

Materials Management Plan - Minerals

Land south of Salhouse Road Sprowston

Planning Permission Ref: 2016/0498

Condition 22 Mineral Safeguarding

Kier Living - Eastern



CLOVER PLANNING

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1.0 Background

- 1.1. In March 2019 an outline planning application (ref 2016/0498) was granted for: 1. Proposed residential development of a minimum 803 dwellings with access roads and associated infrastructure; 2. Site for a new primary school; 3. Land for a Bus Rapid Transit (BRT) scheme; 4. Section of orbital link road; 5. Retained areas of woodland and creation of open space on 36.9 hectares of land lying south of Salhouse Road Sprowston to the north east of Norwich.
- 1.2. The planning permission is subject to a number of conditions including condition 22 which states:

Prior to commencement of each phase or parcel of the development hereby approved the following will be submitted to and approved in writing by the Local Planning Authority in consultation with the Mineral Planning Authority in respect of that phase or parcel:

The Mineral Safeguarding Appraisal, carried out by Clover Planning, will inform a Materials Management Plan-Minerals (MMP-M) for that phase or parcel in so far as the fact that the corresponding part of the site contains a viable mineral resource for prior extraction. The MMP-M for that phase or parcel will consider the extent to which on site materials which could be extracted during the proposed development of that phase or parcel would meet specifications for use on site through testing and assessment. The MMP-M for that phase or parcel shall be submitted to and approved in writing by the Local Planning Authority jointly with the Mineral Planning Authority (Norfolk County Council);

The MMP-M for that phase or parcel should outline the amount of material which could be reused on site; and for material extracted which cannot be used on-site its movement, as far as possible by return run, to an aggregate processing plant.

The developer of that phase or parcel shall keep a record of the amounts of material obtained from on-site resources for that phase or parcel which are used on the development of that phase or parcel and the amount of material returned to an aggregate processing plant, through the MMP-M. The developer shall provide an annual return of these amounts to the Local Planning Authority and the Mineral Planning Authority, or upon request of either the Local Planning Authority or Mineral Planning Authority.

The development of that phase or parcel shall then be carried out in accordance with the approved MMP-M for that phase or parcel.

- 1.3. To address the National Planning Policy Framework objective to safeguard mineral resources and Norfolk Minerals and Waste Core Strategy (adopted September 2011) Policy CS16 - Safeguarding Mineral and Waste sites and Mineral Resources, a Mineral Safeguarding Appraisal was prepared by Clover Planning in 2016 to accompany the outline planning application. Based on published information and site investigation reports made available at the time, the appraisal concluded that the site contained a superficial glacialfluvial deposit associated with the Sheringham Cliffs Formation which in places up to 13 metres thick overlying the Craig Formation bedrock. There was insufficient borehole information to fully determine the depth of the sand and gravel

deposit across the site and thus it was not possible to attempt to map and quantify the potential resource with any confidence. However, what the available borehole information did confirm is that the site does contain a deposit of sand and gravel, that the deposit is located relatively close to the surface. The sand and gravel deposit is of variable quality and although containing a moderate proportion of gravel and stone, it also contained pockets of clays and silts.

- 1.4. This Materials Management Plan- Minerals (MMP-M) has been prepared to address the requirements of condition 22. It only relates to 11 hectares on the western side of the original outline planning permission site which is to be developed as a separate parcel. This MMP-M only addresses the recovery and use of primary minerals (sand and gravel) within the site as a proportion of the overall aggregate requirement. All works associated with regard to mineral removal, screening and reuse will be carried out under the Contaminated Land: Applications in Real Environments (CL:AIRE) protocol. A separate Materials Management Plan (MMP) under the CL:AIRE Code of Practice will be prepared either by the contractor Materials Movement or BRD.

2.0 Site location

- 2.1. The 2016/0498 permission area extends to 36.9 hectares; it lies on the north east side of Norwich adjacent to the existing built up area. The centre of Sprowston lies 200 metres to the north west. Keir Living have acquired approximately 11 hectares of the permission area forming western third of outline permission boundary as shown in Figure 1.



Figure 1 Site Boundary

- 2.2. The site is generally level, falling from south to north from 37.5 to 35.2 m AoD. The site is predominantly a single grassland field but includes pockets of woodland and scrub along the boundaries. The southern boundary at the western end of the site is marked by an extensive woodland planting. The northern boundary is formed by Salhouse Road.

3.0 Further mineral investigation

- 3.1. The original assessment was based on information made available at the time however BRD Environmental Ltd undertook a Geo-Environmental Site Investigation in June 2018 for Kier Living. These site investigation works included 12 boreholes to a nominal depth of 3m-5m, and a further 41 trial pits to a nominal depth of 3m. An exploratory plan and the hole logs are contained in Appendix A.
- 3.2. The BRD Investigation confirms the presence of the superficial deposits of the Sheringham Cliffs Formation across the entire site comprising several sequences of strata. In the eastern half of the site and along the southern boundary, local patches of soft, orange clayey silt soils have been recorded below the topsoil. Below which dense to very dense, orangey brown, gravelly sands and sandy gravel have been recorded. These dense deposits have been proved across most of the site except to the north western corner of the site, where sequences of medium dense sands with variable gravel and clay content have been recorded to maximum investigation depths of 5.5m below ground level (bgl). Occasionally sandy soils comprising sporadic light grey sandy clay layers and pockets have been recorded above the very dense orange sandy gravel.
- 3.3. Most of the boreholes BRD undertook refused in the dense, orange, gravelly soils due to their high density, and strength at shallow depths of about 2.0m bgl. Generally, dynamic probe tests were undertaken at the base of those boreholes to prove the density of deeper material.
- 3.4. The bedrock (Crag) was not encountered in any of the exploratory holes to maximum investigation depths of 5.5m bgl. This is consistent with previous borehole data, and boreholes drilled on adjoining land.
- 3.5. The Sheringham Cliffs Formation has been mainly recorded comprising dense to very dense, orangey brown, sandy gravel and gravelly sand sequences. These deposits have been proved across the entire site and in some areas directly below the Topsoil (south eastern quadrant).
- 3.6. For the eastern half of the site and southern boundary and above the sand and gravel, soft, orangey brown clayey silt soils have been recorded to depths between 0.5m and 0.9m bgl.
- 3.7. To the north eastern quadrant gravelly, clayey sand deposits have been recorded above the orangey gravel with light grey sandy clay layers. In the north western corner of the site the Sheringham Cliffs Formation was

recorded as sequences of medium dense sandy soils with variable content in clay and gravel deposits.

- 3.8. Six samples of Sheringham Cliffs Formation were collected and submitted for Particle Size Distribution (PSD) analysis. The recorded Particle Size Distribution curves are shown below in Figure 2. Appendix B contains the PSD results. The PSD test results indicate a predominantly granular material with clay/silt percentages ranging between 4% and 71%, the proportion of gravels range from 10% to 77% and the sand fractions range from 15% to 65%. The PSD results confirmed the borehole log description of a predominantly granular material with clay and the variable nature of these deposits with an average content of 40% gravel, 36% sand and 24% silt and clay encountered across the Site, although with a significant variation in proportions.

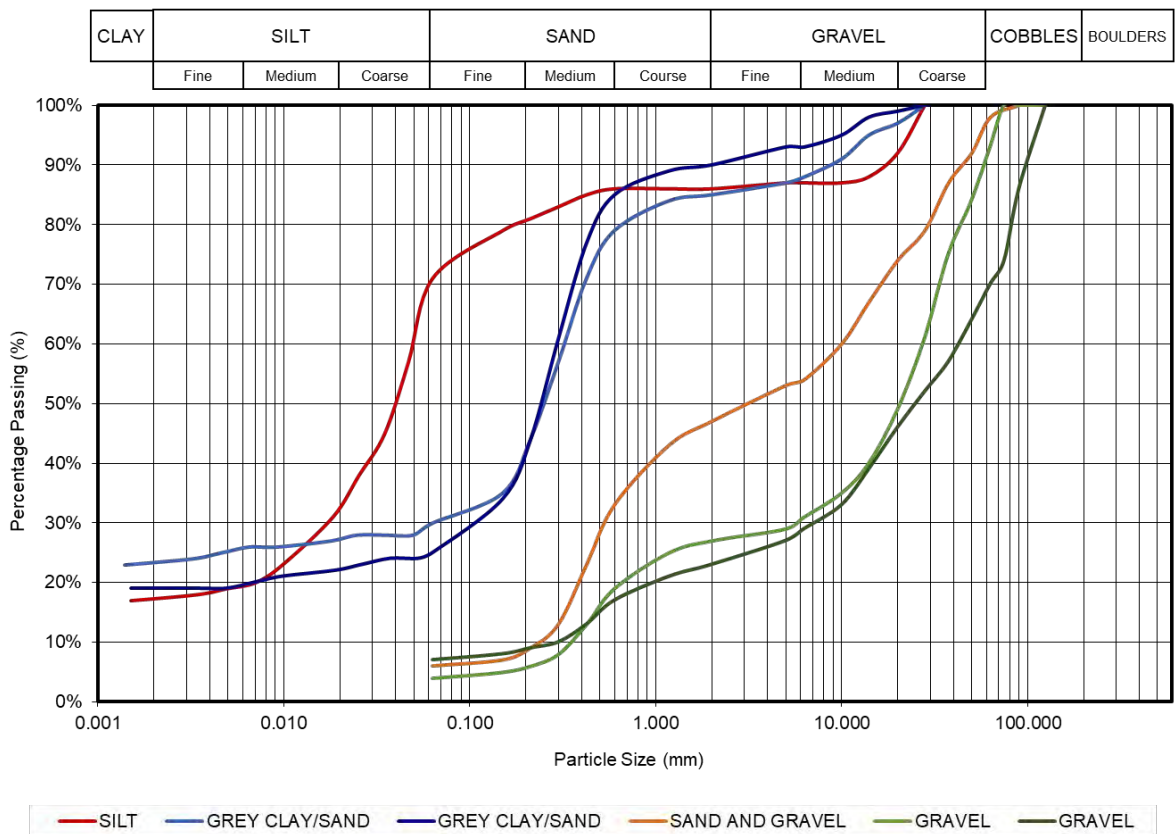


Figure 2 Particle Size Distribution curves

4.0 Proposed development

- 4.1. Kier Living have acquired interest in approximately 11 hectares of the outline planning permission (ref 2016/0498) area and will shortly be submitting a detailed planning application for the development of this area. The proposed layout of the site is shown in Figure 3 below. It shows the site being developed to provide 251 houses, associated estate roads with a main access off Salhouse Road, landscaping and open space area and infiltration basins for surface water drainage.



