

Our Ref: 21012

February 2021

43 SHEEN ROAD, RICHMOND TW9

STRUCTURAL STATEMENT

1.0 Introduction

- 1.1 Michael Chester & Partners have been appointed by the owners of 43 Sheen Road to carry out a Structural Impact Assessment of the subterranean works (SIA).
- 1.2 In the absence of specific guidance from Richmond Council this SIA follows the slope stability screening and scoping flow-chart format as recommended by Arup in their report "Guidance for Subterranean Development" which was prepared for London Borough of Camden. This is because it addresses quite clearly some of the pertinent issues with basement construction. It has, however, been supplemented with additional information as required by London Borough of Richmond Upon Thames "Good Practice Guide on Basement Developments".

2.0 Project Information

- 2.1 The site is located on the south side of Sheen Road, Richmond TW9 between Church Road and Paradise Road.
- 2.2 The existing property is a traditionally built four-storey mid terrace Georgian house. The proposals comprise the formation of a small bike storage area that will be cut in to the front garden at lower ground floor level and the construction of a single storey extension at the rear.

3.0 Questions arising from SIA Slope Stability Screening Flowchart

Following the flow chart for Slope stability the questions have been evaluated and the responses are as follows –

- Q1: Does the existing site include slopes, natural or man-made, greater than 7 degrees (approximately 1 in 8)?
- No. The site is essentially level.
- Q2: Will the proposed re-profiling of the landscaping at site change slopes at the property boundary level to more than 7 degrees (approximately 1 in 8)?
- No. The proposed levels around the building are to remain as existing.
- Q3: Does the development neighbour land, including railway cuttings and the like, with a slope greater than 7 degrees (approximately 1 in 8)?
- No.
- Q4: Is the site within a wider hillside setting in which the general slope is greater than 7 degrees (approximately 1 in 8)?
- No. The area is essentially level.

Q5: Is the London Clay the shallowest strata on the site?

The 1:50,000 Geology Survey of Great Britain indicates the site to be on the boundary of the Kempton Park Gravel Member and the London Clay.

Q6: Will any trees be felled as part of the proposed development and/or are any works proposed within any tree protection zones where trees are to be retained?

No.

Q7: Is there a history of seasonal shrinkage-swell subsidence in the local area, and/or evidence of such effects on the site?

No.

Q8: Is the site within 100m of a watercourse or a potential spring line?

No.

Q9: Is the site within an area of previously worked ground?

Unknown; a site investigation is required to confirm.

Q10: Is the site within an aquifer? If so, will the proposed basement extend beneath the water table such that dewatering may be required during construction?

No.

Q11: Is the site within 50m of the Hampstead Heath ponds?

Not relevant.

Q12: Is the site within 5m of a highway or pedestrian right of way?

No, the property is set some 10m back from the highway by the drive.

Q13: Will the proposed basement significantly increase the differential depth of foundations relative to the neighbouring properties?

No.

Q14: Is the site over (or within the exclusion zone of) any tunnels, eg railway lines.

No.

4.0 Slope stability “scoping”

The screening process has identified that the following slope stability issues need to be clarified:

Q5: Shallowest strata? A site investigation has been carried out and has confirmed that the subsoils consist of dense sands and gravels. London Clay is, therefore, not the shallowest strata.

Q9: Within worked ground? A site investigation has been carried out and has confirmed that the subsoils consist of dense sands and gravels. The site is, therefore, not within an area of previously worked ground.

5.0 Summary of Site Investigation

- 5.1 Steve Chick Investigations was appointed to carry out an investigation to confirm the nature of the existing foundations and underlying soil conditions. Their report is contained within Appendix A.
- 5.2 Four trial pits were excavated around the property, two at the rear and two at the front within the existing lightwell. Two boreholes were carried out to refusal.
- 5.3 Detailed results are included as Appendix A but are briefly summarised as follows –
- The foundations to the main house at the front and to the wall forming the light well are both uncorbelled brickwork bearing directly on to dense sands and gravels at approximately 200mm below external lightwell level.
 - The foundation to the later extensions at the rear is a concrete strip at about 550mm below rear external ground level in to dense sands and gravels.
 - The borehole at the front penetrated the gravels to a depth of 1.3m and at the rear to a depth of 0.9m before meeting refusal. They encountered sands and gravels for their full depths.
 - No water was encountered during the investigation in the trial pits or boreholes.

