

11th August 2022

DOVER DISTRICT COUNCIL

KEARNSEY ABBEY AND RUSSEL GARDENS – ORNAMENTAL POND SLAB INVESTIGATION

JOB REFERENCE: L/2673/22/WDT



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Contents

1.0	INTRODUCTION	3
2.0	SITE WORKS	3
2.1	Ground Penetrating Radar (GPR) Survey	3
3.0	RESULTS	3
3.1	On Site Testing Results	3
4.0	DISCUSSION	3
4.1	Ground Penetrating Radar (GPR) Survey Discussion	4
5.0	QUALITY STATEMENT	4
	APPENDIX A	5
	APPENDIX B	7
	APPENDIX C	10

1.0 INTRODUCTION

Further to your order, Henderson Thomas Associates Limited (HTA) carried out site Ground Penetrating Radar (GPR) to the ornamental pond situated inside Kearsney Abbey and Russel Gardens.

The purpose of the visit was to determine the presence of any voidage beneath the pond base slab.

A previous site visit had been carried out in November 2017, and the purpose of this visit was to ascertain the exact degree of degradation of the slab and the perceived voidage beneath said slab.

This report presents the findings of the site works.

2.0 SITE WORKS

Site works were carried out by a 2-person team from HTA, during the day on 2nd September 2022. All site testing and inspection works detailed in this report were undertaken by HTA.

2.1 Ground Penetrating Radar (GPR) Survey

A GPR survey was carried out using a Structure Scan Mini XT manufactured by GSSI. This was set at a dielectric value of 7.5 to allow detection and penetration of up to 500mm deep.

Due to the determined thickness of the slab (via coring during the last visit), producing actual slab thicknesses of between 150mm and 95mm, the instrument was set to a maximum penetration depth of 300mm, which make the instrument more sensitive to the detected voidage picked up on the previous visit.

Results can be found in Appendix A & B.

3.0 RESULTS

3.1 On Site Testing Results

All on site results and scans are given Appendices.

Site photographs are found in Appendix C.

4.0 DISCUSSION

The discussions contained herein are not covered by HTA's UKAS accreditation scheme. These discussions are based upon reference to published criteria and company experience in carrying out this type of work for over 20 years.

4.1 Ground Penetrating Radar (GPR) Survey Discussion

The GPR survey clearly shows that the extent of voidage detected beneath the slab to the pond had increased greatly over the past 5 years, in extent and additional areas detected. The subsidence of the slab does appear to be generally located along the area of the pond adjacent to the nearby road, and also located adjacent to drainage covers as observed on site.

Various options for repairs must now be sought in an attempt to halt any further determination of the slab and the ground beneath.