Figure 3 Proposed Site Layout

5.0 Anticipated Aggregate won on site

- 5.1. Based on site investigations sand and gravel materials occur on site and these are likely to be extracted during preliminary site works/groundworks. In particular as part of the initial ground works, three infiltration drainage basins will be constructed requiring the excavation of around 8,000m³ of material. The largest basin, comprising of 2 linked attenuation ponds in the north east of the site, has a design capacity of 5,654 m³. Much of this basin is, according to site investigations, underlain by slightly silty, gravelly sand becoming slightly silty, very sandy gravel at depth of 0.7 metres below the surface. The second basin has a capacity of 1,116m³ and lies in south west corner of the site. The nearest borehole to this basin indicates mixed layers of fine sand with sandy clay layers with some gravel to slightly gravelly, clayey, fine sand with sandy gravel below 2 metres. Given the mix nature of the deposit in this

location it is expected that this excavation will yield a limited amount of suitable aggregate to meet anticipated site needs. The third basin has a capacity of 1,284 m³ and lies in south west corner of the site. The nearest borehole to this basin indicates silty, sandy gravel running to gravelly sand can be expected from a depth of 0.3 metres below the surface potentially suggesting that much of the material won at this excavation could meet anticipated site aggregate needs. Due to the highly variable strata encountered across the site, calculating a percentage of materials suitable for re-use during the construction process is not possible. However, as an estimate it would appear likely that a significant proportion, potentially over 50% would be suitable meaning that 4000m³ of aggregate could be sourced from materials excavated on site.

- 5.2. It is recommended that, as materials are extracted, suitable granular materials are identified and stockpiled separately for used on site as construction material. Subject to the potential use of this material, it may be dry screened on site to make it suitable for the identified potential end use.
- 5.3. The use of on-board weighing equipment in dump trucks and/or loading shovels with can be used to monitor the tonnages extracted and stored/used on site.
- 5.4. In view of the size of the site, the height of the water table and volumes of material likely to be extracted, use of an on-site washing plant is not considered to be a viable option. Any suitable granular material stockpiled that cannot be used on site either as-raised or made suitable by dry screening will be removed from the site.

6.0 Anticipated Aggregate Requirements

- 6.1. Material extracted during the construction process is anticipated to be suitable, with or without processing depending upon the requirement, to meet a range of aggregate needs during site development. Such uses may include hoggin for footpath surfacing, capping material for road, footpaths, drives and parking areas construction, subbase fill for scaffolding bases, bases for garden patios, paths and drainage fill.
- 6.2. Based on the 251 unit layout as shown in figure 3 above (drawing number: 1826/P/10.02) the anticipated aggregate requirements on site are set out in the table below.

| <u>Aggregate requirements for Site use</u> | <u>Quantity</u> <u>m²</u> | <u>Depth</u> <u>(mm)</u> | <u>Volume</u> <u>(m³)</u> |
|--|---|-----------------------------|---|
| Hoggin footpath POS | 1000 | 0.15 | 150.0 |
| Capping to Roads (assumed CBR from 4%-7%) | 11873.6 | 0.25 | 2968.4 |
| | | | |

| | | | |
|--|---------|------|----------------|
| Capping to footpaths (assumed CBR from 4%-7%) | 4971 | 0.15 | 745.7 |
| Capping to drives & parking area (assumed CBR 4% - 7%) | 12023 | 0.20 | 2404.6 |
| Sub-base fill to scaffold bases - 2m wide around all houses & garages | 11507 | 0.15 | 1726.1 |
| Private Paths & Patios | 4467 | 0.15 | 670.1 |
| Adopted Drainage Foul incl. rising main - assume 450mm trench | 1132.65 | 0.25 | 283.2 |
| Adopted Drainage Stormwater - average 600mm due to part oversized pipes | 1150.2 | 0.25 | 287.6 |
| Domestic Foul & Storm - assumed 450mm wide (assumed 15m pp. x 2no) | 3402 | 0.25 | 850.5 |
| Total Volume of Aggregate required on site | | | 10086.0 |

6.3. Based on the above requirements it would seem likely at least half the extracted material arising from construction of the three infiltration drainage basins would prove to be suitable to meet the anticipated aggregate requirements identified as part of this housing development. Due to the highly variable strata encountered across the Site, calculating a percentage of materials able to be re-used during the construction process is not possible. However, if 4000m³ is recovered as an estimate it would make a significant contribution to the identified aggregate need for the proposed development.

7.0 Record Keeping

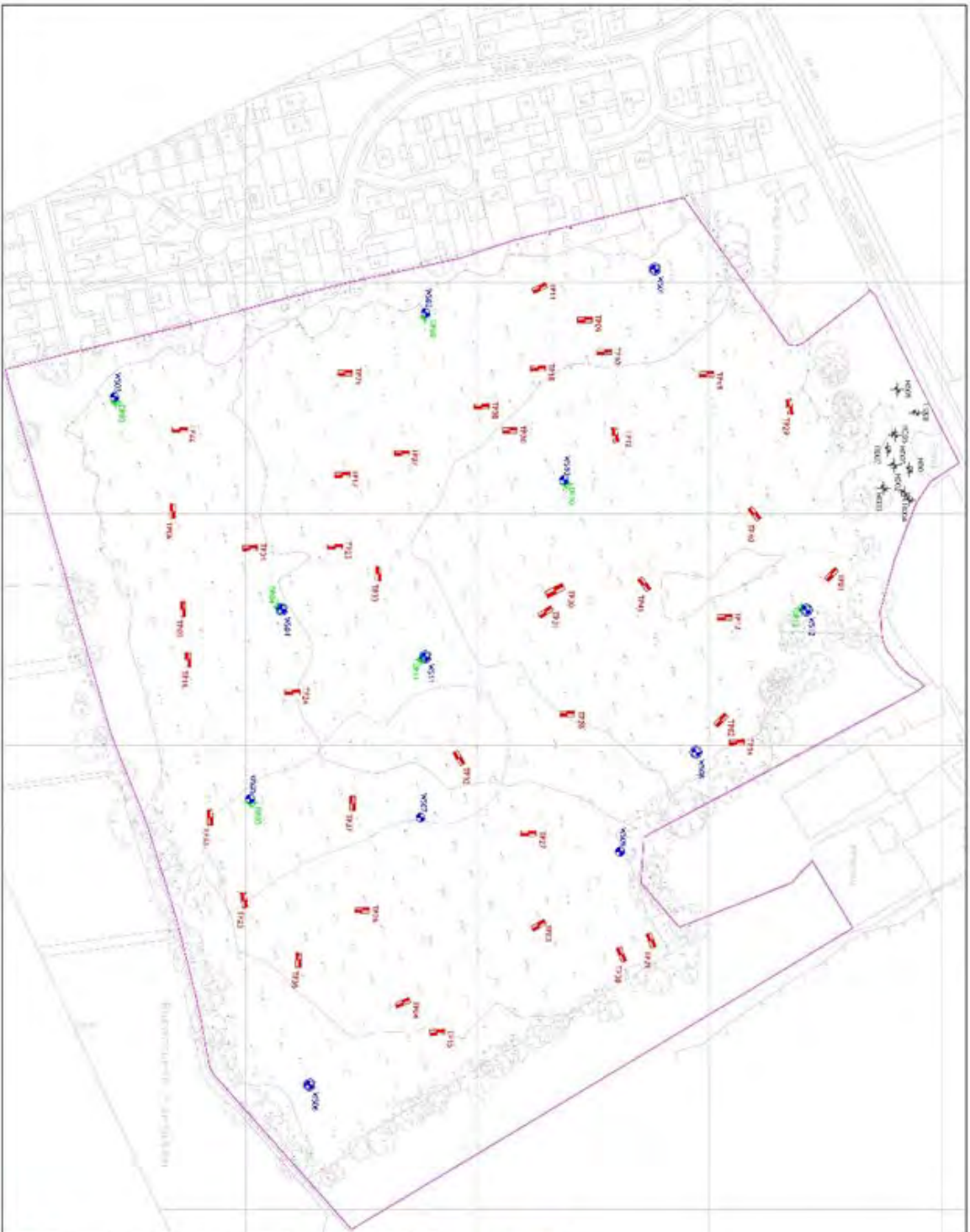
7.1. The Principal Contractor is responsible for delivery of the project on the ground in line with requirements and specifications of MMP-M. Principal Contractor will be responsible for recording the implementation of this Materials Management Plan-Minerals as part of the overall Materials Management Plan for the development of this part of the site.