6.0 Structural Impact Assessment

- 6.1 No.43 Sheen Road is a traditionally constructed terraced building with few significant alterations to its original structure other than the addition of a small single storey extension at the rear.
- 6.2 The new bike storage area will 2.0m x 2.5m on plan and is to be constructed as an extension to the existing lightwell in to the garden at the front of the building. It will be approximately 1m away from the front of the main house and will not undermine the foundations to the house or that of the neighbour. It is to be formed as a reinforced concrete box, meaning that it will have reinforced concrete walls, a reinforced concrete floor slab (at light well level) and a reinforced concrete roof slab (at the upper garden level).
- 6.3 The bike store will be constructed by first underpinning the garden walls in reinforced concrete in maximum 1.0m lengths working in to the garden from the light well with the working spaces fully propped as work progresses. The excavation and proposed bike store are small enough that they can almost certainly be constructed in two sections . A detailed Sequence of Construction and Temporary Works proposal will be requested from the Principal Contractor prior to any excavation work commencing on site to ensure that they have taken on board and understood what is required of them.
- 6.4 The locations of the mains electricity, gas and water supplies will need to be checked but a visual inspection indicates that they enter the building on the opposite side of the site to the proposed bike store. It is unlikely, therefore, that these mains services will interfere with the proposed works.
- 6.5 Provided that the contractor undertakes the work in a careful and considered manner it is highly unlikely that any ground movements will occur. If they do take place then it will be limited to possible settlements in the flower beds directly behind the garden wall because the houses are remote from the works and are not being undermined by it. No structural damage is, therefore, anticipated and formal monitoring of the buildings adjacent to the site is not considered necessary.

7.0 Conclusions

- 7.1 The subject property is a traditionally built building with a modern single storey extension to the rear.
- 7.2 The site investigation confirmed the subsoils to be dense sands and gravels.
- 7.3 No ground water was encountered during the site investigation.

- 7.4 The proposed bike store area does not undermine the foundations of the main house of those of its neighbour and it is small enough and sufficiently far from the houses that structural damage is not expected.
- 7.5 It seems unlikely from a visual inspection that the mains services will interfere with the proposed works but formal checks on their locations should be carried out in advance of any excavation work commencing.
- 7.6 A Party Wall Award will be required in order to progress with the works; any damage that might occur to the flower beds can easily be dealt with under the Party Wall arrangements.
- 7.7 Formal monitoring of the buildings adjacent to the site is, therefore, not considered necessary.

Signed,

A handwritten signature in black ink, appearing to read 'Duncan Mercer', with a stylized, cursive script.