5.0 QUALITY STATEMENT

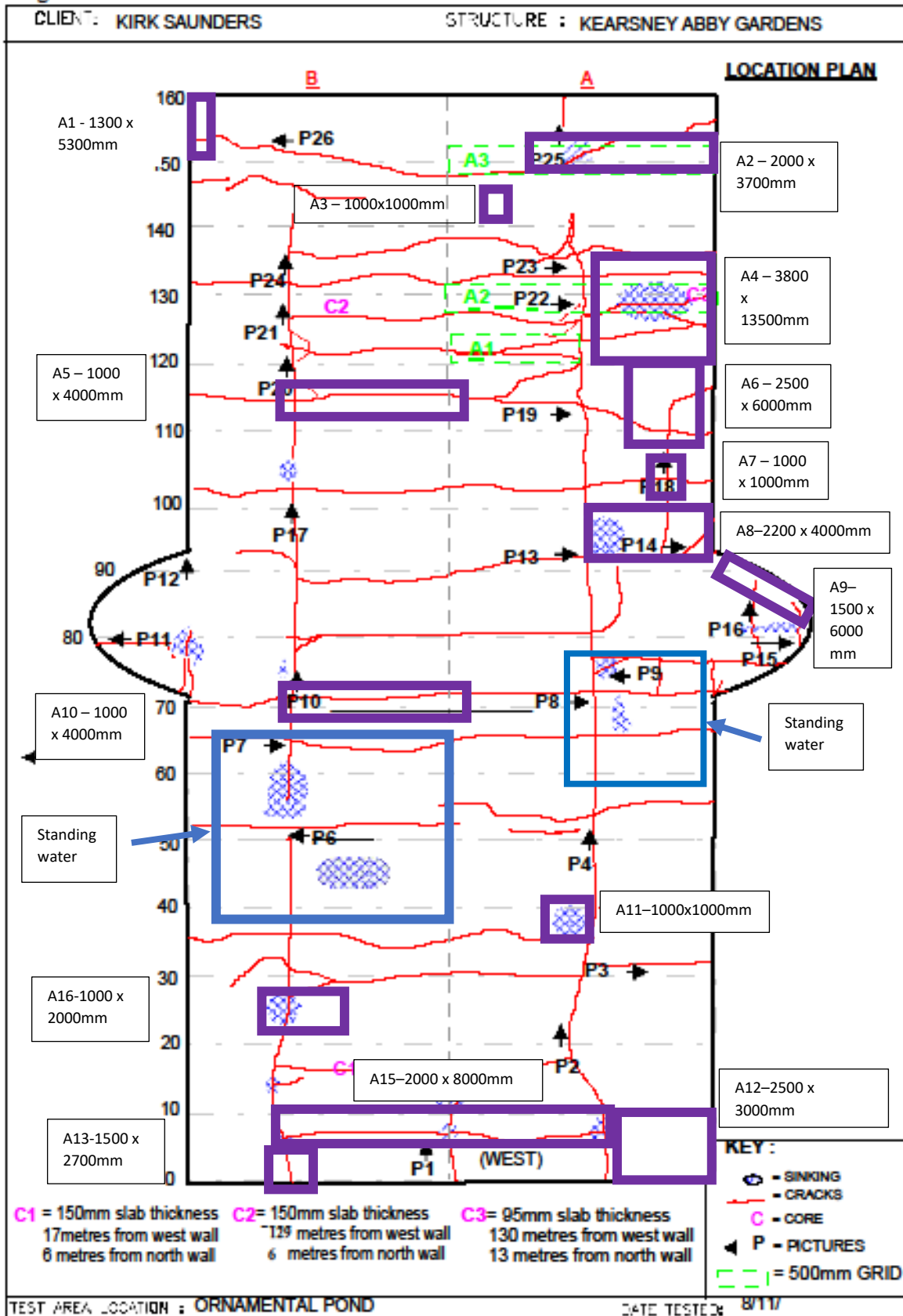
HTA Ltd. confirm that all reasonable skill and care has been exercised in the production of this report, however all comments relate only to the location at which data was acquired and no inference can or should be made to any other part of the structure.

