

Archaeological Evaluation and Assessment
of Land rear of 121-125 Sturry Road,
Canterbury, CT1 1DA,
Kent



NGR 615852 158877
Site Code: SRD-EV-12
(Planning Application: CA/09/01760/FUL)

Report for
Abbott Construction Ltd

SWAT. ARCHAEOLOGY

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1. SUMMARY

Swale & Thames Survey Company (SWAT) carried out an archaeological evaluation and assessment of land to the rear of 121-125 Sturry Road. A planning application (CA/09/01760/FUL) for the construction of a two-storey building to provide eight studio apartments and a commercial laundry and bike hire facility, whereby the Council requested that an Archaeological Evaluation and Assessment be undertaken in order to determine the possible impact of the development on any archaeological remains. The work was carried out in accordance with the requirements set out within an Archaeological Specification (SWAT 2012) and in discussion with the Archaeological Heritage Officer, Canterbury City Council.

The Archaeological Evaluation consisted of two trenches which encountered a number of archaeological features of possible prehistoric, Roman, medieval and modern date. These included possible drainage ditches, modern post-holes and a large, modern cess pit. The pottery recovered is mostly medieval from the 13th to 14th centuries but there are abraded Roman ceramics and a number of worked flint dating from the Early Bronze Age. The Archaeological Evaluation has therefore been successful in fulfilling the primary aims and objectives of the Specification.

2. INTRODUCTION

Swale & Thames Survey Company (SWAT) was commissioned by Abbott Construction Ltd to carry out an archaeological evaluation and assessment at the above site. The work was carried out in accordance with the requirements set out within an Archaeological Specification (SWAT 2012) and in discussion with the Archaeological Heritage Officer, Canterbury City Council. The evaluation was carried out from the 6th to 11th December 2012.

3. SITE DESCRIPTION AND TOPOGRAPHY

The location of the proposed development area lies within close proximity to the River Stour and its tributaries. To the west of Canterbury there are patches of terrace river gravels and areas of head deposits. To the east of Canterbury at Sturry and Fordwich are rich Palaeolithic sites within Terraces 2 and 3 (though these are 'sealed' by a mantle of Head Gravel deposits). Where the River Stour floods, the Alluvium is generally fine grained, comprising of silts, fine sands and 'muds' deposited during low energy flow and periods of flooding (Gallois 1965, 63). These alluvial deposits are thought to date from the Flandrian (Holocene), or post-Glacial period, deposited about 12,000 years ago.

The location of 121-125 Sturry Road is situated on the extreme southern edge of this flood plain and has the potential for waterlogged deposits, timber structures and palaeo-environmental deposits. It has been suggested that the river was probably navigable in the Roman period. Timbers or piles interpreted as a possible Roman quay and dated to the third century have been located at Sturry and a further possible quay was recorded at Dean's Mill (Bennett & Allen 1993).

According to the British Geological Survey the underlying surface is anticipated to be Bedrock of Thanet Sand Formation, Sand, Silt and Clay with Superficial Deposits of Alluvium- Clay, Silt, and Sand (BGS 1:50,000 digital). The site averages 25.50aOD.

4. PLANNING BACKGROUND

Planning consent (CA/09/01760/FUL) for the construction of a two-storey building to provide eight studio apartments and a commercial laundry and bike hire facility was approved by Canterbury City Council (CCC). Canterbury City Council requested that an archaeological evaluation and assessment be undertaken in order to determine the possible impact of the development on any archaeological remains. The Local Planning Authority (CCC) placed the following condition (8) on the Planning Consent stating that:

'No development shall take place until the applicant or the developer, or their successor(s) in title has secured, firstly, the implementation of an archaeological evaluation of the site, to be undertaken for the purpose of determining the presence or absence of any buried archaeological features and deposits and to assess the importance of the same, and secondly, any mitigation measures, including further archaeological work that may be required as a result of the evaluation, to safeguard the preservation of archaeological remains; also payment of a contribution to the local planning authority to cover the costs of a programme of post excavation assessment, analysis, publication and conservation. All archaeological works to be carried out in accordance with written programmes and schemes of work that have been submitted to and approved by the local planning authority.

REASON: To ensure a proper record of matters of archaeological interest'.

Requirements for the archaeological evaluation comprised trial trenching targeting a representative 4% sample of the impact area with two trenches (Fig. 1) designed to establish whether there were any archaeological deposits at the site that may be affected by the proposed development. The results from this evaluation will be used to inform CCC of any further archaeological mitigation measures that may be necessary in connection with the development proposals.

5. ARCHAEOLOGICAL and HISTORICAL BACKGROUND

A small number of archaeological investigations (evaluations and watching briefs) have taken place within the vicinity of the proposed development; however, these were not extensive. Therefore, the archaeological information is limited. Accordingly this report assesses a larger study area than that confined by the proposed development site. The evidence to support the archaeological potential has therefore been based on broader archaeological evidence and cartographic sources. The Canterbury Urban Archaeological Database (UAD) has also been used as a source of information.

The following is a summary of the archaeological sites and the historical development of the area within the vicinity of 121-125 Sturry Road.

Natural changes to the topography:

The location of the proposed development area lies within close proximity to the River Stour and its tributaries. To the west of Canterbury there are patches of terrace river gravels and areas of head deposits. To the east of Canterbury at Sturry and Fordwich are rich Palaeolithic sites within Terraces 2 and 3 (though these are 'sealed' by a mantle of Head Gravel deposits. Where the River Stour floods, the Alluvium is generally fine grained, comprising of silts, fine sands and 'muds' deposited during low energy flow and periods of flooding (Gallois 1965, 63). These alluvial deposits are thought to date from the Flandrian (Holocene), or post-Glacial period, deposited about 12,000 years ago.

The location of 121-125 Sturry Road is situated on the extreme southern edge of this flood plain and has the potential for waterlogged deposits, timber structures and palaeoenvironmental deposits. It has been suggested that the river was probably navigable in the Roman period. Timbers or piles interpreted as a possible Roman quay and dated to the third century have been located at Sturry and a further possible quay was recorded at Dean's Mill (Bennett & Allen 1993).

The Prehistoric period (c. 500,000 BC to AD 43)

Quarrying for the extraction of gravel, sand and brickearth produced large quantities of Palaeolithic flint implements at Sturry in 1925 and investigations by R. A. Smith of the British

Museum and H. Dewey of the Geological Survey identified a major Palaeolithic site at Fordwich. A watching brief during the excavation of five geotechnical pits on the site of the former scrap metal yard on Parham Road in 1994 produced several flint flakes of possible Palaeolithic or later prehistoric date were recovered (Pratt 1994).

In 2003 an archaeological evaluation 900m west of Barton Mill (NGR: TR1560 5885) located an early Neolithic (c. 4000-3300 BC) flint assemblage, containing flint knapping waste flakes. A series of pits and a ditch are believed to represent late prehistoric or later occupation (Rady 2004). Bronze Age and Iron Age settlements have been recorded further east along the River Stour (Boden & Rady 2003) however, there is no known archaeological evidence for these periods within the immediate vicinity of the proposed development site.

The Roman period AD 43-410

After the Roman invasion in AD 43, Canterbury became established as the regional capital. As the major trade centre, numerous Roman roads radiated from the town centre. One of these roads approximately follows the line of the present day Sturry Road. In the Roman period this route was a major highway between Canterbury, the Isle of Thanet and Reculver (Margary 1955, 34-35).

Several discoveries dating to the first half of the Roman period, in the form of cremation and inhumation burials, have been found along the Sturry Road. Many of these were recovered during extensive quarrying for aggregate (Cross 1996, 16). The proposed development site is close to burials found at Riverdale Quarry, Vauxhall Brickfields and straddling the area between the Sturry Road Brymore housing estate and Vauxhall.

Further Roman archaeological remains within the vicinity also include the foundations of at least one masonry building with associated occupation activity at Riverdale Road Quarry. This is thought to be an extra-mural farmstead.

The Anglo-Saxon period AD 410-1066

There is very limited archaeological evidence Anglo-Saxon activity within the vicinity of 121-125 Sturry Road. Historical documentation refers to land at Barton Mill, known as *Nordwda* (Northwood) being granted to Christ Church, Canterbury in a royal charter (c. AD833) and this is confirmed by the Domesday Book (AD 1086). It is believed that one of eight late Saxon flour mills situated along this stretch of the River Stour was located at Barton Mill.

