

Ian Black Consulting Ltd



Consulting Structural & Civil Engineers

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Our ref: 1315/IB/RMcL

17 October 2014

FAO: Denver McGowan
Graham Construction
Ballygowan Road
HILLSBOROUGH
Co Down
BT26 6HX

Dear Denver

RE: SOAS – INSTALLATION OF RAINWATER HARVESTING, TEMPORARY WORKS

We have reviewed the documents available to us which are:

- RWHT Temp Works 2
- 28731 – SOAS-S-DET-SKE-XX-005
- 28731 – SOAS-S-DET-SKE-XX-006
- 28731 – SOAS-S-DET-SKE-XX 500_C1

A copy of these documents accompanies this letter.

We are satisfied that the proposals should not, when properly executed, cause structural distress to the existing building. We would recommend that vibrations be monitored during the works and that a maximum peak particle velocity (PPV) of 5mm/sec should be adhered to.

If you should have any concerns or queries regarding this matter, please do not hesitate to contact the undersigned.

Yours sincerely
IAN BLACK CONSULTING

Ian Black
Managing Director

Encs

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Introduction

The rainwater harvesting tank is proposed to be located within the interior courtyard. The stability of this new tank structure was a main design consideration as, due to the historic nature of the existing building, it is not possible to connect it back to this building.

The tank is a prefabricated type placed below the lower ground floor level and surrounded by concrete. The tank is hung from the slab which is supported by new in-situ concrete piles. The maximum depth of the tank and the surrounding concrete is 3.0 m below the slab level.

The proposed placement of the tank corresponds to the position of one of the crane bases that was removed during the enabling/demolition works.

The existing building foundations are designed as pile caps supported by piles driven into blue clay. Below is an excerpt from the "Structural Engineer" magazine, from May 1935, describing the foundation system:

It must be appreciated that this building is one which falls into the category of those buildings which are to have a life of long service, as in the case of the older Universities, and of buildings of national importance, having a monumental character, and this has been realised at every point in the design. It was decided, therefore, that the building must be founded in the bed of the blue clay, and not on the overlying ballast, since in the latter case a drop in the water level for any considerable length of time would tend to cause unequal settlement. The decision was reached that the best and most economical method to use would be to found the building on piles driven well into the blue clay, and consequently this method has been adopted.

In the temporary condition

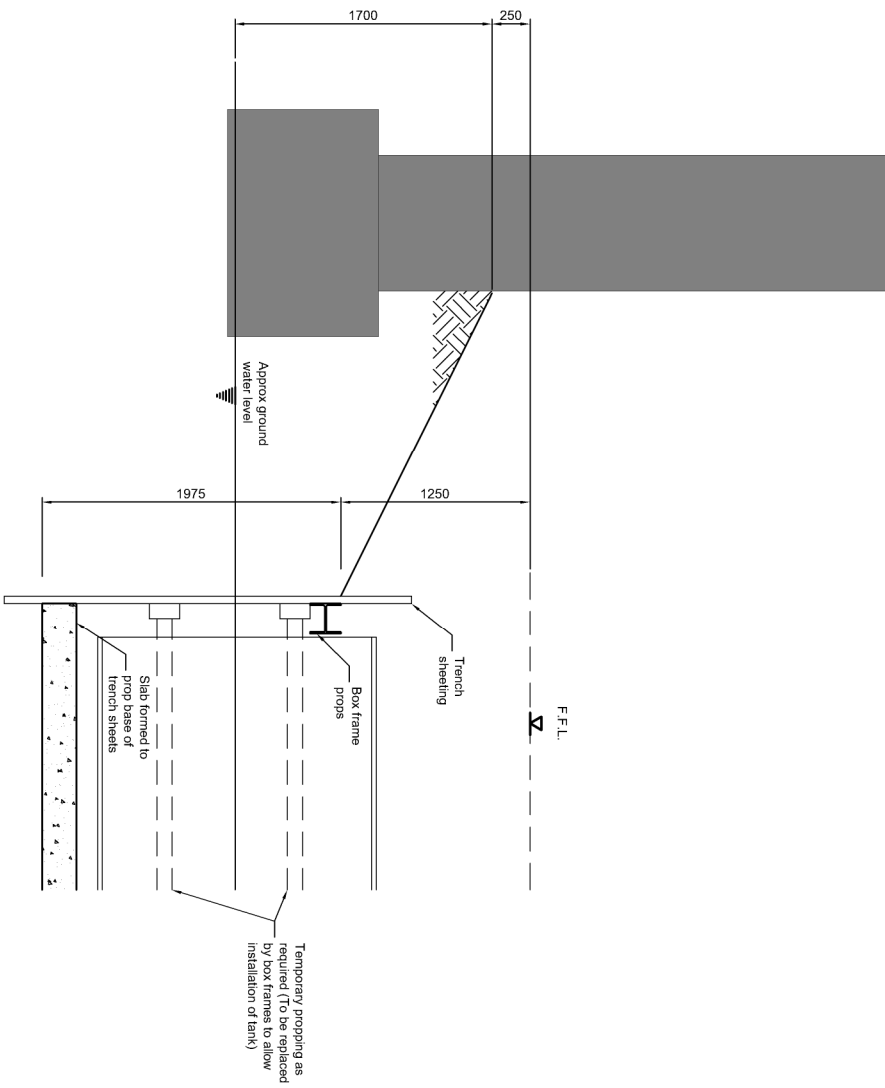
The proposed tank enclosure and the tank itself will be constructed inside the courtyard. It was designed so that the stability of the existing structure is not compromised as is shown on the temporary works drawings and method statements.