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APPENDIX A

Record Drawings and Voidage Locations
Not to Scale

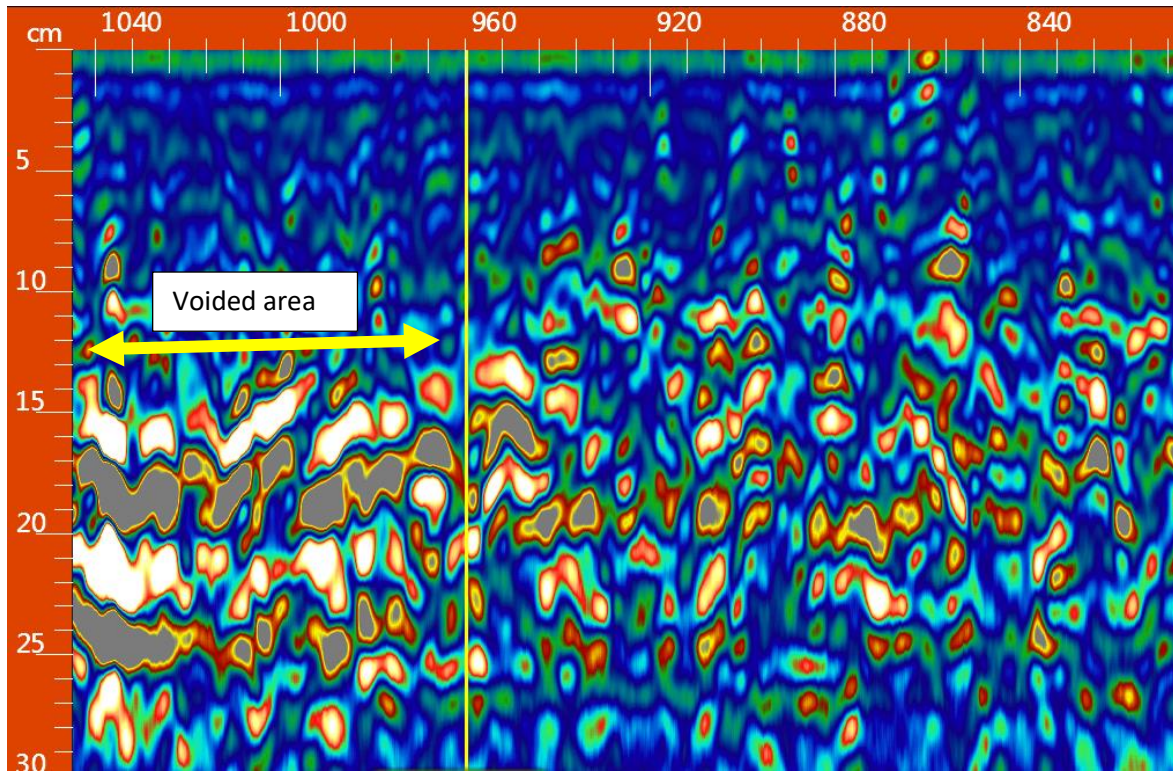
Fig 1