The Medieval period AD 1066-1485

As mentioned above, the earliest medieval documentary source, refers to activity within the vicinity of the development site as existing prior to the publication of the Domesday Book in AD 1086.

With reference to Barton Mill, the name Barton is the amalgamation of two Old English words: *bere* (barley) and *tun* (an enclosure). Barton therefore refers to a granary for barley, though it evolved to refer to a home farm. It has thus been suggested that Barton was the barley collecting and malting centre for Christ Church, Canterbury's brewing activities.

Late twelfth-century rentals imply that by this time the manor of Northwood was the location of the barley granaries, mills and malthouse of the priory. Adjacent land formed 'gardens' or plough land, known as Colton Manor, and was used for growing crops and farming livestock. This activity, with the occasional increase in the number of dwellings along the Strurry Road frontage and changes in ownership remained, more or less unchanged up until the Dissolution.

The Post-medieval period AD 1485-c.1840

The Dissolution resulted in ownership of Barton passing to the Henry VIII. Subsequently ownership then passed through a succession of owners. Shortly before 1769 a Georgian manor house was built directly to the east of the site of the mill. No trace of the manor house now survives.

Sometime during the seventeenth-century Barton Mill began producing paper and a new, purpose-built mill was constructed for this task. This mill was well established by 1702. From 1739 to 1805, the property exchanged ownership several times, resulting in the gradual break-up of the estate into two mills, smaller landholdings and domestic properties.

Modern period c. 1840-present

The early nineteenth-century saw the continued exchange in ownership of the mills, whereas the immediate area to the east and west of Barton Mill Road became orchards. By c.1890 the southern side of Sturry Road (from Jesus, or Boy's Hospital to opposite Riverdale Road) became an extensive military complex, comprising of Artillery, Cavalry and Infantry barracks. It is during this period that large areas east of Barton Mill through to Vauxhall were subjected to extensive quarrying for brickearth and gravel. This continued until the 1960s. The larger quarries, including brickworks, were located at the present sites of B&Q, Liddle and ASDA. Other brickworks were located at Riverdale Road and by 1907, included Parham Road. By 1928 gravel extraction was taking place at Barton Mill.

During the 1950s the quarries were being backfilled with the rubble from the areas of Canterbury destroyed during the Blitz. Quarrying finally ceased in 1961 and redevelopment in the form of new housing and new roads took place from 1963.

6. AIMS AND OBJECTIVES

The purpose of the evaluation was to:

- Assess the likely archaeological impact of the proposed development including drainage, access and car parking works.
- Assess the impact of past development on the site's archaeological potential including from ploughing, landscaping and modern road development.
- Establishing the degree of Iron Age and Romano-British activity on the site.

- Establishing the degree of earlier prehistoric activity on the site given its topographic position upslope from the River Stour.
- Establishing the degree of medieval and post-medieval activity on the site.
- Contributing to the environmental and landscape history of the area.

7. METHODOLOGY

Trial trenching was carried out on 6th December 2012 with the excavation of two trenches. Trench location was agreed prior to the excavation between Canterbury City Council Archaeological Officer and SWAT. Excavation was carried out using a tracked 360° mechanical excavator fitted with a toothless ditching bucket, removing the overburden to the top of the first recognisable archaeological horizon (**102, 202**), or natural, under the constant supervision of an experienced archaeologist. All trenches measured about 10m in length and 2.0m wide. The trenches were subsequently hand-cleaned, and a number of linear features were exposed. All archaeological work was carried out in accordance with the specification. A single context recording system was used to record the deposits, and context recording numbers were assigned to all deposits for recording purposes. These are used in the report and shown in bold. All archaeological work was carried out in accordance with SWAT and IFA standards and guidance.

8. MONITORING

Curatorial monitoring was carried out during the course of the evaluation.

9. RESULTS

Trenches 1, 2, were covered with a thin layer of rubbish overlaying topsoil (**100, 200**) up to 0.40m thick. In both trenches this overlaid the undisturbed deposit of subsoil, a compact brown silty clay with very occasional small flints and charcoal flecks (**101, 201**). The archaeological horizon was the interface between the subsoil (**101, 201**) and the undisturbed natural deposit (**102, 202**), cutting into this strata were a number of shallow, truncated ditches probably dating from the Roman period, if not earlier. These ditches had in turn been truncated by medieval and modern pits and post holes.

Trench 1

(10m x 1.5m x 0.78m)

Trench 1 was placed across the west corner of the site. The trench was positioned north/south and was machined to a depth of 0.78m, with topsoil (**100**) up to 0.34m thick. The earliest feature was a ditch on the same alignment as the ditches in trench 2. The ditch [**104**] cut into the natural strata (**102**) a compact brown silty brickearth, and was infilled (**103**) with a firm grey-brown clayey silt with inclusions of two sherds of well-abraded Roman pottery and occasional small flints, some burnt and very occasional flecks of charcoal. This ditch was sealed by subsoil (**101**), a compact light brown-grey silty clay with very occasional small flints and charcoal flecks. At the northern end of the trench a modern shallow cut was located in an

area disturbed by tree roots, planting and modern post holes.

Trench 2

(10m x 2m x 0.60m)

Trench 2 ran north to south and was cut across the eastern area of the site. It was machined to a depth of 0.60m, with topsoil (200) up to 0.40m thick. The earliest features were two ditches on the same alignment [210, 214], and [212]. Ditch [210, 214] was truncated by a medieval pit [208] on the north-west side of the evaluation trench and also truncated in the centre of the evaluation trench by a large modern square cut shallow rubbish pit [204] dated by shreds of asbestos tile and blue/white pottery. The ditch continued to the east [214]. The fill (209, 213) comprised a firm grey-brown clayey silt with two worked flint inclusions- which may be residual, and one piece of iron slag. The other ditch, situated at the southern end of the trench [212] was infilled with a similar mix as ditch [210, 214] but contained no finds. Both ditches were cut into the natural (202), and sealed by subsoil (201) which on investigation revealed five worked flints. Also cutting the subsoil (201), a compact light brown-grey silty clay with very occasional small flints and charcoal flecks was a rubbish pit [204], a square modern planting cut [206]. An area disturbed by tree roots at the northern end of the trench and modern brick garden wall were visible on the surface in the north-east area of the evaluation.

10. FINDS

Seven residual struck flints were retrieved (201, 213) from the site, all dating to the early Bronze Age. The assemblage comprises 1 blade, 2 bladelets, 1 blade-like flake, 1 awl and 2 pieces of burnt unworked flints. The flint is all heavily edge-damaged and residual. The flake debitage may be of mixed date: flakes are of thick, broad, proportions typical of the Later Neolithic or Bronze Age, but the blades and bladelets are more typical of the Neolithic. The one retouched tool an awl - is not a chronological diagnostic form and only a broad Neolithic or Bronze Age date can be proposed.

Hugo Anderson-Whymark 12/12/12

Four well-abraded stratified sherds of pottery were retrieved (208) weight: 32gms.

1 sherd M Canterbury Tyler Hill sandy ware (c.1225-1250/1275 AD)

1 sherd M N or W.Kent fine sandy ware (cf. London Highly Decorated style, c.1225-1300 AD probably)

1 sherd M Canterbury Tyler Hill sandy ware (c.1250-1275/1300 AD)

1 sherd M Canterbury Tyler Hill sandy ware (c.1250-1300/1350 AD probable emphasis)

Comment: Small-medium-sized sherds, largest is the latest element. All 4 entries are moderately worn – particularly the non-local jug bodysherd.

Nigel MacPherson-Grant 12/12/12

Two well-abraded sherds of pottery from (103) weight: 16gms.