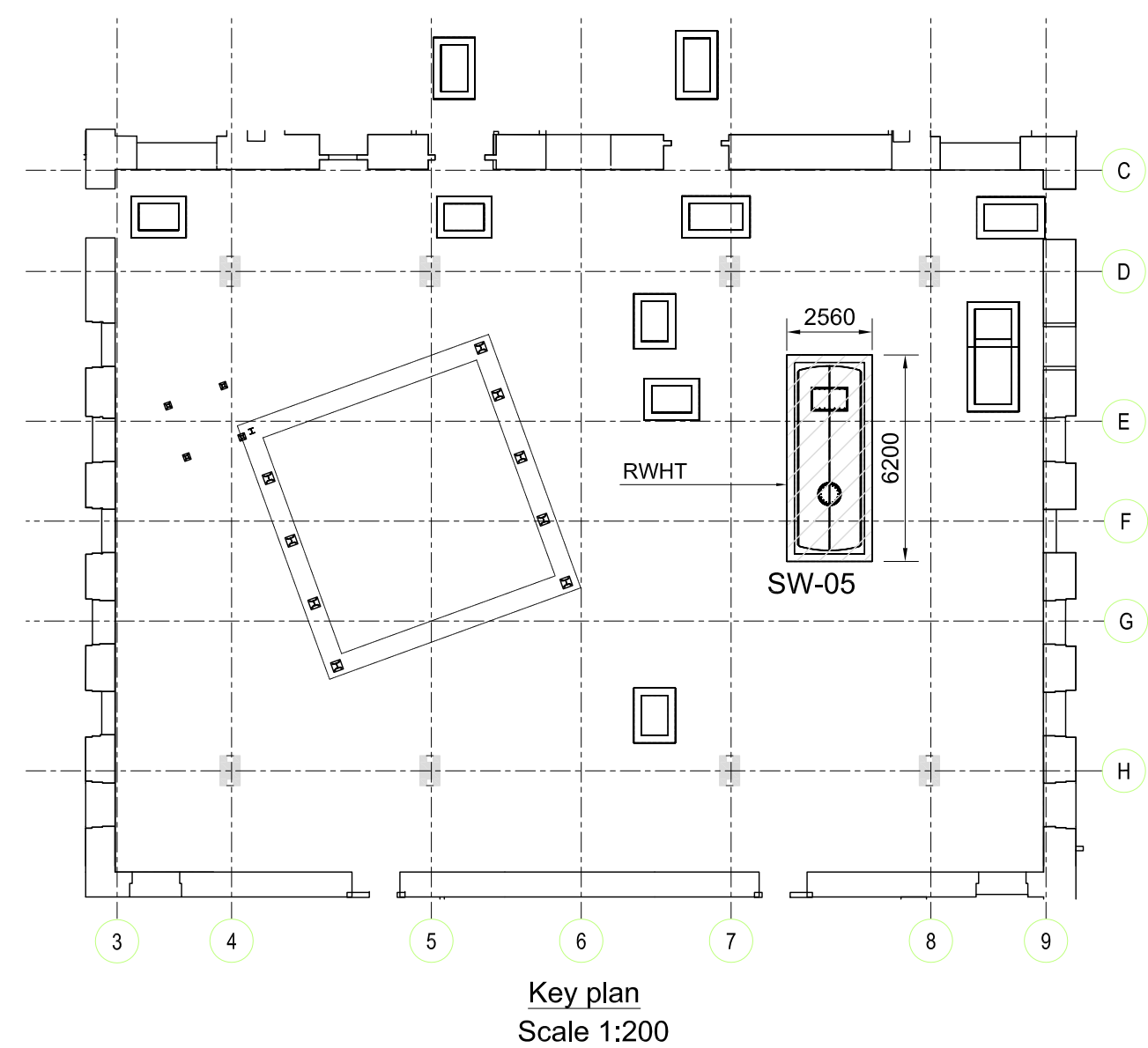
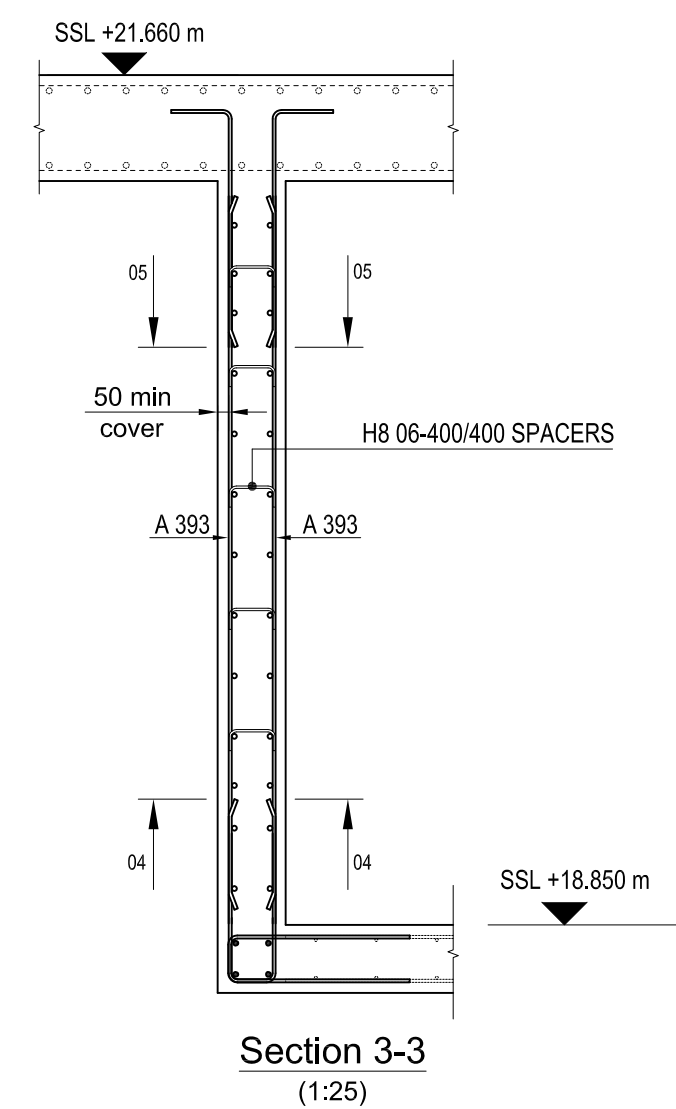
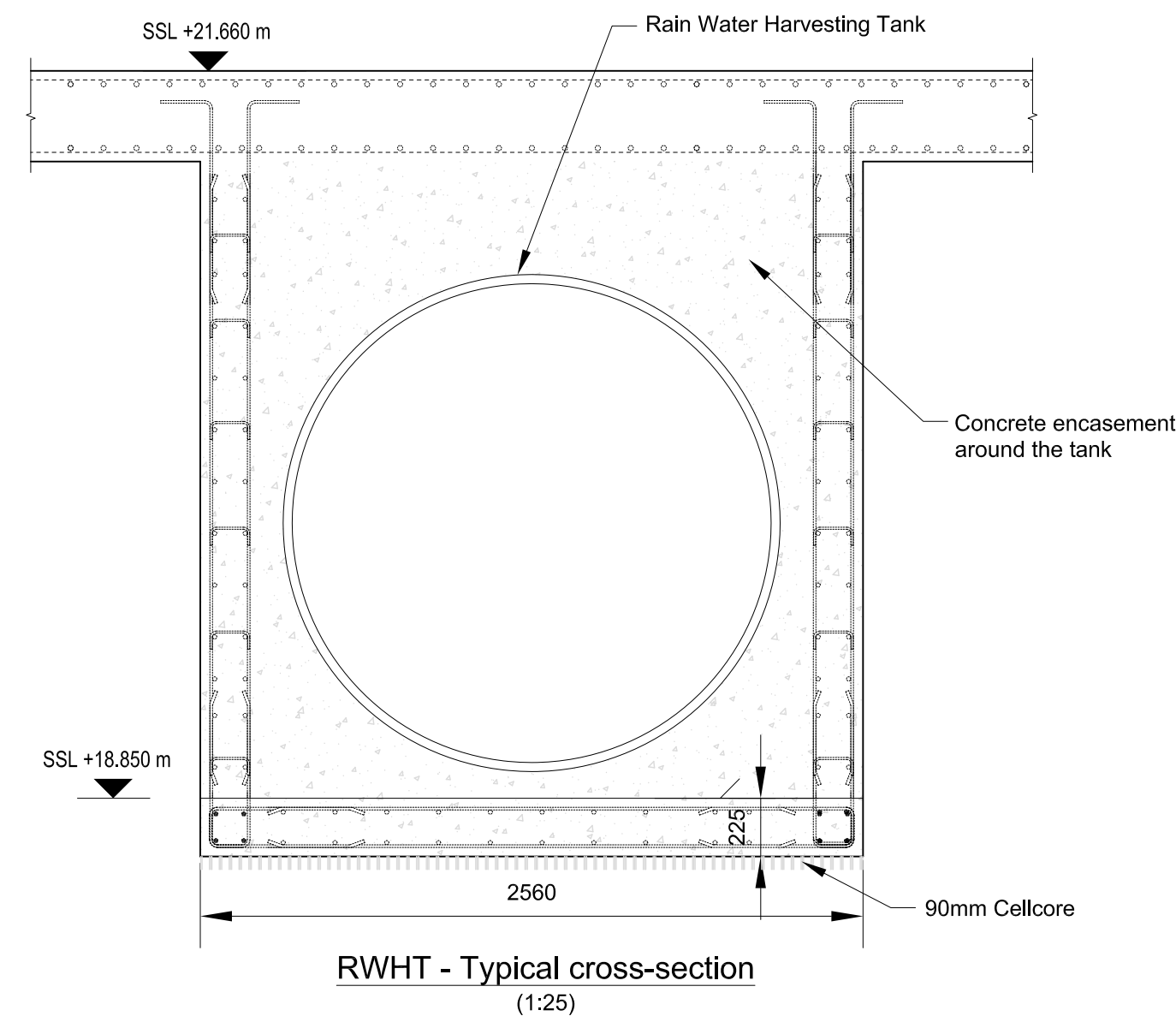
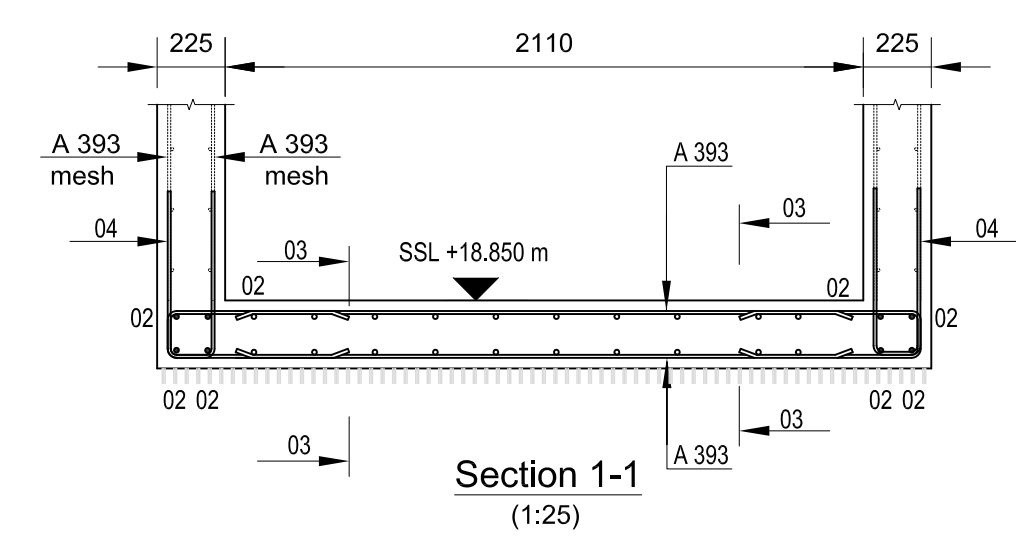
The formation level for the tank enclosure will be supported by trench sheeting. The sheeting will be propped laterally. The shores stability will be ensured by cut-and-fill excavation with a slope of 1:2. This will not impose any action nor undermine the existing structure as this is supported by piles at approximately 15m below the foundations level. Detailed method statements will need to be produced by the contractor.