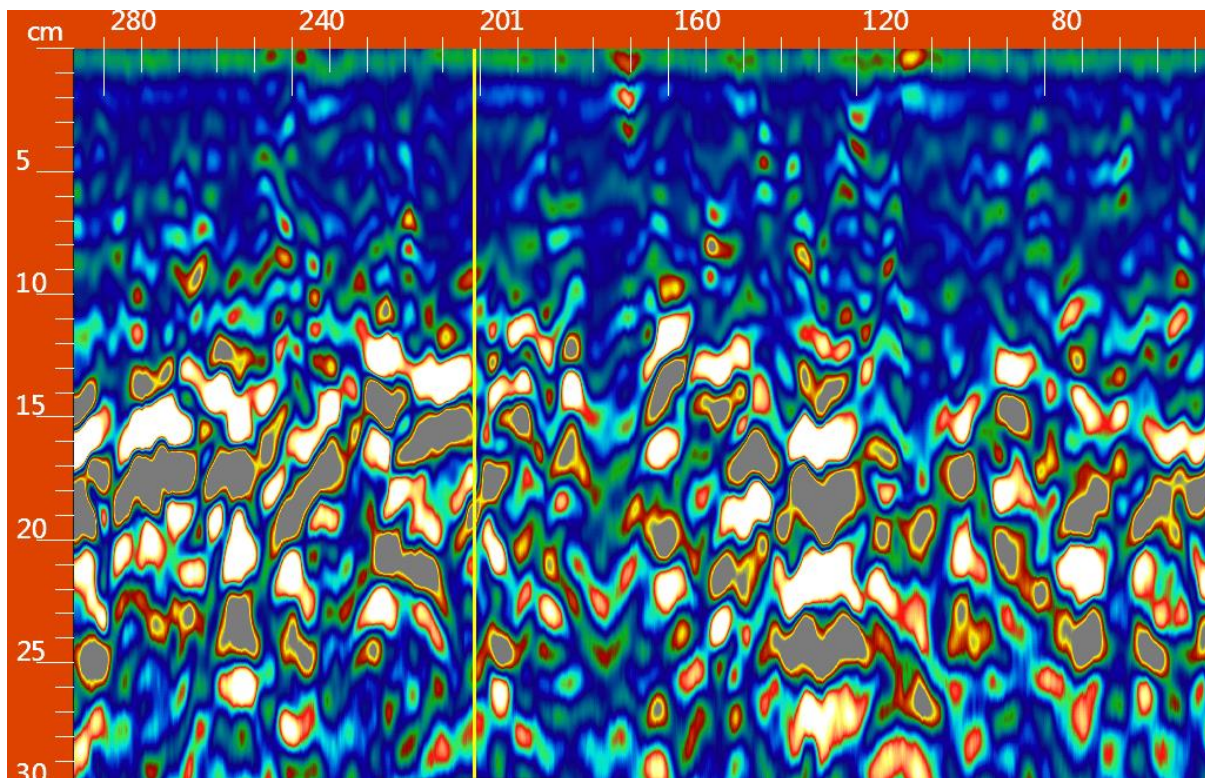
APPENDIX B

GPR Results

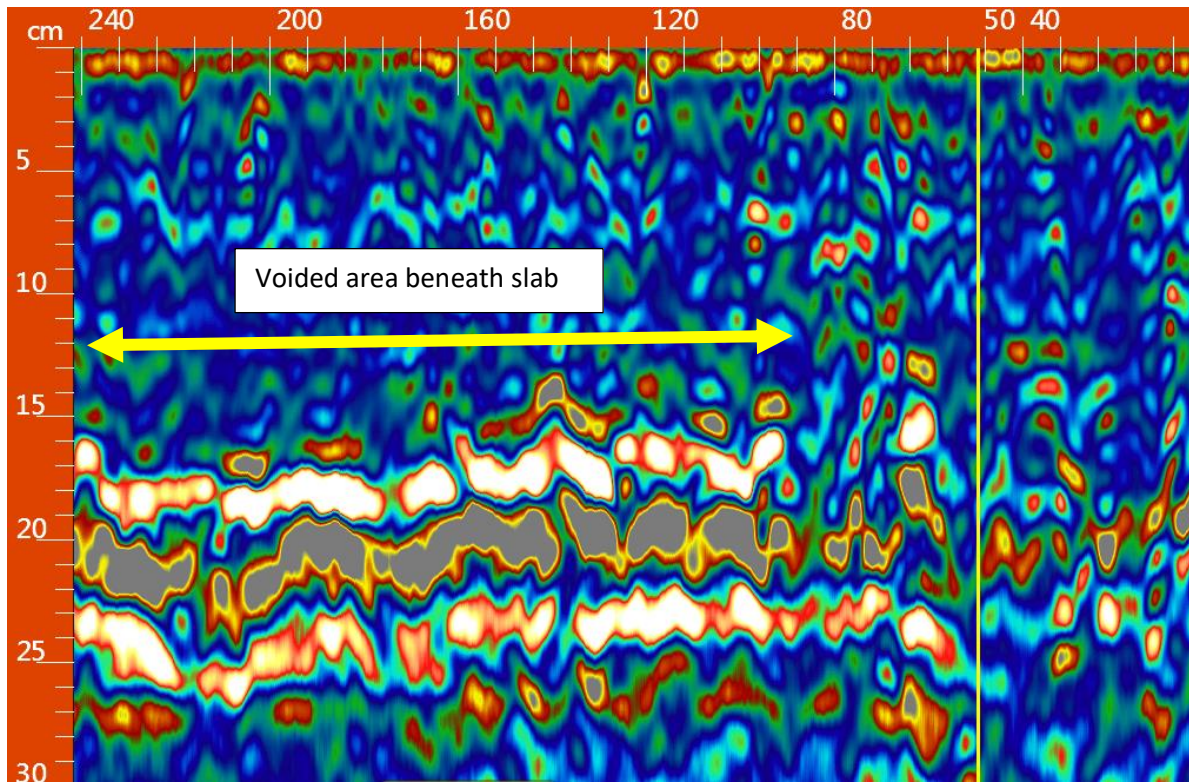
(Generic scans showing typical voidage present beneath slab)