R12 Open form c.120-150

R15 Roughcast beaker c.130-250

Malcolm Lyne 12/12/12

11. DISCUSSION

The development site at land to the rear of 121-125 Sturry Road has been evaluated and found to contain, amongst other features, ditches which may date from the Roman period if not earlier. These ditches although parallel to each other are not parallel to the postulated route of the adjacent Roman road from Canterbury to Reculver which may suggest they were in existence either before the build of the Roman road or after. It is unfortunate that these ditches are so heavily truncated which suggests that further investigation would be fruitless. Cutting one of the ditches is a rubbish pit with domestic pottery dating from the 13th-14th centuries which may indicate a domestic dwelling in the near vicinity. Throughout the evaluation trenches there is a 'background noise' of prehistoric activity which given the location upslope from the River Stour is not surprising. However, no worked flint was found in a secure context.

12. FOUNDATION DESIGN

Abbotts have provided drawings of the proposed foundations (attached), All foundations are strip foundations 600mm wide and 'taken down to the Thanet Beds at a approximate depth of 2.2-2.8m below present ground level'.

13. CONCLUSION

The archaeological evaluation has been successful in fulfilling the primary aims and objectives of the Specification. A common stratigraphic sequence was recognised across the site comprised of topsoil **(100, 200)** overlaying subsoil **(101, 201)**, overlaying the natural sandy silty clay **(102, 202)**.

Some archaeological activity was found during the evaluation which will inform the Archaeological Officer of the archaeological potential of site. The evaluation has, therefore, assessed the archaeological potential of land intended for development.

14. ACKNOWLEDGEMENTS

SWAT would like to thank Abbott Construction Ltd for commissioning this project. Thanks are also extended to Richard Cross, Canterbury City Council Archaeological Advisor for his advice and assistance.

Paul Wilkinson supervised the fieldwork, assisted in the field by James Madden and Simon Holmes. Illustrations were produced by James Madden for *Digitise This*. The project was managed by Paul Wilkinson.

Dr Paul Wilkinson MifA

December 16th 2012

15. REFERENCES

Bibliography

SWAT Archaeology (2012) *Specification for an Archaeological Evaluation and Assessment of Land at the rear of 121-125 Sturry Road, Canterbury, Kent*

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Cross, R., 1996, *Shelford – Proposed Landfill Extension: Archaeological Desk Study*, unpublished CAT client report.

Kent County Council (KCC) (2012) *Kent County Council Monument Full Report* for site centred at 615852 158877.

Margary, I.D., 1955, *Roman Roads in Britain, Vol. I, South of the Fosse Way-Bristol Channel.*

Pratt, P., 1994, *Watching Brief of five geotechnical pits at Parham road west, Scrap Yard site, Canterbury*, unpublished archive report in CAT SMR

Rady, J., 2004, *An archaeological evaluation at Barton Mill and Barton Mill Road, Sturry Road, Canterbury*, unpublished CAT client report 2004/49.

Willson J. 2005 An Archaeological Desk-Top Assessment of an area of land at Parham Road (west), Canterbury. CAT

Maps

Ordnance Survey 1st Edition (1871-1890)

Ordnance Survey 2nd Edition (1897-1900)

Ordnance Survey 3rd Edition (1907-1923)

Ordnance Survey 4th Edition (1929-1952)

Websites

Kent Landscape Information System <http://extranet7.kent.gov.uk/klis/home.htm>

Exploring Kent's Past <http://www.extranet7.krnt.gov.uk/ExploringKentsPast/>



Plate 1. View of Trench 1 (facing south)



Plate 2. View of Trench 2 (facing north)



Plate 3. View of ditch [104] facing south



Plate 4. View of Section 1.2 (facing east)



Plate 5. View of ditch [212] trench 2, facing east

APPENDIX 1 – Canterbury City Council HER Summary Form

| | |
|--|------------------------------|
| Site Name: <i>Land rear of 121-125 Sturry Road</i> | |
| SWAT Site Code: <i>SRD/EV/12</i> | |
| Site Address: <i>Land rear of 121-125 Sturry Road</i> | |
| Summary: <i>Swale & Thames Survey Company (SWAT) carried out an archaeological evaluation on land to the rear of 121-125 Sturry Road, Canterbury, Kent. A planning application for the construction of a new student accommodation, along with associated car parking and services at the above site was submitted to Canterbury City Council (CCC) whereby CCC requested that an Archaeological Evaluation be undertaken in order to determine the possible impact of the development on any archaeological remains. The work was carried out in accordance with the requirements set out within an Archaeological Specification (SWAT 2012) and in discussion with the Archaeological Officer, Canterbury City Council.</i> <i>The Archaeological Evaluation consisted of two trenches which encountered some archaeological features; some sherds of Roman and medieval pottery and worked lithics were retrieved.</i> | |
| District/Unitary: <i>Canterbury</i> | Parish: |
| Period(s): Tentative: | |
| NGR (centre of site : 8 figures): (NB if large or linear site give multiple NGRs): <i>NGR 615852 158877</i> | |
| Type of archaeological work (delete) <i>Evaluation</i> | |
| Date of Recording: <i>December 2012</i> | |
| Unit undertaking recording: <i>Swale & Thames Survey Company (SWAT)</i> | |
| Geology: <i>Head Brickearth</i> | |
| Title and author of accompanying report: <i>Wilkinson P. An Archaeological Evaluation at land to the rear of 121-125 Sturry Road, Canterbury, Kent</i> | |
| Summary of fieldwork results (begin with earliest period first, add NGRs where appropriate) <i>As above</i> <p style="text-align: right;">(cont. on attached sheet)</p> | |
| Location of archive/finds: <i>SWAT</i> | |
| Contact at Unit: <i>Paul Wilkinson</i> | Date: <i>14/12/12</i> |