7.2. The records to be kept shall include:

- The types and quantities of material produced and disposed of off-site;
- The types and quantities of material excavated and reused on site as raised material
- The types and quantities of material excavated, processed (dry screened) and used on site.
- The types and quantities of aggregate material excavated elsewhere and imported to the Site.

- 7.3. Ground Worker / Waste Disposal Contractor is responsible for management of materials on site, recovery of materials on-site and off-site removal of surplus aggregate materials.
- 7.4. It is expected that all aggregate materials excavated but not suitable for reuse on site or requiring further processing will be kept separate and sent for further processing at a local facility.
- 7.5. The chain of evidence for compliance with the MMP-M will be maintained by the Principle Contractor to demonstrate that the processes set out in this MMP-M have been followed.
- 7.6. The evidence will include details of the following:
- Tracking of the material movements across the site area detailing source of materials and where they were placed;
 - Location of facility where any aggregates are sent for processing;
 - Principal quantities of materials imported on a daily, weekly and monthly basis; and any additional sampling which is considered necessary;
 - Weekly and monthly progress reports; and
 - A full set of as built drawings.
- 7.7. The documented chain of evidence can be made available to the planning authority to discharge the condition and confirm that works have been completed as agreed and in line with the planning requirements if required.

**Appendix A
BRD Environmental Ltd borehole logs**



| | |
|---|---|
|  BRD BRIDGE ROAD DEVELOPMENT 1000 W. 10th St. | |
| BRD Engineering Ltd 1000 W. 10th St. | |
| PROJECT INFORMATION PROJECT NO.: 2023-001 PROJECT NAME: BRIDGE ROAD DEVELOPMENT | CLIENT INFORMATION CLIENT NAME: BRD CLIENT ADDRESS: 1000 W. 10th St. |
| DATE DATE OF ISSUE: 2023-01-15 DATE OF REVISION: 2023-01-15 | SCALE SCALE: 1:500 SCALE BAR: 0m, 5m, 10m |
| DESIGNER DESIGNER: BRD Engineering Ltd DESIGNER ADDRESS: 1000 W. 10th St. | APPROVER APPROVER: [Signature] APPROVER ADDRESS: 1000 W. 10th St. |

- LEGEND**
- Water Main
 - Sanitary Sewer
 - Storm Sewer
 - Gas
 - Electric
 - Telephone
 - Optical Fiber
 - Other
- NOTES**
1. All utility lines shown are approximate locations.
 2. Utility lines shown are for informational purposes only.
 3. Utility lines shown are not to be used for construction purposes.
 4. Utility lines shown are not to be used for engineering purposes.
 5. Utility lines shown are not to be used for legal purposes.

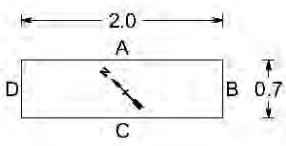



TRIAL PIT RECORD



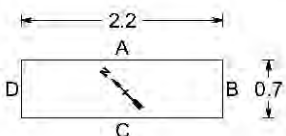

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP01</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|---|-----------------|-----------------------------|--------|
| Depth | Type & No | Value | | | | |
| | | | MADE GROUND/TOPSOIL: Soft, wet, dark brown, slightly gravelly, silty clay with occasional brick fragments. Gravel of fine to medium, angular flint. | 0.30 (35.31) | M/G/T/S | |
| | | | Soft, wet, light brown and orange, becoming orange, clayey SILT with roots. | | | |
| | | | Medium dense to dense, saturated, orange brown, silty, sandy GRAVEL. Gravel of fine to medium, subangular to rounded flint. Occasional large flint cobbles. | 0.80 (34.81) | SHERINGHAM CLIFFS FORMATION | |
| | | | | | | |
| | | | | 1.80 (33.81) | | |


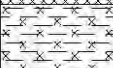
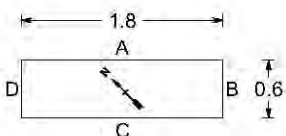

| | |
|--|---|
| Pit Stability: Slight spalling of sides Groundwater: Ingress at 0.80m | Surface Elevation Level: 35.61 mAOD |
|--|---|

| | | |
|--|---|---|
| Plan of Trial Pit:  | General Remarks: Terminated at 1.80m bgl to undertake soakage test. Backfilled at the end of the day due to resting groundwater level recorded at 0.80m bgl. | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com |
|--|---|---|

TRIAL PIT RECORD

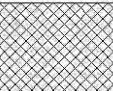
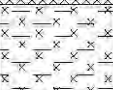


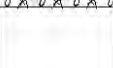
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP02</h2> Sheet 1 of 1 | | |
|--|-----------|-------|--|--|---|
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | | 0.25 (35.43) | MG/TS |  |
| | | | 0.70 (35.08) | SHERINGHAM CLIFFS FORMATION |  |
| | | | 1.80 (33.58) | | |
| | | | 4 | | |
| Pit Stability: See General Remarks Groundwater: See General Remarks | | | | Surface Elevation Level. 35.78 mAOD | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 1.80m bgl to undertake soakage test. Backfilled at the end of the day due to resting groundwater level recorded at 1.0m bgl. Groundwater seepage at 0.70m and ingress at 1.10m bgl. Running sands and side wall collapse on encountering ground water level. | | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP03</h2> | | |
|--|-----------|--|---|---------|---|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | | | | |
| | | MADE GROUND/TOPSOIL: Soft, dark brown, slightly gravelly, silty clay with occasional brick fragments. Gravel of fine to medium, angular flint. | 0.30 (36.44) | MG/TS |  |
| | | Soft, brown and orangey brown, clayey SILT with roots becoming slightly gravelly at base. | 0.60 (36.14) | SCF |  |
| | | | 1 | | |
| | | | 2 | | |
| | | | 3 | | |
| | | | 4 | | |
| Pit Stability: Generally stable throughout Groundwater: Not encountered | | | Surface Elevation Level: 36.74 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 0.60m bgl to undertake shallow soakage test. | | |
| | | | All dimensions in metres Log Scale 1:25 | | |
| | | |  Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

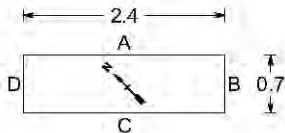
| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP04</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|-----------------|--|---|
| Depth | Type & No | Value | | | | |
| | | | MADE GROUND/TOPSOIL: Soft, dark brown, slightly gravelly, silty clay with occasional brick fragments. Gravel of fine to medium, angular flint. | 0.40 (36.29) | MG/TS SHERINGHAM CLIFFS FORMATION |  |
| | | | Soft, orange, clayey SILT with roots. | 0.80 (35.89) | |  |
| | | | Medium dense, wet, slightly silty, sandy GRAVEL. Gravel of fine to medium, subangular to rounded flint. | 1.50 (35.19) | |  |
| | | | Medium dense, saturated, orange brown, silty, sandy GRAVEL. Gravel of fine to medium, subangular to rounded flint. Occasional large flint cobbles. | 2.00 (34.69) | |  |
| | | | 1.90 m: Running sands. | 2.00 (34.69) | |  |

Pit Stability: See General Remarks
Groundwater: Seepage at 1.90m

Surface Elevation Level.
 36.69 mAOD

Plan of Trial Pit:



General Remarks:

Terminated at 2.00m bgl to undertake soakage test.
 Backfilled at the end of the day due to resting groundwater level recorded at 1.35m bgl.
 Running sands.

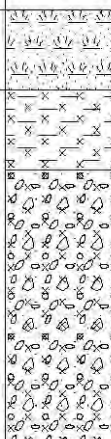
All dimensions in metres
 Log Scale 1:25



Telephone: 01295 272244
 Email: info@brduk.com

TRIAL PIT RECORD

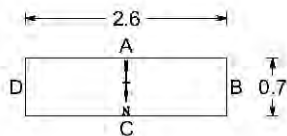
| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP05</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|-----------------|---------------------------------------|---|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Soft, dark brown, slightly gravelly, silty clay. Gravel of fine to medium, angular flint. | 0.25 (36.42) | TS SHERINGHAM CLIFFS FORMATION |  |
| | | | Soft, wet, light brown, gravelly, clayey SILT. Gravel of fine to medium, angular flint. | 0.70 (36.07) | | |
| | | | Medium dense, orange brown and light grey, silty, sandy GRAVEL with occasional sandy clay pockets. GRAVEL to cobble. Gravel, some cobbles, of fine to coarse, subangular to rounded flint. | 1.80 (34.87) | | |
| | | | | 2 (34.87) | | |
| | | | | 3 | | |
| | | | | 4 | | |

Pit Stability: Slight spalling of sides
Groundwater: Seepage at 1.10m

Surface Elevation Level.
 36.77 mAOD

Plan of Trial Pit:



General Remarks:


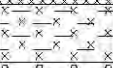
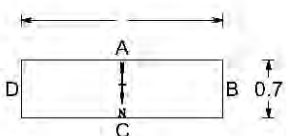

Terminated at 1.90m bgl to undertake soakage test.
 Backfilled at the end of the day due to resting groundwater level recorded at 0.70m bgl.
 Running sands.