In the permanent condition

The tank will be hung from the slab and the slab supported by the new concrete piles. The level of the new piles will be almost the same level as the existing piles. In this way, there is no surcharge or lateral action upon the existing building due to the loads generated by the proposed tank and the structure around it.

Moreover, the tank is being placed in the same area where the crane base was placed. The dimensions and weight of the proposed tank are smaller than the now removed crane base which was used during the construction of the building. This crane base was not supported by piles but was ground bearing. The tank, being independently supported on piles, will not have any impact on the existing building, foundations or piles.



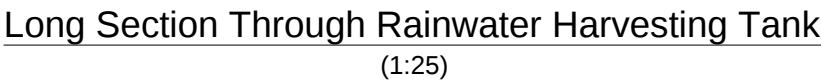
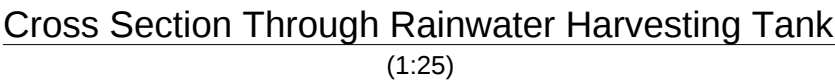


Cover c=35mm -bottom U.N.O.
50mm - side U.N.O.
25mm - top U.N.O.



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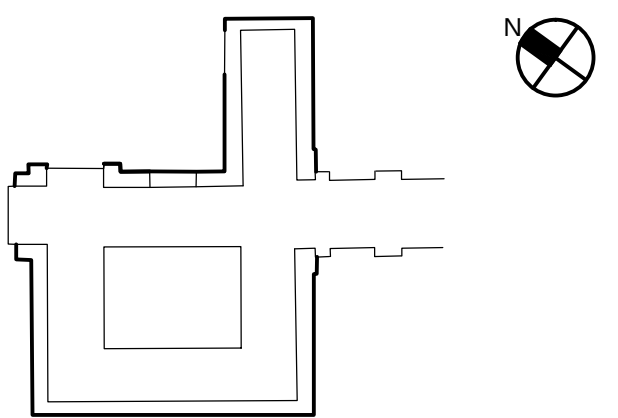
UNRESTRICTED



NOTE
These sections are indicative and for information only. The Design of all temporary works is by Graham Construction

For notes refer to drawing 28731-SOAS-S-DET-GEN-XX-401

KEY PLAN



PROJECT STATUS INFORMATION



PROJECT TITLE

SOAS INTO SENATE HOUSE
MALET STREET
LONDON, WC1E 7HU

DRAWING TITLE

SOAS
RAIN HARVESTING TANK
TEMPORARY WORKS SKETCH

PROJECT NO.	DRAWN BY		MPF	DATE	08/14
28731	CHK BY		AD	DATE	09/14
	APPD BY		DATE		
PROJECT CODE	DISC.	VIEW TYPE	VIEW CAT.	LEVEL	DWG. NO.
SOAS - S		DET - SKE		XX	005
SHEET NO.	SCALE		ORIG. SHEET SIZE	REV.	
1 of 1	1: 25		@ A1	C 1	

INFORMATION HANDLING CLASSIFICATION

UNRESTRICTED

Significant Unusual Health and Environment Information	
The significant unusual hazards / risks associated with the type of work are noted as:	
CONSTRUCTION	
C1	CDM 36
01H	Coynard Infill
	NONE
OPERATION AND MAINTENANCE	
C1	NONE
01H	NONE
DISMANTLING/DEMOLITION	
C1	CDM 32
01H	Demolition of existing structure
	NONE

NOTE: - TO BE READ IN CONJUNCTION WITH RISK REGISTER

For notes refer to drawing 28731-SOAS-S-DET-GEN-XX-40*

[illegible]

				155 Moorgate, London, EC2M 6AB www.imacegroup.com		PROJECT TITLE SOAS INTO SENATE HOUSE MALET STREET LONDON, WC1E 7HU		DRAWING TITLE SOAS RWHT TEMPORARY WORKS SECTION SKETCH		PROJECT NO. 28731		DRAWING NO. M/F 08/14		PROJECT CODE DISC. / VIEW TYPE / TERN/CAT. / LEVEL / DWG. NO. SOAS - S - DET - SKE - XX - 006		SHEET NO. 1 of 1		SCALE 1 : 25		CORR. SHEET SIZE / REG. @ A1 C 1		INFORMATION AND CLASSIFICATION UNRESTRICTED	
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