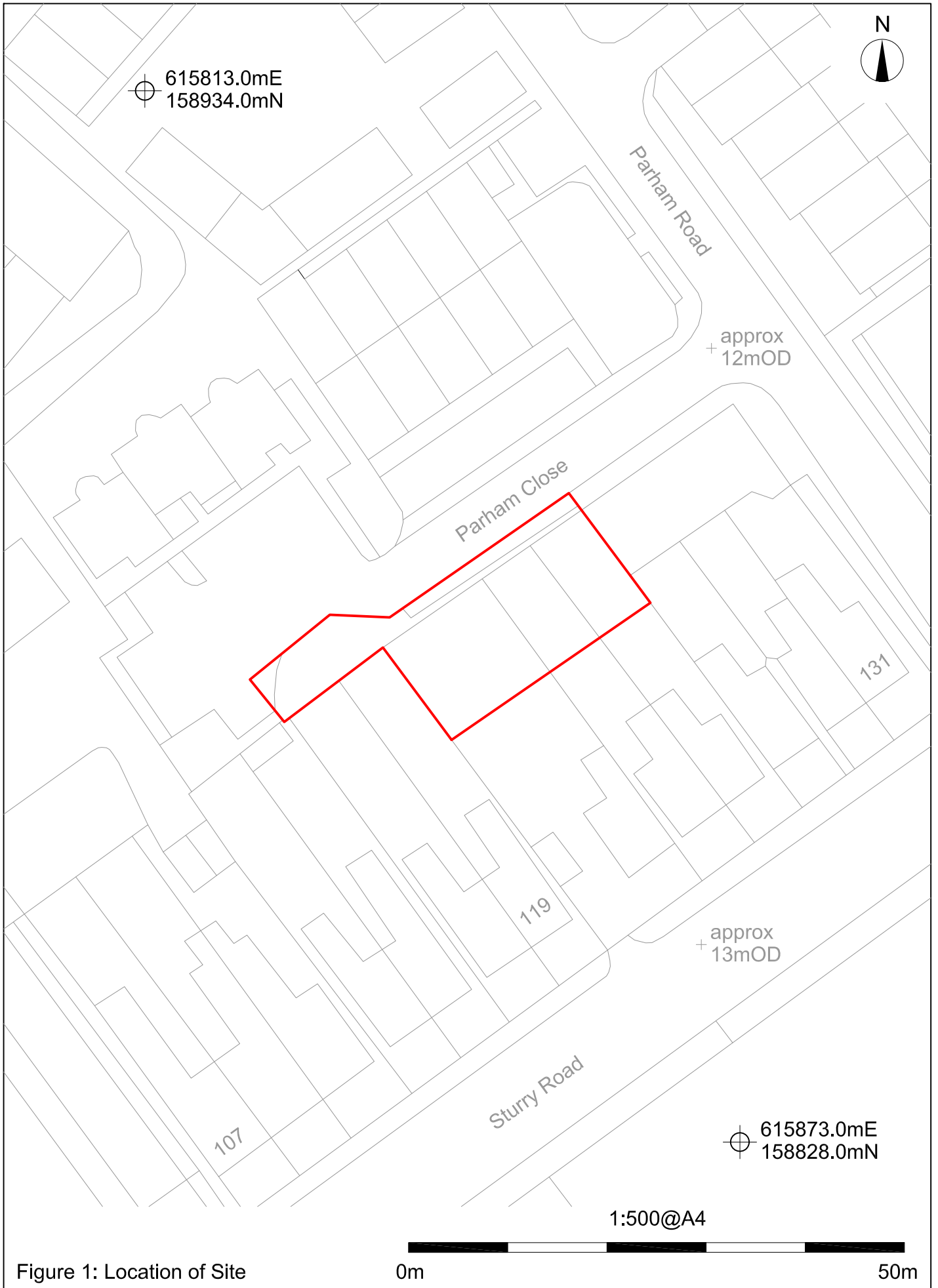


Figure 1: Location of Site

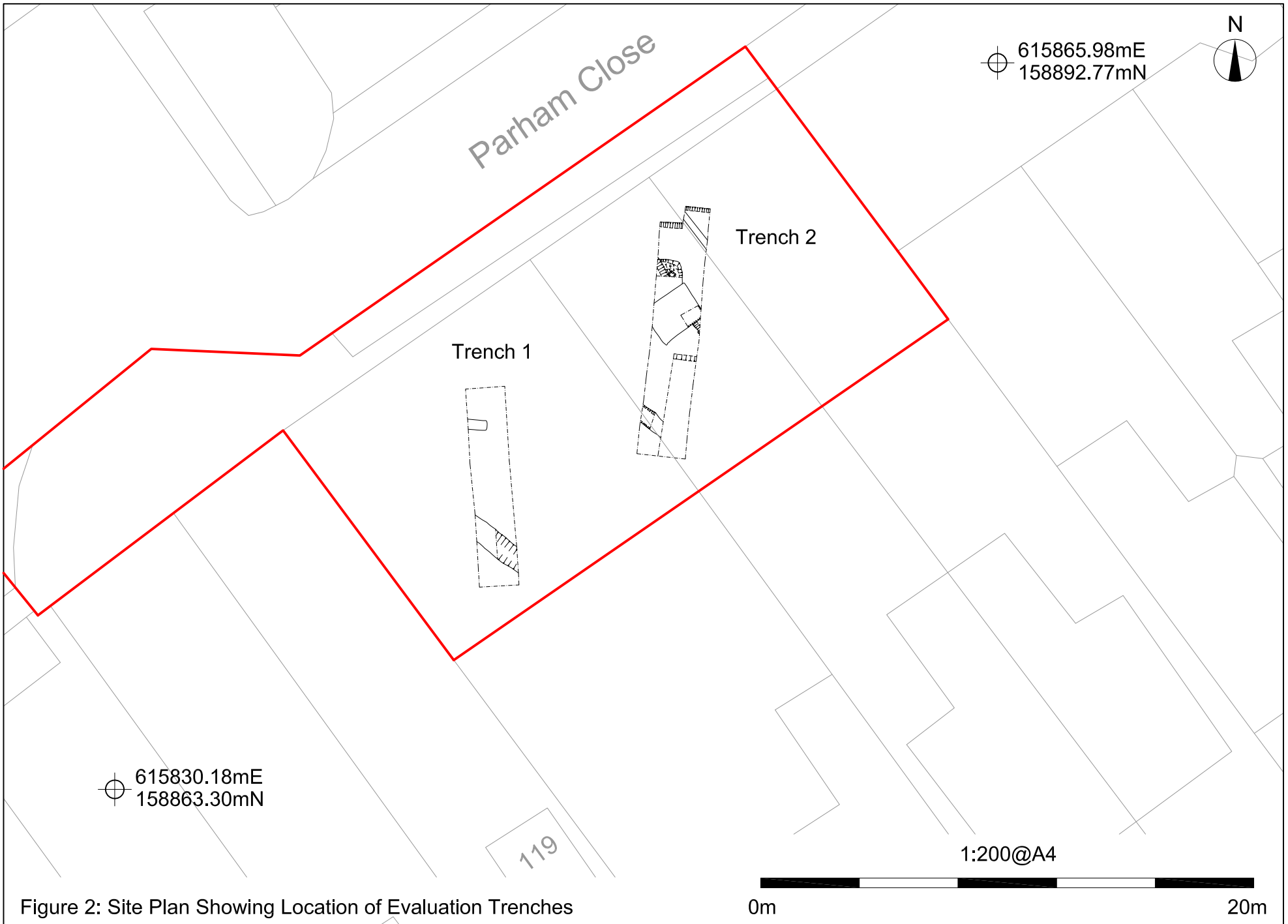
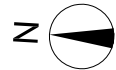
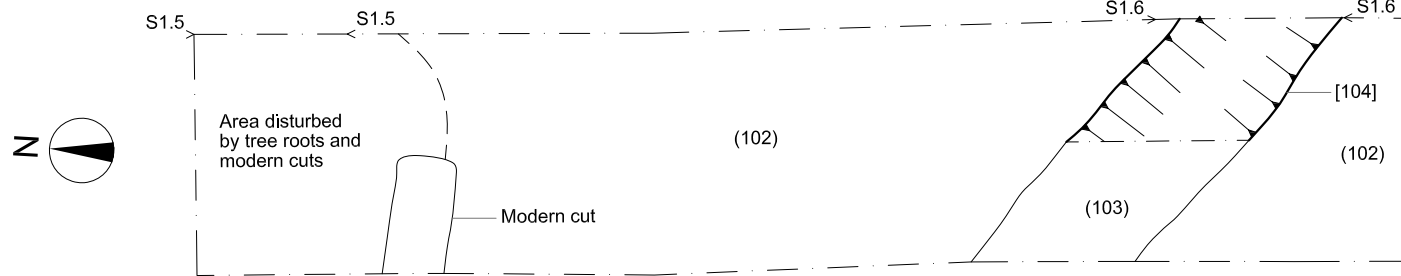
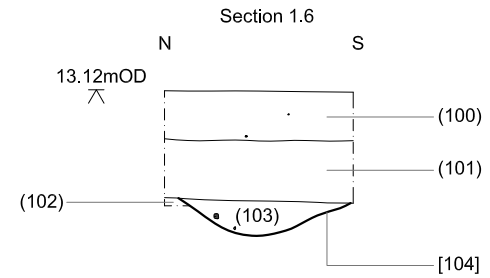
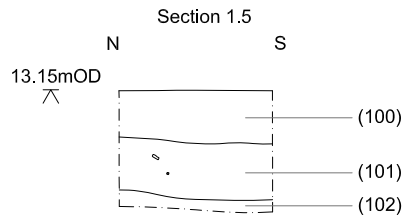