All dimensions in metres
 Log Scale 1:25



Telephone: 01295 272244
 Email: info@brduk.com

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP06</h2> Sheet 1 of 1 | | |
|--|-----------|--|---|--|---|
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | MADE GROUND/TOPSOIL: Soft, dark brown, slightly gravelly, silty clay with occasional brick fragments. Gravel of fine to medium, angular flint. | 0.30 (36.37) | MG |  |
| | | Soft, wet, light brown clayey SILT with roots. | 0.55 (36.12) | SCF |  |
| | | Medium dense, saturated, orange brown, silty, sandy GRAVEL. Gravel of fine to medium, subrounded flint. | 0.60 (36.07) | | |
| | | | 1 | | |
| | | | 2 | | |
| | | | 3 | | |
| | | | 4 | | |
| Pit Stability: Generally stable throughout Groundwater: Slight seepage at 0.60m | | | | Surface Elevation Level. 36.67 mAOD | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 0.60m bgl to undertake shallow soakage test. Backfilled at the end of the day due to resting groundwater level recorded at 0.55m bgl. | | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP07</h2> | | |
|--|-----------|-------|--|-----------------------------|--------|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | Description of Strata | Geology | Legend |
| 0.35 (35.73) | | | TOPSOIL: Soft, dark brown, slightly gravelly, silty clay. Gravel of fine to medium, angular flint. | TS | |
| 0.65 (35.43) | | | Soft, wet, firm, light brown, slightly gravelly, clayey SILT. Gravel of fine to medium, subangular flint. | SHERINGHAM CLIFFS FORMATION | |
| 1.70 (34.38) | | | Medium dense to dense, wet, orange to orange brown, silty, sandy GRAVEL to COBBLE. Gravel to Cobble of fine to coarse, subrounded flint. | SHERINGHAM CLIFFS FORMATION | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 1.70m | | | Surface Elevation Level. 36.08 mAOD | | |
| Plan of Trial Pit: | | | General Remarks: Terminated at 1.70m bgl to undertake soakage test. Large spalling from 1.30m to 1.70m bgl. Backfilled at the end of the day due to resting groundwater level recorded at 0.55m bgl. | | |
| | | | All dimensions in metres Log Scale 1:25 Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP08</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|-----------------|---------|--------|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Soft, dark brown, slightly gravelly, silty clay. Gravel of fine to medium, angular flint. | 0.30 (35.86) | TS | |
| | | | Firm, light grey and light orange, clayey SILT. | 0.50 (35.66) | SCF | |
| | | | | 1 | | |
| | | | | 2 | | |
| | | | | 3 | | |
| | | | | 4 | | |

| | |
|--|---|
| Pit Stability: Generally stable throughout Groundwater: Not encountered | Surface Elevation Level: 36.16 mAOD |
|--|---|



| | | |
|-----------------------------------|---|--|
| Plan of Trial Pit: | General Remarks: Terminated at 0.50m bgl to undertake shallow soakage test. | All dimensions in metres Log Scale 1:25 Telephone: 01295 272244 Email: info@brduk.com |
|-----------------------------------|---|--|

TRIAL PIT RECORD

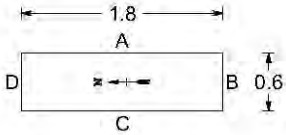
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP09</h2> | | |
|--|-----------|--|---|---------------|--|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | TOPSOIL: Soft, dark brown, slightly gravelly, silty clay. Gravel of fine to medium, angular flint. | 0.30 (35.89) | TS | |
| | | Medium dense, orange brown and light grey, slightly gravelly, silty SAND. Gravel of fine to medium, subangular to rounded flint. Running sands from 1.00m bgl. | 1.10 (35.09) | SHERINGHAM CF | |
| | | | 2 3 4 | | |
| Pit Stability: Slight spalling of sides Groundwater: Not encountered | | | Surface Elevation Level: 36.19 mAOD | | |
| Plan of Trial Pit: | | | General Remarks: Terminated at 1.10m bgl to undertake soakage test. Backfilled at the end of the day due to resting groundwater level recorded at 1.00m bgl. | | All dimensions in metres Log Scale 1:25 |
| | | | | | |
| | | | Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP10</h2> |
| Sheet 1 of 1 | |

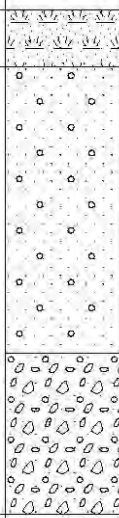
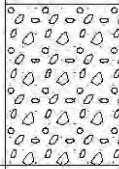
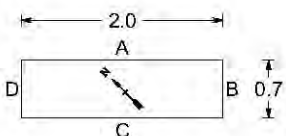

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|-----------------|---------|---|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Soft, dark brown, slightly gravelly, silty clay. Gravel of fine to medium, angular flint. | 0.35 (35.72) | TS |  |
| | | | Medium dense, slightly gravelly, slightly silty SAND. Gravel of fine to medium, subangular to rounded flint. | 0.60 (35.47) | SCE |  |
| | | | | 1 | | |
| | | | | 2 | | |
| | | | | 3 | | |
| | | | | 4 | | |

| | |
|--|---|
| Pit Stability: Generally stable throughout Groundwater: Not encountered | Surface Elevation Level. 36.07 mAOD |
|--|---|

| | | |
|--|---|--|
| Plan of Trial Pit:  | General Remarks: Terminated at 0.60m bgl to undertake shallow soakage test. | All dimensions in metres Log Scale 1:25 |
|--|---|--|



TRIAL PIT RECORD

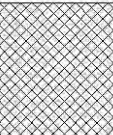

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP11</h2> | | |
|--|-----------|-------|--|-----------------------------|--|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| 0.10 | J1 | | 0.25 (35.87) | TS |  |
| 0.50 | J2 | | 1 | | |
| 0.80 | B1 | | 1.50 (34.62) | SHERINGHAM CLIFFS FORMATION |  |
| | | | 2.20 (33.92) | | |
| | | | 3 | | |
| | | | 4 | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 0.90m and 1.80m | | | Surface Elevation Level. 36.12 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 2.20m bgl due to pit sides collapsing at 1.50m bgl. | | |
| | | | All dimensions in metres Log Scale 1:25 | | |
| | | |  | | |
| | | | Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP12</h2> | | |
|--|-----------|-------|--|-----------------|---------------------------------|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| 1.10 | B1 | | TOPSOIL: Soft, dark brown, sandy clay. | 0.30 (35.62) | TS |
| | | | Medium dense, orange, yellow and light grey, some natural black stains, slightly gravelly, clayey, fine SAND with firm, light grey, sandy pockets. Gravel of fine to medium, angular flint. Running sands from top | 1.50 (34.42) | SHERINGHAM CLIFFS FORMATION |
| | | | | 2 | |
| | | | | 3 | |
| | | | | 4 | |
| Pit Stability: See General Remarks Groundwater: Seepage at 0.60m | | | Surface Elevation Level: 35.92 mAOD | | |
| Plan of Trial Pit: | | | General Remarks: Terminated at 1.50m bgl due to spalling and collapse of trial pit wall. | | |
| | | | | | |
| | | | All dimensions in metres Log Scale 1:25 Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

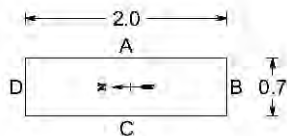
| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP13</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|---|-----------------|-----------------------------|--|
| Depth | Type & No | Value | | | | |
| 1.00 | B1 | | MADE GROUND/TOPSOIL: Soft, wet, dark brown, silty clay with brick and porcelain fragments. | 0.60 (35.04) | MG/TS |  |
| | | | Soft, orange and light grey, sandy SILT. Occasional fine to medium, angular flint gravel. | 1.50 (34.14) | | |
| 2.30 | B2 | | Medium dense to dense, orange brown, silty, sandy GRAVEL. Gravel of fine to medium, subrounded flint. | 2.70 (32.94) | SHERINGHAM CLIFFS FORMATION |  |
| | | | 2.60 m: Becomes gravelly SAND. | 3.00 | | |

Pit Stability: See General Remarks
Groundwater: Not encountered

Surface Elevation Level:
 35.64 mAOD

Plan of Trial Pit:



General Remarks:

Terminated at 2.70m bgl due to spalling and collapse of trial pit wall.