Duncan Mercer
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APPENDIX A

43 SHEEN ROAD, RICHMOND TW9

SITE INVESTIGATION BY STEVE CHICK INVESTIGATION

SITE PLAN	Sheet: 1 of 1	SCI
Client: CHESTER	Date: 10/2/21	Site: 43 SHEEN RD TW9

NOT POSSIBLE
TO EXPOSE →
PARTY WALL



TP/BH 2

TP3



← NOT POSSIBLE
TO EXPOSE
PARTY WALL

EXTENSION

NO 43

TP1A+BH1

MH

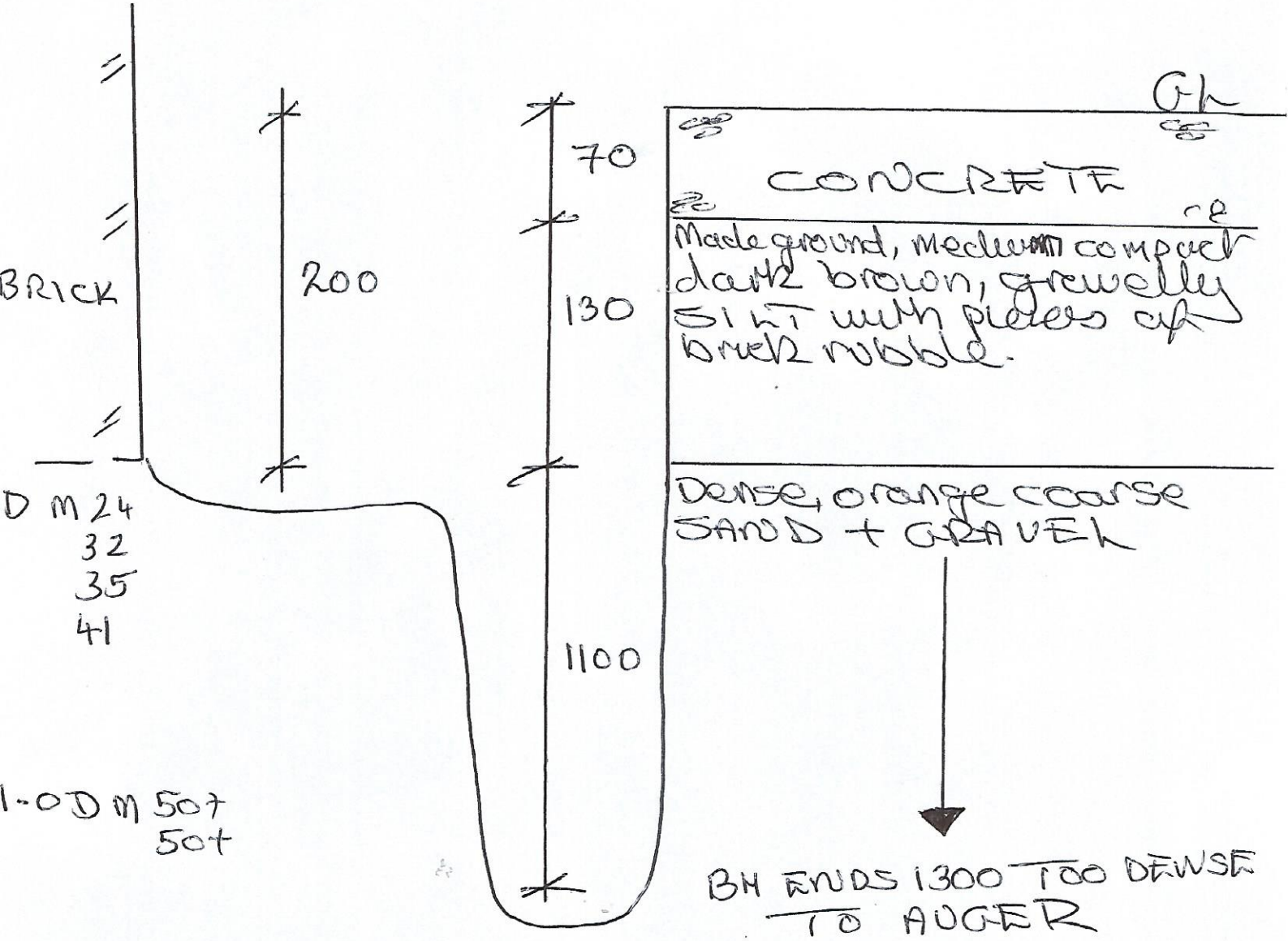


TP1B

FRONT