Figure 2: Site Plan Showing Location of Evaluation Trenches

615849.53mE
158871.79mN



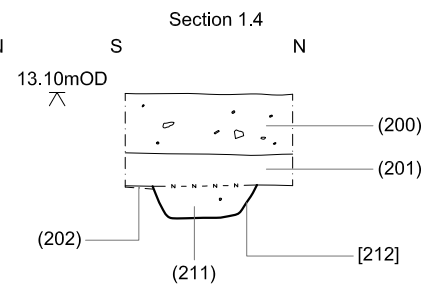
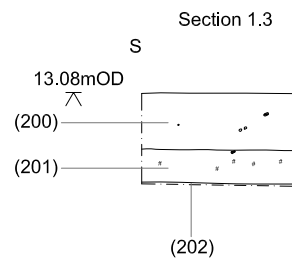
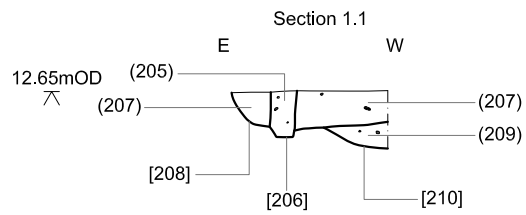
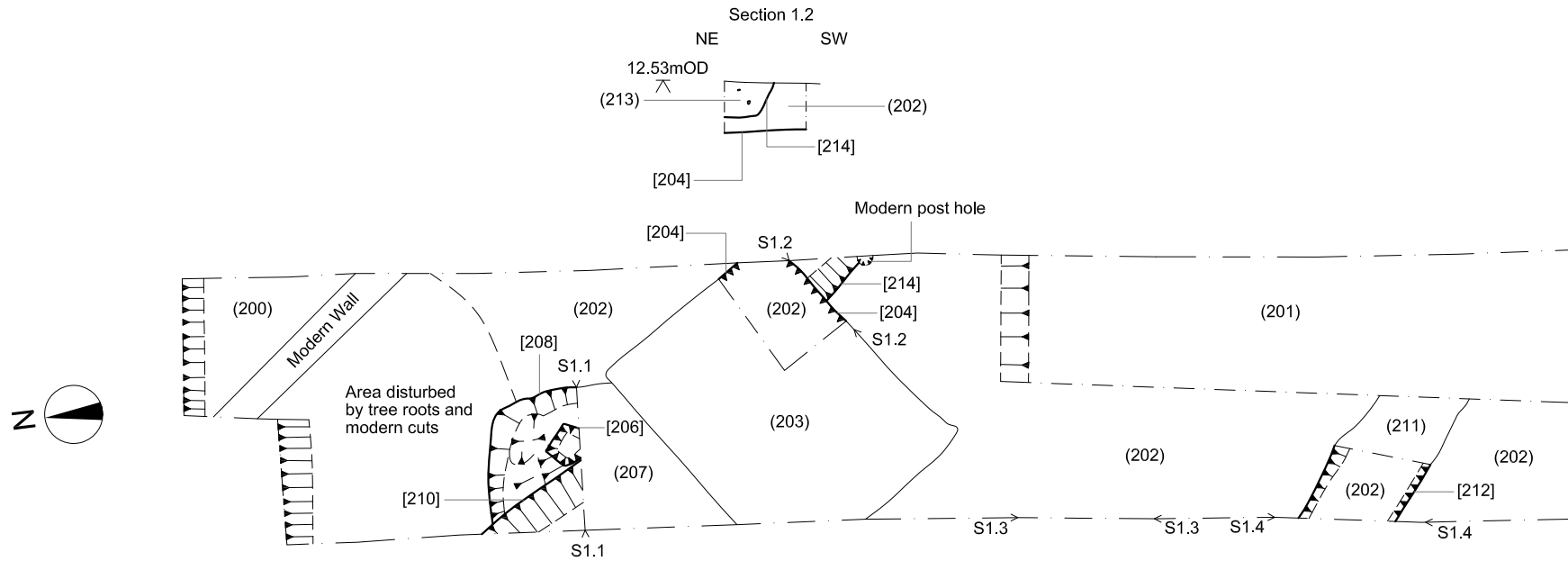
615841.61mE
158881.27mN

1:50@A4



Figure 3: Plan of Trench 1 Showing Sections 1.5 and 1.6

615855.88mE
158877.81mN

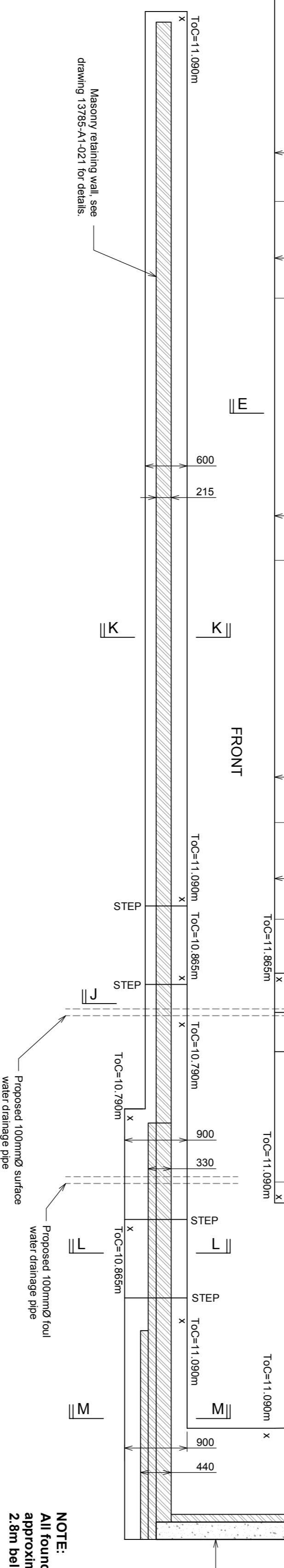
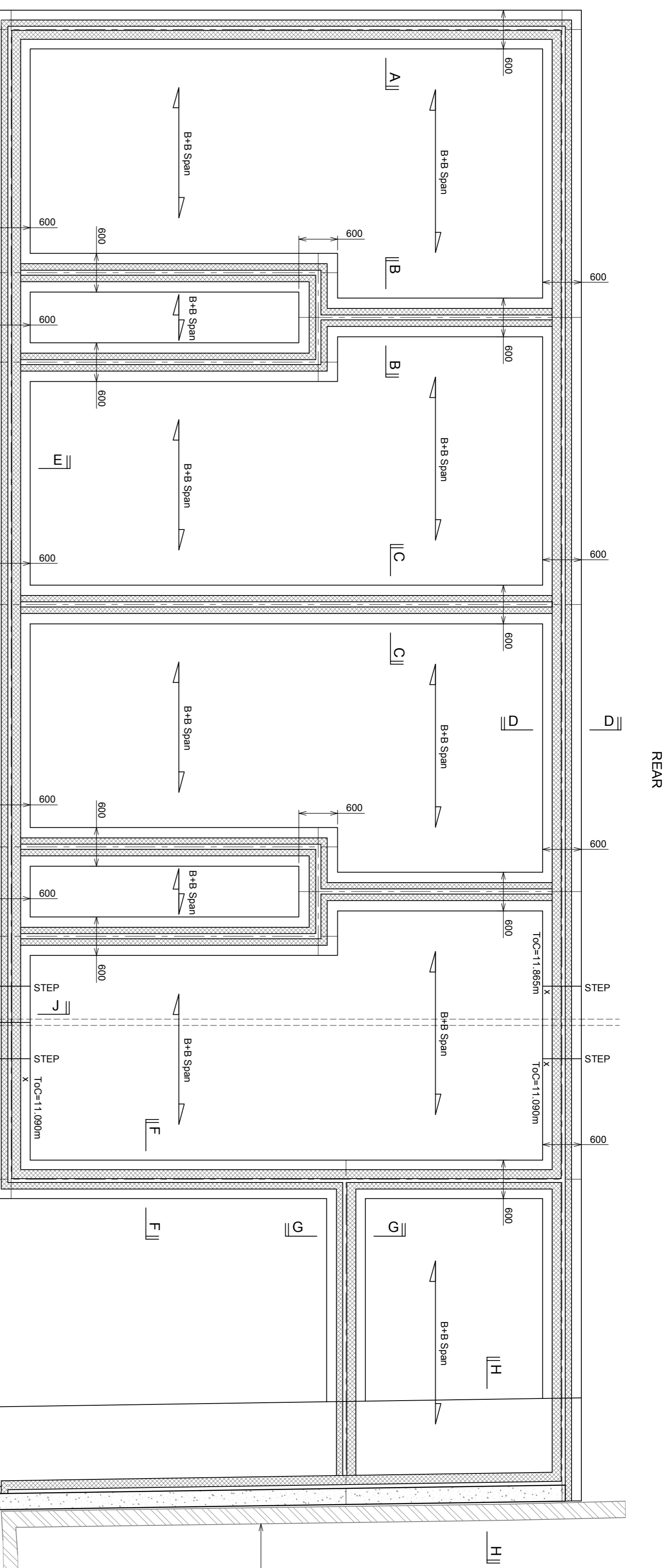
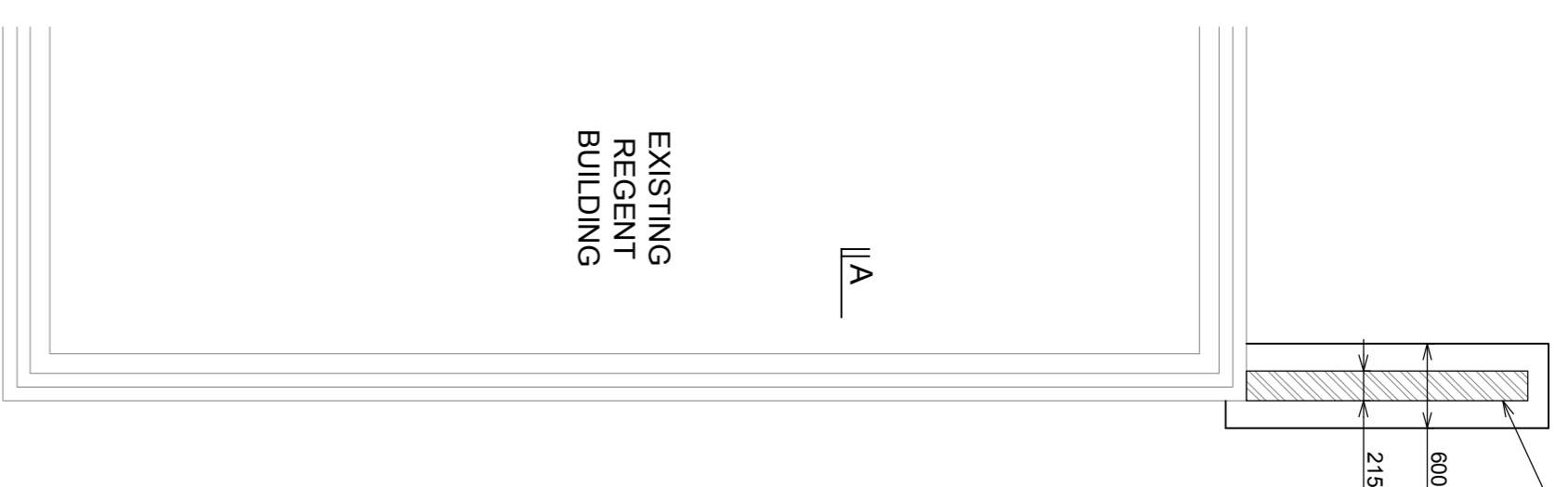