All dimensions in metres
 Log Scale 1:25



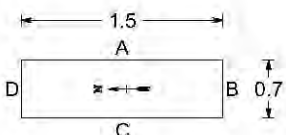

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TRIAL PIT RECORD

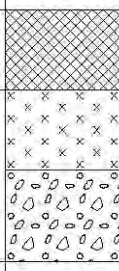
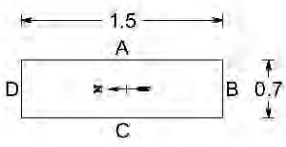

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP14</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|---|------------------------------------|---------------|--------|
| Depth | Type & No | Value | | | | |
| | | | MADE GROUND/TOPSOIL: Soft, wet, dark brown, slightly gravelly, silty clay with occasional brick fragments. Gravel of fine to medium, angular flint. | 0.30 (35.75) | MG/TS | |
| | | | Soft, light brown and orange becoming orange, clayey SILT with roots. | | SHERINGHAM CF | |
| | | | Medium dense, saturated, orange brown, silty, sandy GRAVEL. Gravel of fine to medium, subangular to rounded flint. Occasional large flint cobbles. | 0.85 (35.10) 1.10 (34.95) | | |
| | | | | 2 | | |
| | | | | 3 | | |
| | | | | 4 | | |



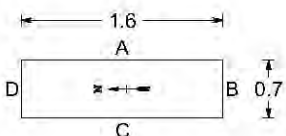

| | |
|--|---|
| Pit Stability: Generally stable throughout Groundwater: Not encountered | Surface Elevation Level: 36.05 mAOD |
|--|---|

| | | |
|--|---|---|
| Plan of Trial Pit:  | General Remarks: Terminated at 1.10m bgl to undertake soakage test. | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com |
|--|---|---|

TRIAL PIT RECORD

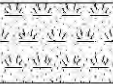

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP15</h2> | | |
|--|-----------|--|---|-------------------------|---|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | MADE GROUND/TOPSOIL: Soft, dark brown, slightly gravelly, silty clay with occasional brick fragments. Gravel of fine to medium, angular flint. | 0.25 (36.21) | TS SHERINGHAM CF |  |
| | | Soft, orange, clayey SILT with roots. | 0.70 (35.86) | | |
| | | Medium dense, saturated, orange brown, silty, sandy GRAVEL. Gravel of fine to medium, subangular to rounded flint. Occasional large flint cobbles. | 1.10 (35.46) | | |
| | | | 1 2 3 4 | | |
| Pit Stability: Generally stable throughout Groundwater: Not encountered | | | Surface Elevation Level: 36.56 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 1.10m bgl to undertake soakage test. | | |
| | | | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP16</h2> | | |
|--|-----------|--|---|---------------|---|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | TOPSOIL: Soft, dark brown, slightly gravelly, silty clay. Gravel of fine to medium, angular flint. | 0.30 (36.38) | TS |  |
| | | Soft, light brown, gravelly, clayey SILT. | 0.80 (36.08) | | |
| | | Medium dense, orange brown and light grey, silty, sandy GRAVEL with occasional sandy clay pockets. GRAVEL to cobble. | 1.10 (35.58) | SHERINGHAM CF |  |
| | | | 2 | | |
| | | | 3 | | |
| | | | 4 | | |
| Pit Stability: Generally stable throughout Groundwater: Not encountered | | | Surface Elevation Level: 36.68 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 1.10m bgl to undertake soakage test. | | |
| | | | All dimensions in metres Log Scale 1:25 | | |
| | | |  Telephone: 01295 272244 Email: info@brduk.com | | |

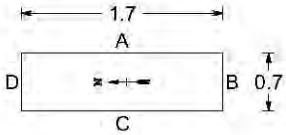
TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP17</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|-----------------|---------------|---|
| Depth | Type & No | Value | | | | |
| | | | MADE GROUND/TOPSOIL: Soft, dark brown, slightly gravelly, silty clay with occasional brick fragments. Gravel of fine to medium, angular flint. | 0.25 (35.79) | TS |  |
| | | | Medium dense, orange and light grey, slightly gravelly, silty SAND. | 0.50 (35.64) | | |
| | | | Medium dense, saturated, orange brown, silty, sandy GRAVEL. Gravel of fine to medium, subrounded flint. | 1.10 (35.04) | SHERINGHAM CF |  |
| | | | | 1 | | |
| | | | | 2 | | |
| | | | | 3 | | |
| | | | | 4 | | |

| | |
|---|---|
| Pit Stability: Slight spalling of sides Groundwater: Slight seepage at 0.50m | Surface Elevation Level: 36.14 mAOD |
|---|---|

| | | |
|---------------------------|---|--|
| Plan of Trial Pit: | General Remarks: Terminated at 1.10m bgl to undertake soakage test. | All dimensions in metres Log Scale 1:25 |
|---------------------------|---|--|



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TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 30/04/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP18</h2> |
| Sheet 1 of 1 | |

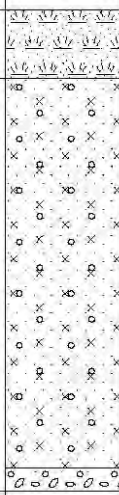
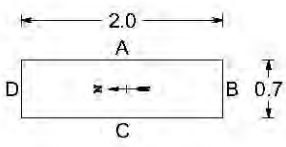

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|---|-----------------|---------|--------|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Soft, dark brown, slightly gravelly, silty clay. Gravel of fine to medium, angular flint. | 0.40 (35.64) | TS | |
| | | | Medium dense, orange brown and light grey, silty, gravelly SAND. Gravel of fine to medium, subangular to rounded flint. | 0.90 (35.14) | SCF | |
| | | | | 1 | | |
| | | | | 2 | | |
| | | | | 3 | | |
| | | | | 4 | | |

| | |
|--|---|
| Pit Stability: Generally stable throughout Groundwater: Not encountered | Surface Elevation Level: 36.04 mAOD |
|--|---|


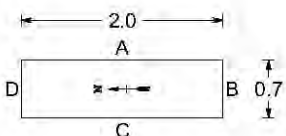

| | | |
|-------------------------------|---|--|
| Plan of Trial Pit: | General Remarks: Terminated at 0.90m bgl to undertake soakage test. | All dimensions in metres Log Scale 1:25 |
|-------------------------------|---|--|

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TRIAL PIT RECORD



| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP19</h2> | | |
|--|-----------|-------|--|---------------------------------------|---|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| 0.20 | J1 | | 0.30 (35.70) | TS SHERINGHAM CLIFFS FORMATION |  |
| 0.65 0.70 | J2 B1 | | 1 2 2.00 (34.00) 2.10 (33.90) | | |
| | | | 3 4 | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 0.30m | | | Surface Elevation Level: 36.00 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 2.10m bgl due to collapse of pit sides. | | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com |

TRIAL PIT RECORD

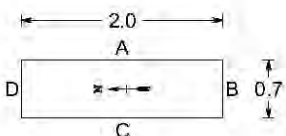

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP20</h2> | | | |
|--|-----------|-------|--|---|---|--|
| | | | Sheet 1 of 1 | | | |
| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | | |
| 0.30 | J1 | | TOPSOIL: Grass over; Wet, dark brown, silty clay with roots. | 0.35 (35.72) | TS SHERINGHAM CLIFFS FORMATION |  |
| 0.70 | J2 | | Medium dense, wet, orange brown and light grey, slightly silty, gravelly, fine SAND. | 0.80 (35.17) | | |
| 1.50 | B1 | | 1.50 - 1.60 m: Layer of gravelly SAND. Gravel of fine to coarse flint. | 2.30 (33.77) | | |
| | | | | 4 | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 0.35m | | | | Surface Elevation Level. 36.07 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 2.30m bgl due to collapse of pit sides. Running sands. | | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com | |

TRIAL PIT RECORD


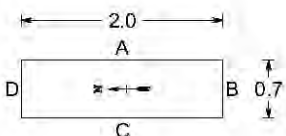

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP21</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|---|-----------------|-----------------------------|---|
| Depth | Type & No | Value | | | | |
| 0.10 | J1 | | MADE GROUND/TOPSOIL: Grass over; Wet, dark brown, silty clay with roots and rare whole bricks. | 0.35 (35.88) | MG |  |
| 0.60 0.70 | J2 B1 | | Medium dense to dense, wet, yellow, orange and light grey, slightly silty, sandy GRAVEL. Gravel of fine to coarse, subangular to rounded flint. | 1 | SHERINGHAM CLIFFS FORMATION |  |
| 1.80 | B2 | | 1.10 m: Frequent cobbles to boulders of subrounded flint. | 1.80 (34.43) | | |

| | |
|---|---|
| Pit Stability: See General Remarks Groundwater: Seepage at 0.35m | Surface Elevation Level: 36.23 mAOD |
|---|---|

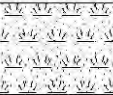

| | | |
|--|--|---|
| Plan of Trial Pit:  | General Remarks: Terminated at 1.80m bgl due to collapse of pit sides. | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com |
|--|--|---|

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP22</h2> | | | |
|--|-----------|-------|--|---|---------|--|
| | | | Sheet 1 of 1 | | | |
| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | TOPSOIL: Soft, dark brown, slightly gravelly, silty clay. Gravel of fine to medium, subrounded flint. | 0.35 (36.29) | TS |  |
| 0.30 | J1 | | Medium dense to dense, wet, orange and light grey, slightly silty, sandy GRAVEL. Gravel of fine to coarse, rare cobbles, of subrounded to rounded flint. | 0.70 0.70 | | SHERINGHAM CLIFFS FORMATION |
| 1.40 | B2 | | 2.00 m: Occasional boulder. Becoming saturated. | 2.60 (34.04) | | |
| 2.30 | B3 | | | 4 | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 1.90m | | | | Surface Elevation Level: 36.64 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 2.60m bgl due to collapse of pit sides. | | | |
| | | | | All dimensions in metres Log Scale 1:25 | | |
| | | | |  Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

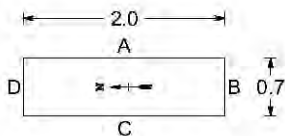
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|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP23</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|---|--------------------------|-----------------------------|---|
| Depth | Type & No | Value | | | | |
| 0.10 | J1 | | TOPSOIL: Soft, dark brown, gravelly, silty clay with roots. Gravel of fine to medium, rounded flint. | 0.40 (35.60) | TS |  |
| 0.80 0.80 | J2 B1 | | Very dense, saturated, light orange, sandy GRAVEL to COBBLES. Gravel to cobbles of angular to rounded flint. Occasional boulders. | 1 1.70 (34.60) | SHERINGHAM CLIFFS FORMATION |  |
| | | | | 2 3 4 | | |

Pit Stability: See General Remarks
Groundwater: Seepage at 0.90m

Surface Elevation Level:
 36.30 mAOD

Plan of Trial Pit:





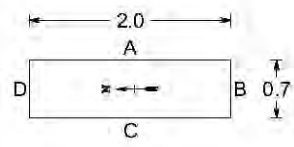

General Remarks:
 Terminated at 1.70m bgl due to collapse of pit sides.