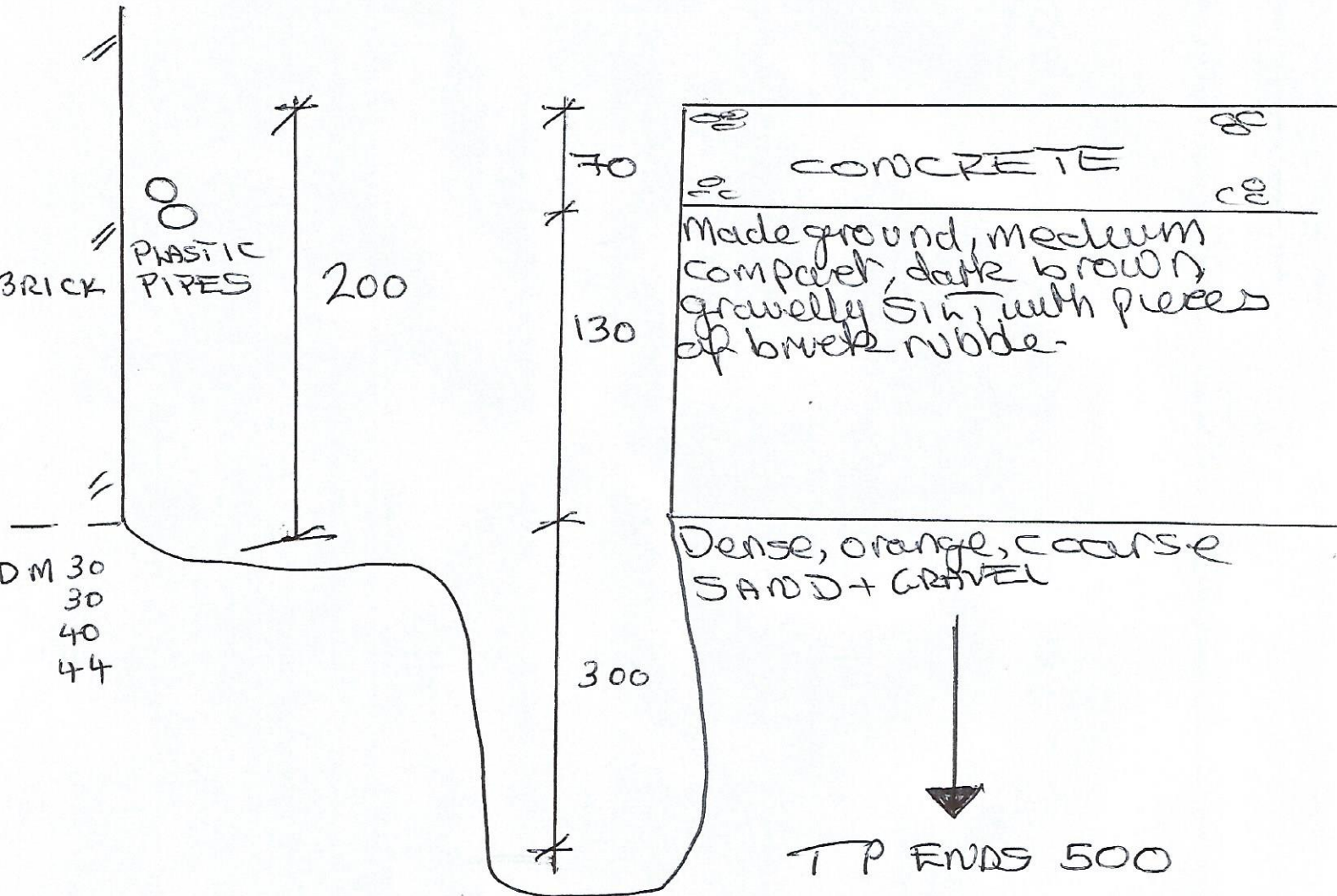
REMARKS:					
Logged:	Checked:	Approved:	Scale:	NTS	Weather:

TP No: 1A	Sheet: 1 of 1	S.C.I
Client: CHESTERS	Date: 10/2/21	Site: 43 SHEEN RD TW9



Remarks:		Key: T.D.T.D. Too Dense to Drive		
X(Y) = X blows for Ymm penetration.		D Small disturbed sample	J Jar sample	
Logged:		B Bulk disturbed sample	V Pilcon Vane (kPa)	
Checked:	Approved:	W Water sample	M Mackintosh Probe	
		Scale: NTS	Weather:	