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158888.41mN

1:50@A4

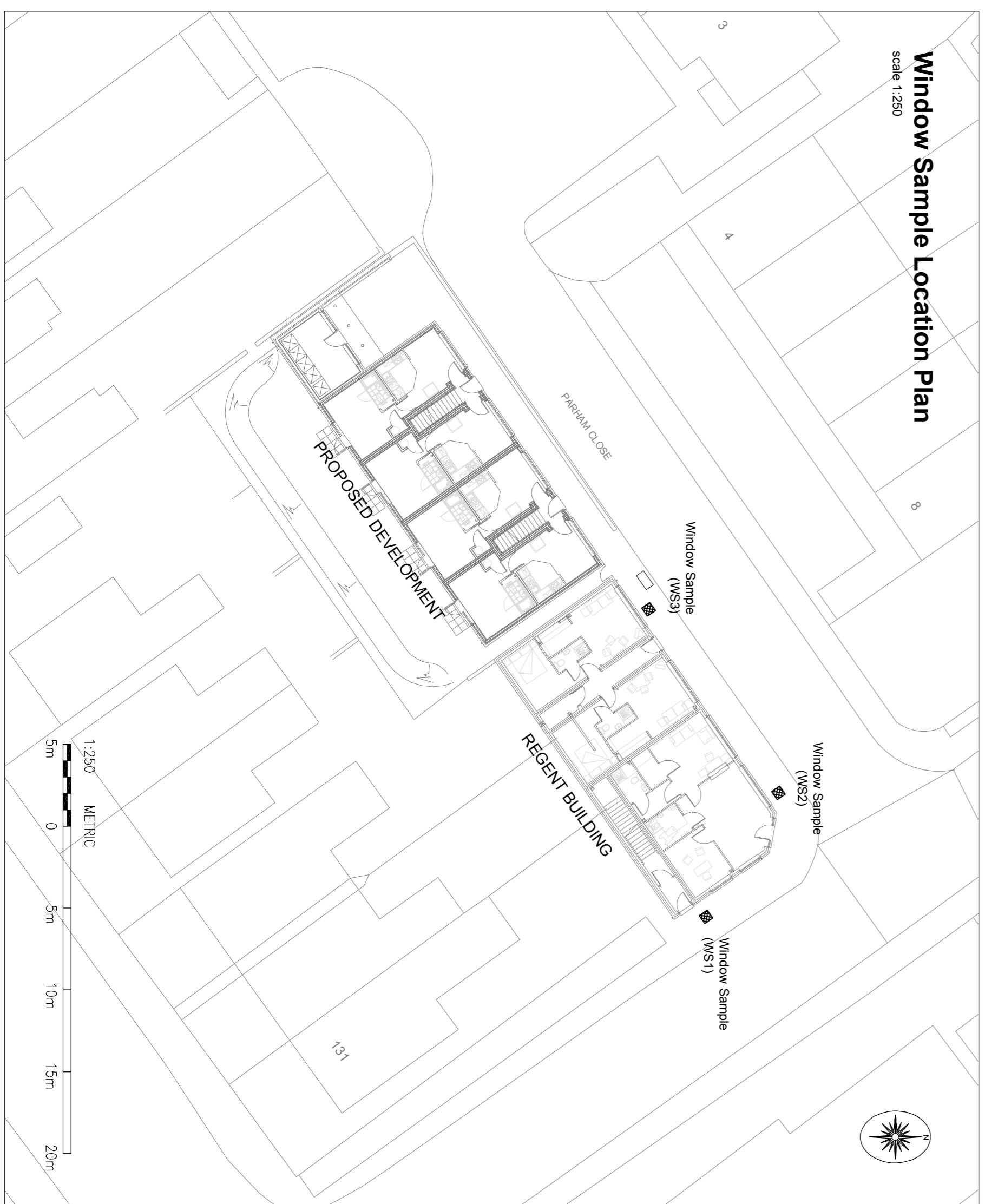


Figure 4: Plan of Trench 2 Showing Sections 1.1 - 1.4



Window Sample Location Plan

Scale 1:250



Window Sample 1 - Summary

- 0.00m - 0.15m - MADE GROUND. Dark brown gravelly sand with cobbles. Gravel is angular to rounded. fine to coarse mixed lithologies consisting of flints, bricks, concrete and coal. Cobble sized fragments of brick and clay.
- 0.15m - 0.25m - MADE GROUND. Dark grey gravelly sand with cobbles. Gravel is angular to rounded. fine to coarse mixed lithologies consisting of flints, bricks, concrete and coal. Cobble sized fragments of brick and clay.
- 0.25m - 1.10m - MADE GROUND. Dark brown and black gravelly sand. Sand is fine to coarse, gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 1.10m - 1.50m - Firm brown slightly sandy gravel with few pockets of clay. Gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 1.50m - 2.20m - Loose brown slightly sandy gravel with few pockets of clay. Gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 2.20m - 3.30m - Firm grey mottled brown slightly sandy clay with extensively closely spaced silting (THANET BEDS).
- 3.30m - 4.00m - Firm grey mottled brown slightly sandy clay with closely spaced silting (THANET BEDS).
- 4.00m - 5.00m - Still grey mottled brown and grey mottled slightly sandy clay (THANET BEDS).

Window Sample 2 - Summary

- 0.00m - 0.30m - MADE GROUND. Dark brown gravelly sand with cobbles. Gravel is angular to rounded. fine to coarse mixed lithologies consisting of flints, bricks, concrete and coal. Cobble sized fragments of brick and clay.
- 0.30m - 0.70m - MADE GROUND. Dark brown gravelly sand. Sand is fine to coarse, gravel is angular to rounded. fine to coarse mixed lithologies consisting of flints, bricks, concrete and coal. Cobble sized fragments of brick and clay.
- 0.70m - 1.10m - MADE GROUND. Dark brown and black gravelly sand. Sand is fine to coarse, gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 1.10m - 1.50m - Firm brown slightly sandy gravel with few pockets of clay. Gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 1.50m - 2.20m - Loose brown slightly sandy gravel with few pockets of clay. Gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 2.20m - 3.30m - Firm grey mottled brown slightly sandy clay with extensively closely spaced silting (THANET BEDS).
- 3.30m - 4.00m - Firm grey mottled brown slightly sandy clay with closely spaced silting (THANET BEDS).
- 4.00m - 5.00m - Still grey mottled brown and grey mottled slightly sandy clay (THANET BEDS).