All dimensions in metres
 Log Scale 1:25



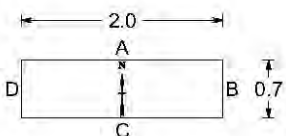



Telephone: 01295 272244
 Email: info@brduk.com

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP24</h2> | | | |
|--|-----------|-------|---|---|---|---|
| | | | Sheet 1 of 1 | | | |
| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | TOPSOIL: Soft, dark brown, gravelly, silty clay with roots. Gravel of fine to medium, subrounded flint. | 0.30 (36.28) | TS |  |
| 0.20 | J1 | | Medium dense to very dense, wet, orange and some light grey, slightly silty, sandy GRAVEL. Gravel of fine to coarse, subrounded to rounded flint. Frequent cobbles to boulders. | 0.70 | J2 | SHERINGHAM CLIFFS FORMATION  |
| 1.20 | B1 | | | 2.00 | B2 | |
| 2.00 | B2 | | | 2.10 (34.48) | | |
| | | | | 4 | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 0.30m | | | | Surface Elevation Level: 36.58 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 2.10m bgl due to collapse of pit sides. | | All dimensions in metres Log Scale 1:25 | |
| | | | | |  Telephone: 01295 272244 Email: info@brduk.com | |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP25</h2> | | |
|--|-----------|-------|--|---|---|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| 0.10 | J1 | | 0.30 (36.27) | TS |  |
| 0.60 | B1 J2 | | 0.70 (35.87) | | |
| 1.90 | B2 | | 2.50 (34.07) | SHERINGHAM CLIFFS FORMATION |  |
| | | | 4 | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 0.50m | | | | Surface Elevation Level. 36.57 mAOD | |
| Plan of Trial Pit:  | | | General Remarks: Running sands. Terminated at 2.50m bgl due to collapse of pit sides. | | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP26</h2> Sheet 1 of 1 | | | |
|--|-----------|-------|---|-----------------|--|--|
| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | | |
| 0.20 | J1 | | TOPSOIL: Soft, dark brown, gravelly, silty clay with roots. Gravel of fine to medium, subrounded flint. | 0.30 (36.55) | TS | |
| 0.50 0.50 | J2 B1 | | Soft, wet, orange, sandy, clayey SILT. | 0.60 (36.25) | | |
| | | | Medium dense to dense, wet, brown to orange, slightly silty, sandy GRAVEL. Gravel of fine to medium, subangular to rounded flint. | 0.80 (35.95) | SHERINGHAM CLIFFS FORMATION | |
| | | | Medium dense, wet, reddish brown, slightly silty, gravelly SAND. | 1.00 (35.55) | | |
| 1.20 | B2 | | Medium dense to dense, wet, orange brown, very sandy GRAVEL. Gravel of fine to coarse, occasional cobbles. | 1.30 (35.55) | | |
| | | | 2.00 m: Occasional red-oxidised sand deposits. | 2.00 | | |
| 2.30 | B3 | | | 2.40 (34.45) | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 1.30m | | | | | Surface Elevation Level: 36.85 mAOD | |
| Plan of Trial Pit: | | | General Remarks: Running sands. Terminated at 2.40m bgl due to collapse of pit sides. | | | All dimensions in metres Log Scale 1:25 Telephone: 01295 272244 Email: info@brduk.com |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP27</h2> | | |
|--|-----------|---|---|-----------------------------|--------|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| 0.25 | J1 | | 0.30 (36.55) | TS | |
| 0.60 0.60 | J2 B1 | | 0.65 (36.20) | | |
| 1.40 | B2 | 1.50 m: Becomes reddish brown in colour | 1 2 | SHERINGHAM CLIFFS FORMATION | |
| 2.80 | B3 | | 2.90 (33.95) | | |
| Pit Stability: See General Remarks Groundwater: Seepage at 1.50m and 2.20m | | | Surface Elevation Level: 36.85 mAOD | | |
| Plan of Trial Pit: | | | General Remarks: Running sands and slight spalling on encountering groundwater. Terminated at 2.90m bgl. | | |
| | | | | | |
| | | | Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

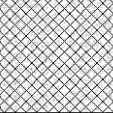
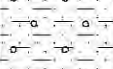

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 01/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP28</h2> | | |
|--|-----------|-------|---|--|-------------------------|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| 0.20 | J1 | | TOPSOIL: Soft, dark brown, gravelly, silty clay with roots. Gravel of fine to medium, subrounded flint. Soft, orangey brown, some natural black stained, clayey SILT with occasional flint gravel. Medium dense, wet, orange brown and light grey, gravelly, clayey, fine SAND. | 0.30 (35.72) 0.50 (35.52) | TS SHERINGHAM CF |
| 0.70 | J2 | | | 1 | |
| 1.10 | B1 | | 1.20m: Ceramic land drain. | 1.40 (34.62) | |
| | | | | 2 3 4 | |
| Pit Stability: Slight spalling of sides Groundwater: Seepage at 0.50m | | | Surface Elevation Level: 36.02 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 1.20m bgl due to heavy inflow from land drain. | | |
| | | |  Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

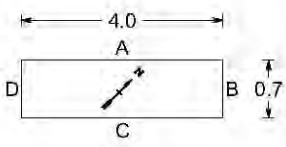
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP29</h2> | | |
|--|-----------|--|---|---------------|--------|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | | | | |
| | | TOPSOIL: Grass over: Dark brown, sandy silt. | | TS | |
| | | Medium dense, wet, orange and light grey, clayey, slight gravelly, fine SAND with light grey sandy clay pockets. Gravel of fine to medium, subrounded flint. | 0.40 (35.18) | SHERINGHAM CF | |
| | | | 1.20 (34.38) | | |
| | | | 2 | | |
| | | | 3 | | |
| | | | 4 | | |
| Pit Stability: Generally stable throughout Groundwater: Not encountered | | | Surface Elevation Level: 35.58 mAOD | | |
| Plan of Trial Pit: | | | General Remarks: Terminated at 1.20m bgl to undertake soakage test. | | |
| | | | All dimensions in metres Log Scale 1:25 | | |
| | | | | | |
| | | | Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP30</h2> |
| Sheet 1 of 1 | |

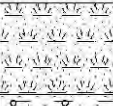
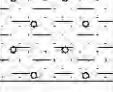
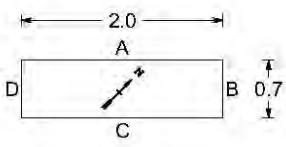

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|----------------------|-----------------------------|--|
| Depth | Type & No | Value | | | | |
| | | | MADE GROUND/TOPSOIL: Grass over: Soft, silty clay with occasional bricks and flint gravel. | 0.50 (35.53) | MG/TS |  |
| | | | Medium dense, wet, orange and light grey, gravelly, slightly clayey SAND. | 0.50 (34.93) | SHERINGHAM CLIFFS FORMATION |  |
| | | | Medium dense, wet, orange, slightly silty, sandy GRAVEL. Gravel of fine to coarse, subrounded flint. | 1 (34.93) | |  |
| | | | | 2 2.00 (33.83) | | |
| | | | | 3 | | |
| | | | | 4 | | |

| | |
|---|---|
| Pit Stability: Generally stable throughout Groundwater: Seepage at 0.50m | Surface Elevation Level. 35.83 mAOD |
|---|---|

| | | |
|--|---|--|
| Plan of Trial Pit:  | General Remarks: Terminated at 2.00m bgl. | All dimensions in metres Log Scale 1:25 |
|--|---|--|

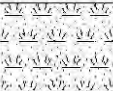
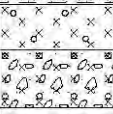


TRIAL PIT RECORD

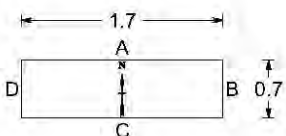

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP31</h2> | | | |
|--|-----------|-------|--|---|---------|---|
| | | | Sheet 1 of 1 | | | |
| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | TOPSOIL: Grass over: Dark brown, clayey silt. | 0.40 (35.31) | TS |  |
| | | | Extremely soft, wet, gravelly, clayey SAND. | 0.80 (34.91) | SCF |  |
| | | | | 1 2 3 4 | | |
| Pit Stability: Generally stable throughout Groundwater: Seepage at 0.80m | | | | Surface Elevation Level: 35.71 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Trial pit abandoned at 0.80m gbl due to extremely soft soils at surface resulting in a high risk to the excavator of sinking. | | | |
| All dimensions in metres Log Scale 1:25 | | | |  Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

