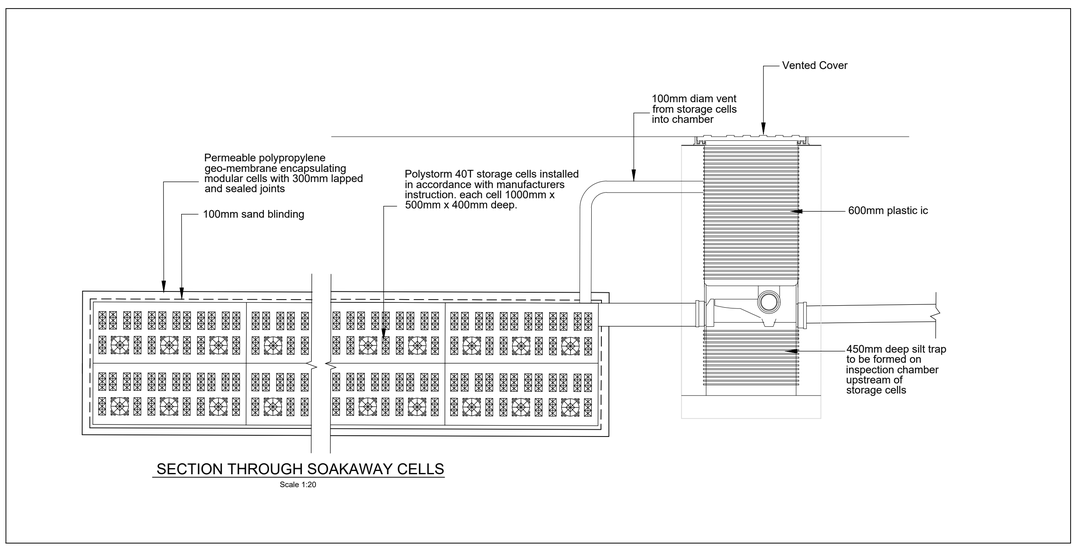
Kind regards,

David McCormack RIBA APMP
Director

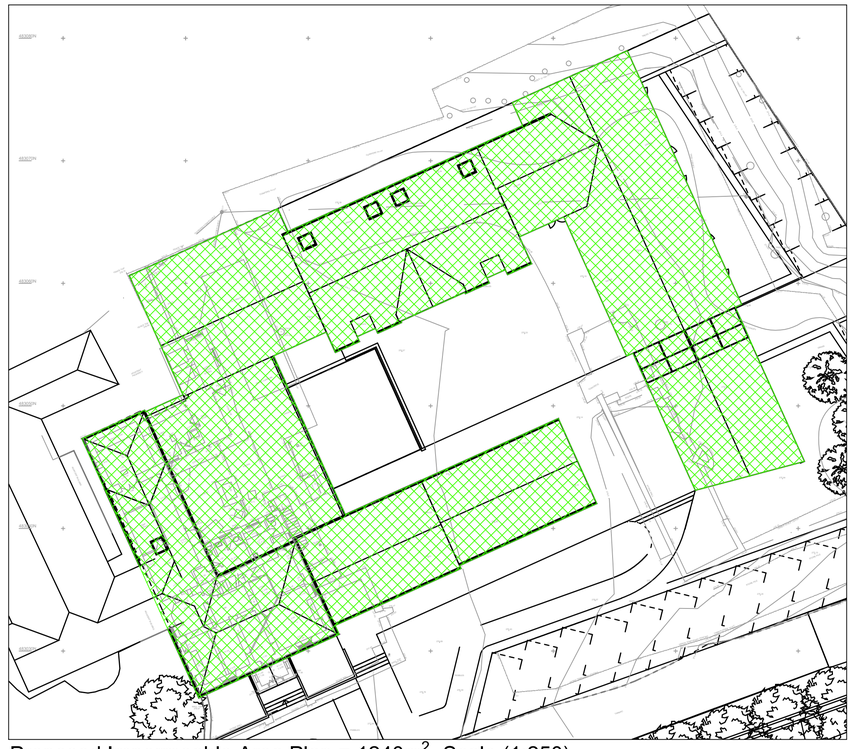
RWP AND SVP/FOUL CONNECTIONS ARE SUBJECT TO FINAL CONFIRMATION BY ARCHITECT



Drainage Strategy - Scale (1:200)