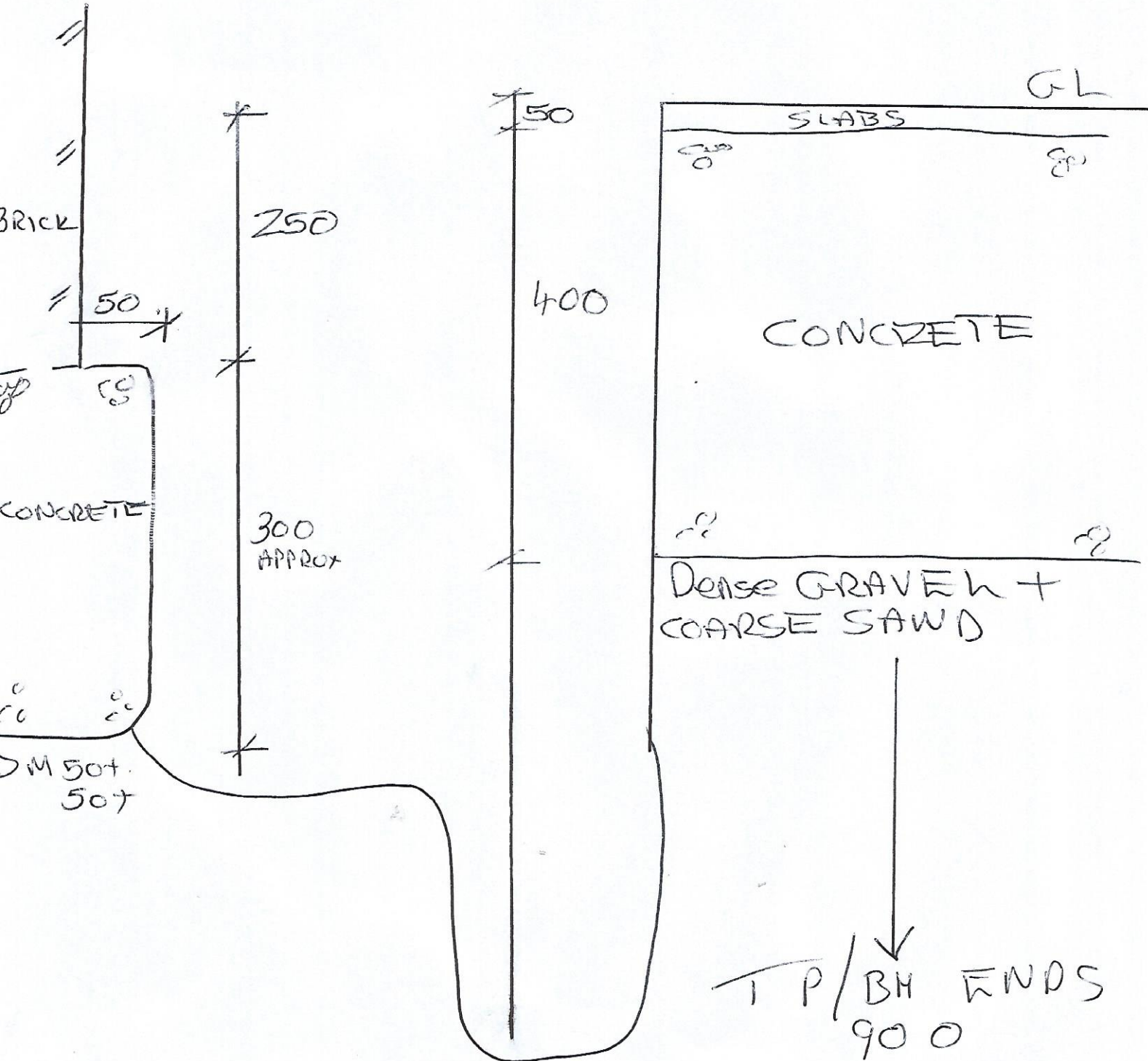
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Client: CHESTERS	Date: 10/2/21	Site: 43 SHEEN RD TW 9



Remarks:		Key: T.D.T.D. Too Dense to Drive		
X(Y) = X blows for Ymm penetration.		D Small disturbed sample	J Jar sample	
Logged:		B Bulk disturbed sample	V Pilcon Vane (kPa)	
Checked:	Approved:	W Water sample	M Mackintosh Probe	
		Scale: NTS	Weather:	

TP No: 2	Sheet: 101	S.C.I
Client: CHESTERS	POF	Site: 43 SHEEN RD TW9
	Date: 10/21/21	