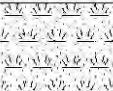

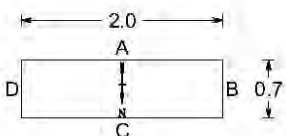

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP32</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|-----------------|---------|---|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Grass over: Dark brown, clayey silt. | 0.40 (36.08) | TS |  |
| | | | Soft, brown, gravelly SILT. | 0.60 (35.88) | | |
| | | | Medium dense, wet, orange, slightly silty, sandy GRAVEL. | 0.85 (35.63) | SCF |  |
| | | | | 1 | | |
| | | | | 2 | | |
| | | | | 3 | | |
| | | | | 4 | | |

| | |
|--|---|
| Pit Stability: Generally stable throughout Groundwater: Not encountered | Surface Elevation Level: 36.48 mAOD |
|--|---|

| | | |
|--|---|---|
| Plan of Trial Pit:  | General Remarks: Terminated at 0.85m bgl to undertake shallow soakage test. | All dimensions in metres Log Scale 1:25  Telephone: 01295 272244 Email: info@brduk.com |
|--|---|---|

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP33</h2> | | |
|--|-----------|---|---|-----------------------------|--|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | | | | |
| | | TOPSOIL; Grass over; clayey silt with roots and occasional gravel. | 0.40 (35.87) | TS |  |
| | | Dense to very dense, wet, orange brown with some light grey, slightly silty, sandy GRAVEL to COBBLES of fine to coarse, subrounded flint. | 1 2 2.00 (34.27) | SHERINGHAM CLIFFS FORMATION |  |
| | | | 3 4 | | |
| Pit Stability: See General Remarks Groundwater: Not encountered | | | Surface Elevation Level: 36.27 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 2.00m bgl due to collapse of pit sides. | | All dimensions in metres Log Scale 1:25 |
| | | |  Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP34</h2> | | |
|--|-----------|-------|---|---------|---|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | | 0.40 (36.13) | TS |  |
| | | | 0.70 (35.83) | SDF |  |
| | | | 1 | | |
| | | | 2 | | |
| | | | 3 | | |
| | | | 4 | | |
| Pit Stability: Generally stable throughout Groundwater: Not encountered | | | Surface Elevation Level: 36.53 mAOD | | |
| Plan of Trial Pit:  | | | General Remarks: Terminated at 0.70m bgl to undertake shallow soakage test. | | |
| | | | All dimensions in metres Log Scale 1:25 | | |
| | | |  Telephone: 01295 272244 Email: info@brduk.com | | |

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP35</h2> Sheet 1 of 1 | | |
|--|-----------|-------|---|---------|--------|
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | | 0.30 (36.22) | TS | |
| | | | 0.50 (36.02) | SCE | |
| | | | 0.65 (35.87) | | |
| | | | 1 | | |
| | | | 2 | | |
| | | | 3 | | |
| | | | 4 | | |
| Pit Stability: Generally stable throughout Groundwater: Not encountered | | | Surface Elevation Level. 36.52 mAOD | | |
| Plan of Trial Pit: | | | General Remarks: Terminated at 0.65m bgl to undertake shallow soakage test. | | |
| | | | All dimensions in metres Log Scale 1:25 | | |
| | | | | | |
| | | | Telephone: 01295 272244 Email: info@brduk.com | | |

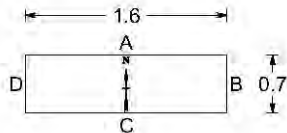
TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP36</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|---|------------------------------------|---------------|--------|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Grass over: Dark brown clayey silt with roots. Occasional gravel of flint. | 0.30 (36.41) | TS | |
| | | | Soft, wet, brown, slightly gravelly SILT. Gravel of fine to medium, subangular flint. | | SHERINGHAM CF | |
| | | | Medium dense, wet, orange, slightly silty, sandy GRAVEL. | 0.80 (35.81) 1.00 (35.71) | | |
| | | | | 2 | | |
| | | | | 3 | | |
| | | | | 4 | | |

| | |
|--|---|
| Pit Stability: Generally stable throughout Groundwater: Not encountered | Surface Elevation Level: 36.71 mAOD |
|--|---|

| | | |
|---------------------------|---|--|
| Plan of Trial Pit: | General Remarks: Terminated at 1.00m bgl to undertake soakage test. | All dimensions in metres Log Scale 1:25 |
|---------------------------|---|--|



Telephone: 01295 272244
 Email: info@brduk.com

TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP37</h2> |
| Sheet 1 of 1 | |

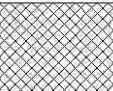
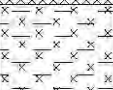

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|-----------------|-----------------------------|--------|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Grass over: Dark brown, clayey silt with roots. | 0.30 (36.45) | TS | |
| | | | Soft, brown, SILT with occasional fine to medium, angular flint. | 0.70 (36.05) | SHERINGHAM CLIFFS FORMATION | |
| | | | Dense to very dense, wet, orange brown to reddish brown, slightly silty, sandy GRAVEL to COBBLES. Gravel to cobbles of fine to coarse, subrounded flint. | 2.80 (33.95) | | |
| | | | | 4 | | |

| | |
|---|---|
| Pit Stability: Slight spalling of sides Groundwater: Slight seepage at 1.30m | Surface Elevation Level: 36.75 mAOD |
|---|---|

| | | |
|-------------------------------|---|---|
| Plan of Trial Pit: | General Remarks: Running sands. Terminated at 2.80m bgl. | All dimensions in metres Log Scale 1:25 <div style="text-align: center;"> BRD Telephone: 01295 272244 Email: info@brduk.com </div> |
|-------------------------------|---|---|

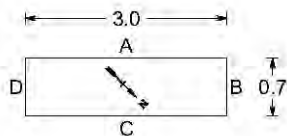
TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP38</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|-----------------|---------|---|
| Depth | Type & No | Value | | | | |
| | | | MADE GROUND/TOPSOIL: Grass over: Dark brown, slightly gravelly, clay silt with roots and occasional brick fragments. Concrete slab (large fragment). | 0.40 (36.11) | MG |  |
| | | | Soft, brown, clayey SILT with roots. | 0.80 (35.71) | SCF |  |
| | | | Medium dense to dense, orange, slightly silty, sandy GRAVEL. Gravel of fine to medium, subrounded flint. | 1.10 (35.41) | |  |
| | | | | 2 | | |
| | | | | 3 | | |
| | | | | 4 | | |

| | |
|--|---|
| Pit Stability: Generally stable throughout Groundwater: Not encountered | Surface Elevation Level: 36.51 mAOD |
|--|---|

| | | |
|---------------------------|---|--|
| Plan of Trial Pit: | General Remarks: Terminated at 1.10m bgl. | All dimensions in metres Log Scale 1:25 |
|---------------------------|---|--|



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TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Completed: 04/05/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP39</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|---|-----------------|-----------------------------|--------|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Grass over; Dark brown, clayey silt with roots. | 0.35 (36.24) | TS | |
| | | | Soft, brown, clayey SILT with roots. | 0.70 (35.89) | | |
| | | | Dense to very dense, wet, orange brown, slightly silty, sandy GRAVEL. Gravel of fine to coarse, subrounded flint. Frequent cobbles to boulders below 1.50m. | 2.40 (34.19) | SHERINGHAM CLIFFS FORMATION | |
| | | | | 4 | | |

| | |
|--|---|
| Pit Stability: Slight spalling of sides Groundwater: Seepage at 2.30m | Surface Elevation Level: 36.59 mAOD |
|--|---|

| | | |
|-------------------------------|---|--|
| Plan of Trial Pit: | General Remarks: Terminated at 2.40m bgl. | All dimensions in metres Log Scale 1:25 |
|-------------------------------|---|--|

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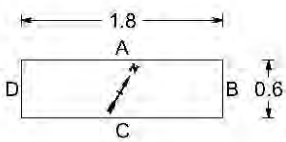
TRIAL PIT RECORD

| | |
|--|---|
| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: R Marina Date Completed: 06/06/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | Trial Pit No. <h2 style="margin: 0;">TP40</h2> |
| Sheet 1 of 1 | |

| Samples & Tests | | | Description of Strata | Depth / (Level) | Geology | Legend |
|-----------------|-----------|-------|--|---|-----------------------------|--------|
| Depth | Type & No | Value | | | | |
| | | | TOPSOIL: Grass over; Dark brown clayey silt with rootlets. Occasional gravel fine to medium, subangular to subrounded of flint. | 0.30 (35.37) | SHERINGHAM CLIFFS FORMATION | |
| | | | Firm, orange, light brown, grey, sandy clayey SILT. Occasional gravel of fine to medium, subangular to subrounded flint. | 0.70 (34.97) | | |
| | | | Medium dense, orange, light grey, slightly silty, clayey, gravelly SAND. Gravel of fine to medium, subangular to subrounded flint. | 1.10 - 1.50 m: pockets of light grey, sandy CLAY. | | |
| | | | Medium dense, orange brown, silty, very sandy GRAVEL. Gravel of fine to coarse, subangular to subrounded flint. | 1.70 (33.97) | | |
| | | | | 2.50 (33.17) | | |

| | |
|--|---|
| Pit Stability: Generally stable throughout Groundwater: Not encountered | Surface Elevation Level: 35.67 mAOD |
|--|---|

| | | |
|---------------------------|---|--|
| Plan of Trial Pit: | General Remarks: Terminated at 2.50m bgl. | All dimensions in metres Log Scale 1:25 |
|---------------------------|---|--|