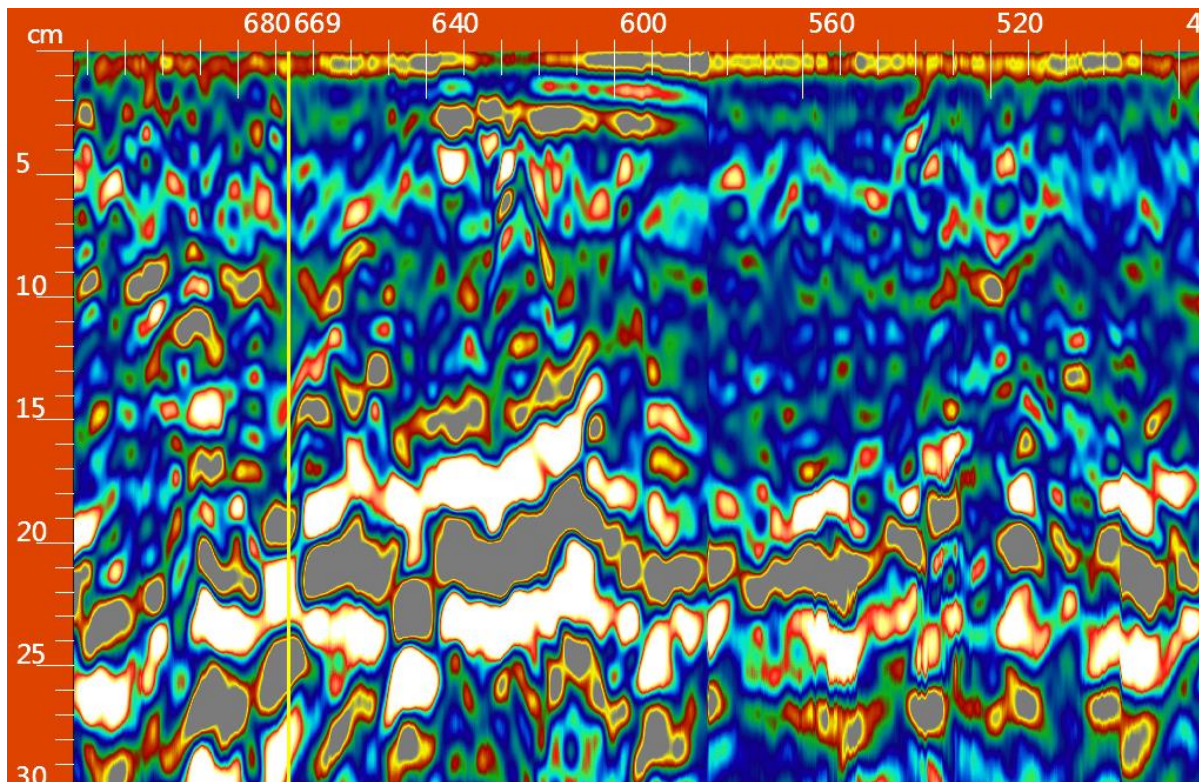
Scan 1 – Showing voidage to edge of area A4



Scan 2 – Showing full voidage beneath slab to the centre of area A4



Scan 3 – Showing voidage to area A1



Scan 4 – Showing full voidage beneath slab to area A9 adjacent to wall of pond.

APPENDIX C

Photographic Log



Plate 1 – View from upstream end of pond showing cracking and voided area A15.



Plate 2 – View to upstream end of pond showing voided area A12.



Plate 3 – Showing voided area to downstream end of pond at area A1.



Plate 4 – Showing voided area and failed slab to area A4.



Plate 5 – Voided area to slab at area A8.



Plate 6 – Voided area to slab at area A9, adjacent to pond wall.



Plate 7 – Voidage at wall / slab interface at area A9.



Plate 8 – General view to sinkage and voidage at area A4.



Plate 9 – Wash out and voidage at sinkage area to area A4.