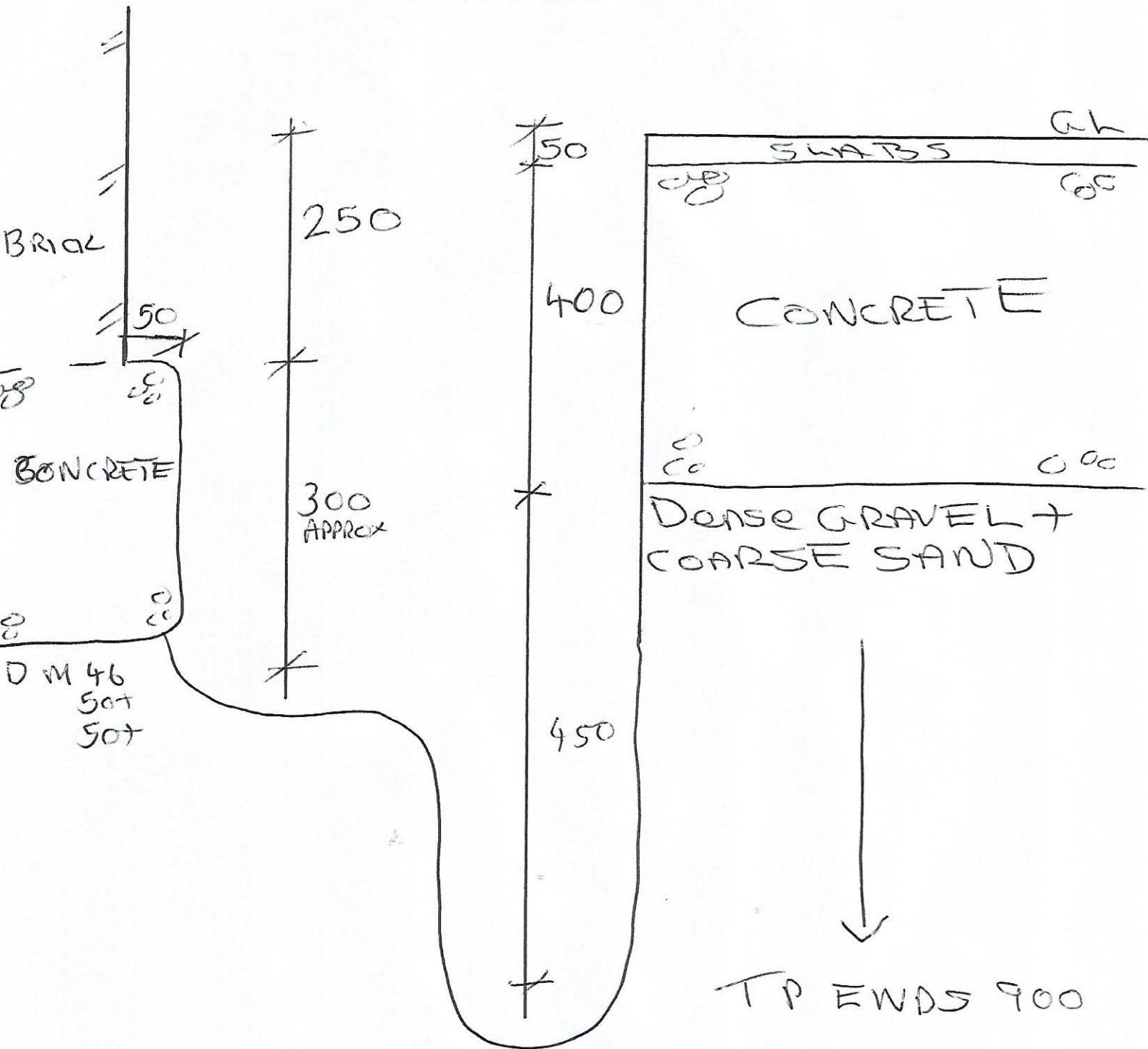
EXTENSION



Remarks:		Key: T.D.T.D. Too Dense to Drive	
X(Y) = X blows for Ymm penetration.		D Small disturbed sample	J Jar sample
Logged:		B Bulk disturbed sample	V Picon Vane (kPa)
Checked:	Approved:	W Water sample	M Mackintosh Probe
Scale: NTS	Weather:		

TP No: 3	Sheet: 101	S.C.I
Client: CHESTERS	# OF #	Site: 43 SNEED RD
	Date: 10/2/21	TW9

EXTENSION



Remarks:			Key: T.D.T.D. Too Dense to Drive		
X(Y) = X blows for Ymm penetration.			D Small disturbed sample	J Jar sample	
Logged:			B Bulk disturbed sample	V Picon Vane (kPa)	
Checked:			W Water sample	M Mackintosh Probe	
Approved:			Scale: NTS	Weather:	