Window Sample 3 - Summary

- 0.00m - 0.30m - MADE GROUND. Dark brown gravelly sand with cobbles. Gravel is angular to rounded. fine to coarse mixed lithologies consisting of flints, bricks, concrete and coal. Cobble sized fragments of brick and clay.
- 0.30m - 0.70m - MADE GROUND. Dark brown gravelly sand. Sand is fine to coarse, gravel is angular to rounded. fine to coarse mixed lithologies consisting of flints, bricks, concrete and coal. Cobble sized fragments of brick and clay.
- 0.70m - 1.10m - MADE GROUND. Dark brown and black gravelly sand. Sand is fine to coarse, gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 1.10m - 1.50m - Firm brown slightly sandy gravel with few pockets of clay. Gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 1.50m - 2.20m - Loose brown slightly sandy gravel with few pockets of clay. Gravel is sub-angular to sub-rounded. fine to coarse of flints, coal and brick. Few pockets of dark brown clay noted.
- 2.20m - 3.30m - Firm grey mottled brown slightly sandy clay with extensively closely spaced silting (THANET BEDS).
- 3.30m - 4.00m - Firm grey mottled brown slightly sandy clay with closely spaced silting (THANET BEDS).
- 4.00m - 5.00m - Still grey mottled brown and grey mottled slightly sandy clay (THANET BEDS).

Notes

- This drawing is to be read in conjunction with all relevant Engineers, Architects and Designers drawings.
 - This drawing must not be scaled. For all dimensions, levels and setting out information see Architects drawings.
 - All workmanship and method of construction shall comply with all relevant Regulations and good building practice.
- Foundation Notes**
 All foundations to be made concrete through all foundations until grade GFA1 and AC-1.
 Buildings to be designed per GEN 1 to BS 5234, unreinforced 20mm nominal size aggregate, 75mm slump.
 All Foundations are to be taken into undisturbed bearing strata, as defined in the Ground Investigation.
 Foundations to be placed centrally about the wall that they are supporting (unless specified otherwise). i.e. along the centre line of the internal and external thickness of construction.
 Sides of excavation to be adequately supported to prevent instability.
 Any soft spots or made ground is to be removed & infilled with Type 1 sub-base, compacted in layers.
Precast Concrete Beam and Block Floor Notes
 Beam & Block floor to be as designed and supplied by specialist manufacturer and installed as per the manufacturers instructions.
 ↳ indicates span of 150 dp beam and block floor.
 Floor to be designed for either an imposed uniform load of 1.5 kN/m² or a point load of 1.4 kN and for dead loads as shown on Architects drawings.
 Beam and block floor to have minimum 60mm sand cement screed with one layer of D98 mesh or as detailed on the architects drawings.
 Precast concrete manufacturer to submit designs and details for approval at least two weeks prior to manufacture.

Masonry Notes

All masonry to be in accordance with BS5628.
External Walls
 Outer leaf : 100mm blockwork
 Churn : 60mm
 Inner leaf : 100mm TN blockwork
 All in grade (i) mortar
Internal Walls
 100mm TN blockwork in grade (i) mortar
Party Walls
 100mm TN blockwork
 100mm TN blockwork
 All in grade (i) mortar
External Walls - Below ground
 Outer leaf : 100mm blockwork
 Churn : 60mm
 Inner leaf : 140mm TN blockwork
 All in grade (i) mortar
Internal Walls - Below ground
 100mm TN blockwork in grade (i) mortar
Wall ties:
 To be Type 1, 2, 3 or 4 in Table C.3 in BS 5628-1:2005 ??????
 Churn wall ties to be provided at 450mm centres vertically and 900mm centres horizontally.
 Ties to be closed up in spacing to 225mm centres vertically at a distance of 225mm horizontally adjacent to openings and edges, including verges.
 All walls to be torched and bonded properly.

NOTE: All foundations to be taken down to THANET BEDS, approximate depth of Thanet Beds between 2.2m to 2.5m below existing ground level across site.

| Rev | Date | Description | By | Ck |
|-----|------|-------------|----|----|
| | | | | |



Development on land to rear of 121-125 Sturry Road, Canterbury.

Foundation & Substructure Plan

| | | | |
|--------------|--------------|----------------------|----------|
| SCALE | DRAWN | DATE | SIZE |
| 1:50 / 1:250 | GA | 09-11-2012 | A1 |
| DESIGNED | CHECKED | APPROVED | DATE |
| STATUS | PRELIMINARY | BSF Project No 13785 | REVISION |
| DRAWING No. | 13785/A1/020 | REVISION | / |

- This drawing is to be read in conjunction with all relevant Engineers, Architects and Designers drawings.
- This drawing must not be scaled. For all dimensions, levels and setting out information see Architects drawings.
- All workmanship and method of construction shall comply with all relevant Regulations and good building practice.

Foundation Notes

All foundations to be founded at least 1.0m below ground level, to the satisfaction of the Building Control Officer and to be 600 mm wide unless noted otherwise.

All foundations to be made concrete (unless otherwise specified) using grade C35/45 concrete in accordance with BS5268. Concrete to be supplied as per BS-4 and AC-1.

Binding to be designed per GEN 1 to BS 5234, unweathered 20mm nominal size aggregate, 75mm slump.

All foundations are to be taken into undisturbed bearing strata, as defined in the Ground Investigation.

Foundations to be placed centrally about the wall that they are supporting (unless specified otherwise), i.e. along the centre line of the internal and external thickness of construction.

Sides of excavation to be adequately supported to prevent instability.

Any soil spots or made ground is to be removed & filled with Type 1 sub-base, compacted in layers.

Precast Concrete Beam and Block Floor Notes

Beam & Block floor to be as designed and supplied by specialist manufacturer and installed as per the manufacturer's instructions.

Floor to be designed for either an imposed uniform load of 1.5 kN/m² or a point load of 1.4 kN and for dead loads as shown on Architects drawings.

Beam and block floor to have minimum 50mm sand cement screed with one try of D20 mesh or as stated on the services drawings.

Precast concrete manufacturer to submit designs and details for approval at least two weeks prior to manufacture.

Masonry Notes

All masonry to be in accordance with BS5268.

External Walls

Outer leaf: 100mm blockwork

Inner leaf: 100mm/75mm/50mm/25mm blockwork

All in grade (ii) mortar.

Internal Walls

100mm/75mm/50mm/25mm blockwork in grade (ii) mortar

Party Walls

Outer leaf: 100mm blockwork

Inner leaf: 100mm/75mm/50mm/25mm blockwork

All in grade (ii) mortar

External Walls - Below ground

Outer leaf: 100mm blockwork

Inner leaf: 100mm/75mm/50mm/25mm blockwork

All in grade (ii) mortar

Internal Walls - Below ground

100mm/75mm/50mm/25mm blockwork in grade (ii) mortar

Wall ties:

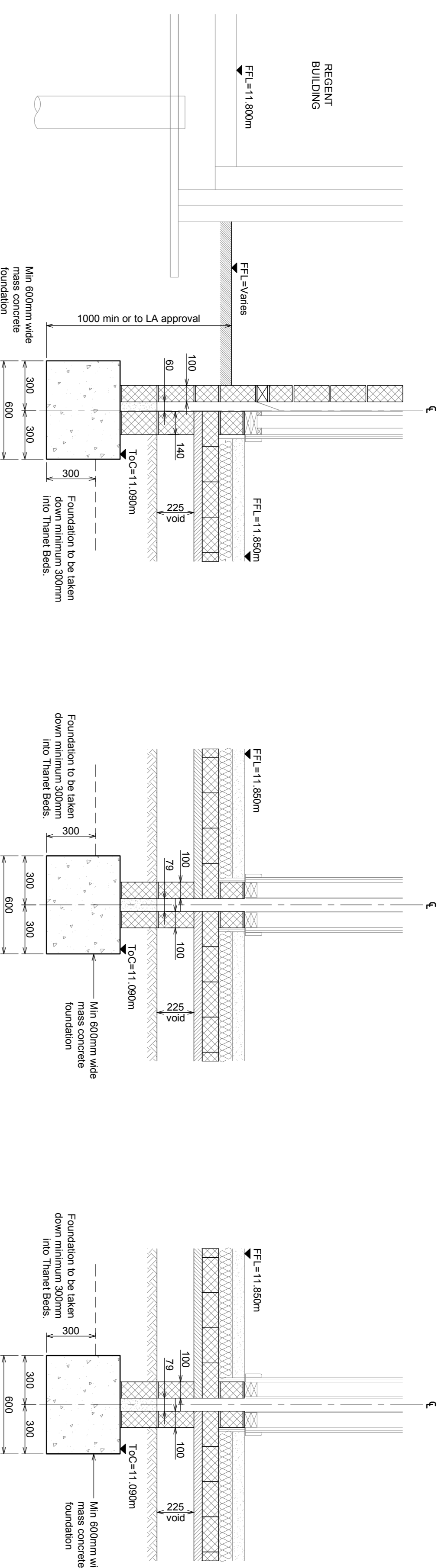
To be Type 1, 2, 3 or 4 in Table C.3 in BS 9288:1:2005 7777777

Horizontal ties to be provided at 450 mm centres vertically and 600 mm centres horizontally.

Ties to be closed up in spacing to 225 mm centres vertically at a distance of 225mm horizontally adjacent to openings and edges including verges.

All walls to be bonded and bonded properly.

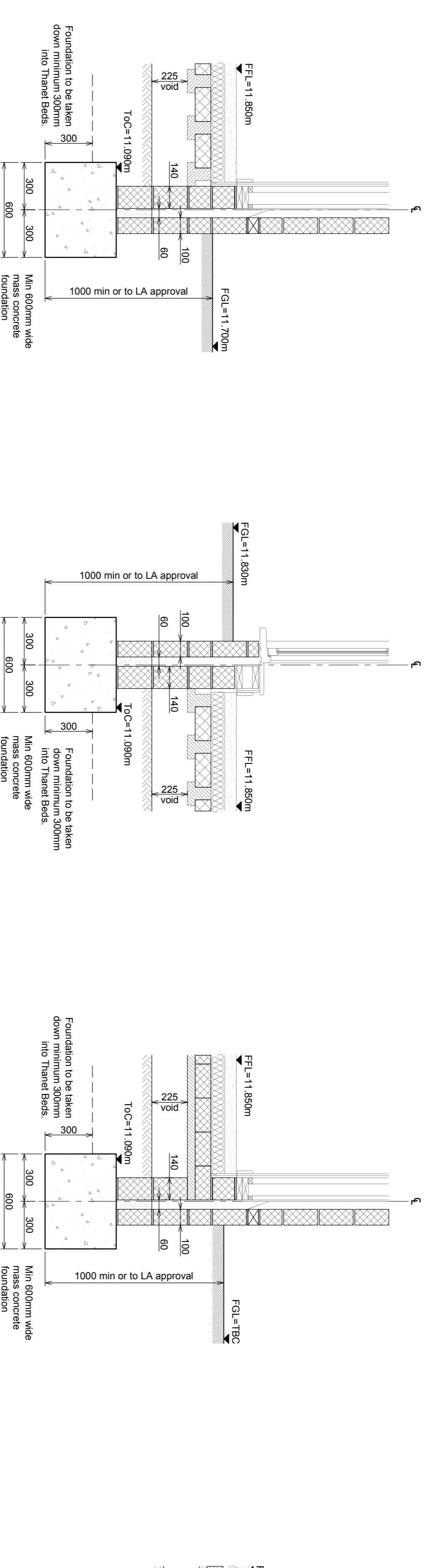
NOTE:
All foundations to be taken down to THANET BEDS, approximate depth of thanet beds between 2.2m to 2.8m below ground level across site.



Section A-A
scale 1:20

Section B-B
scale 1:20

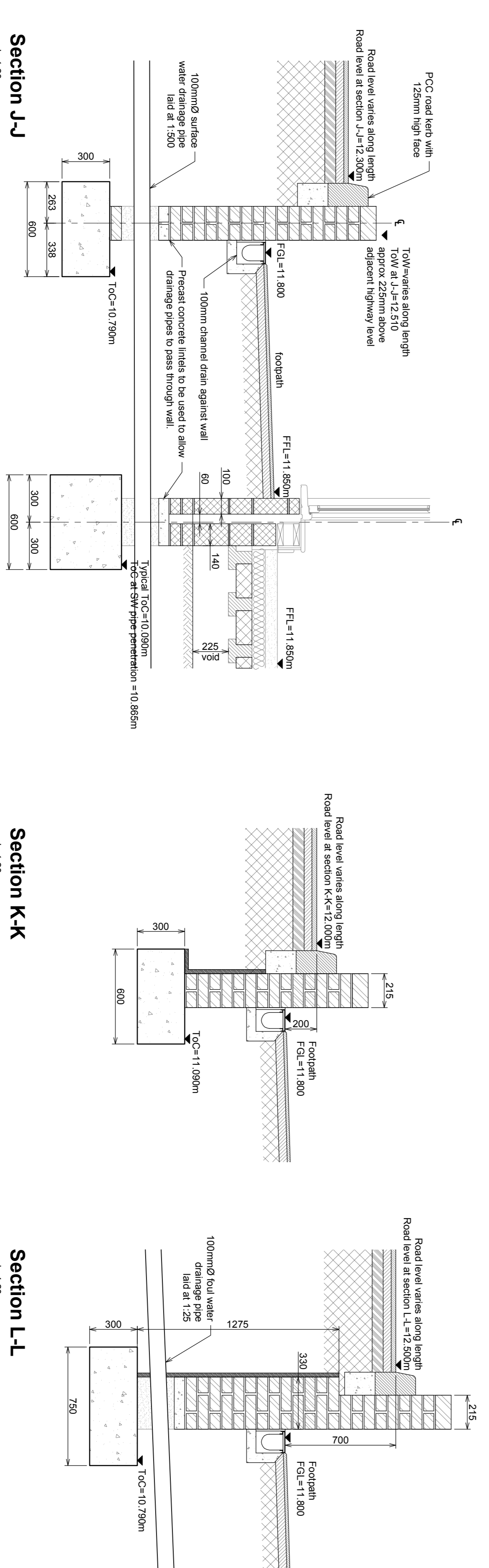
Section C-C
scale 1:20



Section D-D
scale 1:20

Section E-E (G-G Similar)
scale 1:20

Section F-F
scale 1:20



Section J-J
scale 1:20

Section K-K
scale 1:20

Section L-L
scale 1:20

Section M-M
scale 1:20

- NOTES: Relevant to sections K-K, L-L and M-M.**
- Walls constructed from clay bricks not less than 320/15 Nmm² special quality in 1:1/4:3 mortar. Outer skin of wall built in stretcher bond with galvanised mild steel ties at 450c/c, horizontally and vertically.
 - Two courses of class B engineering bricks at ground level as D.P.C.
 - Vertical drainage channels to be made of BRITLUMITE with handboard protection towards fill or 1.3 waterproof cement/sand render - preferred in painted areas.
 - 25mm diameter drainage pipes at 2.0m max. centres. Include to seal to prevent face staining.
 - Freely draining granular material back fill.
 - Concrete strip foundation in GEN3 concrete.

| Rev | Date | Description | By | CK |
|-----|------|-------------|----|----|
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| | | | | |

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CLIENT

ABBOTT CONSTRUCTION

PROJECT TITLE

Development on land to rear of 121-125 Sturry Road, Canterbury.

DRAWING TITLE

Foundation & Substructure Details

| SCALE | DRAWN | DATE | SIZE |
|-------|-------|------------|------|
| 1:20 | GA | 09-11-2012 | A1 |

| DESIGNED | CHECKED | APPROVED | DATE |
|-------------|---------|----------|------|
| PRELIMINARY | | | |

STATUS

PRELIMINARY

BSF Project No: 13785

| DRAWING NO. | REVISION |
|--------------|----------|
| 13785/A1/021 | / |