SECTION THROUGH SOAKAWAY CELLS
Scale 1:20



Proposed Impermeable Area Plan = 1240m^2- Scale (1:250)

Drainage Strategy

The site is located within flood zone 1 with a low risk of flooding from rivers or the sea and is less than 1 hectare, therefore a site specific flood risk assessment should not be required.

Under SuDs guidance the first point of discharge for surface water is percolation via soakaway. Percolation tests have been carried out on site and it can be confirmed that discharging via infiltration will be viable for this site. Please see Topping Engineers Percolation Report.

Surface water:

The site is Greenfield, with a total area of 2931m^2. The infiltration rate calculated on site is 0.0739m/hr.

The Proposed impermeable area is 1240m². Based on an infiltration rate of 0.0739m/hr and modeling using Micro Drainage software the attenuation requirement for a peak return period of 1 in 100 year storm plus 30% allowance for climate change maximum volume is **66.0m³.**

Attenuation will be provided via **Soakaway 9.0m x 10.0m x 0.8m depth (72.0m³).**

Foul Water:

Foul flows are proposed to be treated on site and then discharge into a nearby watercourse subject to a third party agreement.

DO NOT SCALE OFF THIS DRAWING

Notes:

1. This drawing is to be read in conjunction with all relevant architect's and engineer's drawings.

2. It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Key

- Proposed Surface Water Drainage
- Proposed Foul Water Drainage
- Proposed Combined Drainage
- Flood Route for Exceedance

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21/05/2019

No.	Revision	Date	Drwn
Status	PRELIMINARY		

TOPPING ENGINEERS
CONSULTING CIVIL & STRUCTURAL ENGINEERS
Aire House 12 Victoria Avenue Harrogate HG1 1ED

Client: Studio Maps

Project: Hambleton Hotel

Drawing title: Drainage Strategy

Drawn	Chkd	Date	Scale
TA	AD	May 2019	As Shown @ A1

Contract No.	Drg No.	Revision
19183	0100	-

19183 – Hambleton Hotel

Surface and Foul Water Drainage Maintenance and Management Schedule:

Filter Drains

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Remove litter (including leaf litter) and debris from filter drain surface, access chambers and pre-treatment devices	Monthly
	Inspect filter drain surface, inlet and outlet pipework and control system for blockages, clogging, standing water and structural damage	Monthly
Occasional Maintenance	Remove to control tree roots where they are encroaching to sides of filter drain using recommended methods (NJUG, 2007 or BS 3998:2010)	As necessary
	Clear perforated pipework of blockages	As necessary

Soakaway

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Inspect and identify areas that are not operating correctly. If required, take remedial action	Monthly for the first 3 months of operation then annually
	Recover debris from catchment surface area where it may cause risk to performance	Monthly
	Remove sediment and debris from pre-tank system	Annually
Remedial Actions	Repair inlets/outlets/vents/overflows	As necessary
Monitoring	Inspect all inlets/outlets and upstream drainage system to ensure they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment and build up and remove if necessary	Every 5 years

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Sewers

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Remove litter (including leaf litter) and debris from filter drain surface, access chambers and pre-treatment devices	Monthly
	Inspect filter drain surface, inlet and outlet pipework and control system for blockages, clogging, standing water and structural damage	Monthly
Occasional Maintenance	Remove to control tree roots where they are encroaching to sides of filter drain using recommended methods (NJUG, 2007 or BS 3998:2010)	As necessary
	Clear perforated pipework of blockages	As necessary

Foul Treatment Tank

Maintenance Schedule	Required Action	Frequency
Regular Maintenance	Remove sediment and debris from the treatment tank	Monthly for first 12 months then 6 monthly
	Visual inspection for performance	6 monthly