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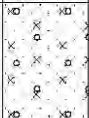

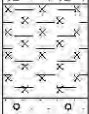

TRIAL PIT RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: R Marina Date Completed: 06/06/2018 Method Used: 180° Backhoe excavator (JCB 3CX type) | | | Trial Pit No. <h2 style="margin: 0;">TP41</h2> | | |
|--|-----------|--|--|---|--------|
| | | | Sheet 1 of 1 | | |
| Samples & Tests | | | Depth / (Level) | Geology | Legend |
| Depth | Type & No | Value | | | |
| | | TOPSOIL: Grass over; Dark brown clayey silt with rootlets. Occasional gravel fine to medium, subangular to subrounded of flint. Rae brick fragments. Medium dense, orange, light grey, slightly silty, clayey, gravelly SAND. Gravel of fine to medium, subangular to subrounded flint. 0.70 - 1.20 m: pockets of light grey, sandy CLAY. Medium dense, orange brown, silty, very sandy GRAVEL. Gravel of fine to coarse, subangular to subrounded flint. | 0.35 (35.27) 1 1.30 (34.32) 2 2.50 (33.12) 3 4 | TS SHERINGHAM CLIFFS FORMATION | |
| Pit Stability: See General Remarks Groundwater: Seepage at 1.30m | | | Surface Elevation Level: 35.62 mAOD | | |
| Plan of Trial Pit: | | | General Remarks: Running sands. Terminated at 2.50m bgl. | | |
| | | | All dimensions in metres Log Scale 1:25 Telephone: 01295 272244 Email: info@brduk.com | | |

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS01</h2> | | | | |
|--|-----------|-------|-------|---|--|------------------------|--|-------------------------|
| | | | | Sheet 1 of 2 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.30 | J1 | | ↓ | TOPSOIL: Grass over. Soft, light brown, slightly gravelly, sandy silt. Gravel of fine to medium, angular to rounded flint. | 0.35 (36.14) | [Symbol] | TS | |
| 0.70 | J2 | | | Medium dense, orange, gravelly, clayey SAND. Gravel of fine to medium, subangular to rounded flint. | | [Symbol] | | |
| 0.90 | D1 | 15 N | ↓ | 1.00 m: SPT: 3,3/3,3,5,4 | 1.0 | [Symbol] | SHERINGHAM CLIFFS FORMATION | |
| 1.00 | SPT | | | | Medium dense, saturated, grey, gravelly SAND. Gravel of fine to medium, subangular to rounded flint. | 1.50 (34.99) | | |
| 2.00 | SPT | 8 N | ↓ | Loose, saturated, grey and some orange, slightly gravelly, fine SAND. Gravel of fine to medium, rare coarse, subangular to rounded flint. 2.00 m: SPT: 1,1/2,2,2,2 | 2.0 2.00 (34.48) | [Symbol] | SHERINGHAM CLIFFS FORMATION | |
| 2.50 | D2 | | | | 2.00 - 2.20 m: Brown, saturated, slightly gravelly, fine to coarse SAND. 2.30 - 2.50 m: Clayey, fine SAND. | 2.90 (33.58) | | |
| 3.00 | SPT | 22 N | ↓ | Medium dense, saturated, brown, slightly gravelly, fine to coarse SAND. 3.00 m: SPT: 2,2/4,6,6,6 | 3.0 | [Symbol] | SHERINGHAM CLIFFS FORMATION | |
| 3.00 | B1 | | | | Firm, reddish brown, slightly gravelly, silty CLAY. Gravel of fine to medium, rounded flint. 4.00 m: SPT: 8,7/7,3,3,4 | 4.0 4.00 (32.48) | | |
| 4.00 | SPT | 17 N | ↓ | Medium dense, saturated, brown, slightly silty, slightly gravelly SAND. Gravel of fine to medium, subrounded flint. | 4.10 (32.38) | [Symbol] | SHERINGHAM CLIFFS FORMATION | |
| | | | | | | 4.50 | | |
| General Remarks: Borehole terminated at 5.50m bgl. Installed with 50mm standpipe, gas tap and flush metal cover. Borehole cased from 2.50 to 5.00m bgl. | | | | | Surface Elevation Level: <h3 style="margin: 0;">36.49 mAOD</h3> | | Telephone: 01295 272244 Email: info@brduk.com | |
| | | | | | All dimensions in metres Log Scale 1:25 | | | |

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS01</h2> | | | | |
|--|-----------|-------|-------|---|---|---|---|---|
| | | | | Sheet 2 of 2 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 5.00 5.00 | SPT D3 | 10 N | | Continued from 4.10m: Medium dense, saturated, brown, slightly silty, slightly gravelly SAND. Gravel of fine to medium, subrounded flint. | 5.0 5.00 (31.49) |  | SCF |  |
| | | | | Firm, brown, clayey SILT. 5.00 m: SPT: 4, 3/2, 3, 3, 2 | 5.40 (31.09) 5.50 (30.99) |  | | |
| | | | | Medium dense, saturated, brown, silty, gravelly SAND. Gravel of fine to coarse, subangular to rounded flint. | 6.0 7.0 8.0 9.0 | | | |
| General Remarks: Borehole terminated at 5.50m bgl. Installed with 50mm standpipe, gas tap and flush metal cover. Borehole cased from 2.50 to 5.00m bgl. | | | | | Surface Elevation Level: 36.49 mAOD | |  | |
| | | | | | All dimensions in metres Log Scale 1:25 | | Telephone: 01295 272244 Email: info@brduk.com | |

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS02</h2> | | | | |
|--|-----------|-------|-------|--|------------------------------------|--------|-----------------------------|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.20 | J1 | | | TOPSOIL: Grass over: Dark brown, silty clay with roots. | 0.30 (33.88) | | TS | |
| 0.60 | J2 | | | Loose, orange brown and light grey, slightly gravelly, clayey, fine SAND with pockets of firm, light grey, sandy CLAY. | | | SHERINGHAM CLIFFS FORMATION | |
| 0.90 | D1 | | | | | | | |
| 1.00 | SPT | 5 N | | 1.00 m: SPT: 1,1/1,1,2,1 | 1.0 | | | |
| 1.50 | D2 | | | 1.50 m: Firm, grey, clay pocket. 1.70 m: Firm, grey, gravelly, sandy clay pocket. | | | | |
| 2.00 | SPT(C) | 50 N | | Very dense, orange brown, silty, sandy GRAVEL (assumed). 2.00 m: SPT: 11,14/50 for 20mm | 2.00 (34.18) 2.20 (33.98) | | | |
| | | | | | 3.0 | | | |
| | | | | | 4.0 | | | |

| | | |
|--|---|--|
| General Remarks: Borehole terminated at 2.20m bgl due to refusal. Dynamic probing from 2.20m to 2.80m bgl (refuse). | Surface Elevation Level: 36.18 mAOD | |
| | All dimensions in metres Log Scale 1:25 | Telephone: 01295 272244 Email: info@brduk.com |

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS03</h2> | | | | |
|--|-----------|-------|-------|--|-----------------|--------|-----------------------------|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 1.00 | SPT | 21 N | ↓ | TOPSOIL: Grass over, wet, dark brown, silty clay with roots. | 0.30 (36.35) | | TS | |
| | | | ↓ | Medium dense, slightly silty, sandy GRAVEL. Gravel of fine to coarse, subangular to rounded flint. | 0.60 (36.03) | | | |
| 2.00 | SPT | 50 N | ↓ | Medium dense to very dense, orange brown, some grey, gravelly SAND. Gravel of fine to coarse, subrounded to rounded flint. 0.60 - 1.00 m: Slightly silty. 1.00 m: SPT: 4,5/4,4,4,9 | 1.0 | | SHERINGHAM CLIFFS FORMATION | |
| | | | ↓ | 2.00 m: SPT: 2,2/8,14,16,12 for 65mm | 2.0 | | | |
| | | | ↓ | | 2.45 (34.18) | | | |
| | | | | | 3.0 | | | |
| | | | | | 4.0 | | | |

General Remarks:
 Borehole terminated at 2.45m bgl due to refusal.
 Dynamic probing from 2.40m to 4.60m bgl (refuse).

Surface Elevation Level:
36.63 mAOD

All dimensions in metres
 Log Scale 1:25



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PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS04</h2> | | | | |
|--|-----------|-------|-------|--|---|--------|--|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.30 | J1 | | | TOPSOIL: Grass over. wet, dark brown, silty clay with roots. | 0.30 (36.31) | | TS | |
| | | | | Soft, orange and dark brown, slightly gravelly SILT. | 0.40 (36.21) | | | |
| 0.90 | J2 | | | Medium dense to very dense, brown, saturated, slightly silty, sandy GRAVEL. Gravel of fine to medium, rounded flint. | 1.00 | | SHERINGHAM CLIFFS FORMATION | |
| 1.00 | SPT | 15 N | | 1.00 m: SPT: 2,2/3,3,4,5 | | | | |
| 1.50 | D1 | | ↓ | Medium dense to very dense, reddish brown and orange, silty, gravelly SAND. Gravel of fine to coarse, subangular to rounded flint. | 1.45 (35.16) | | | |
| 2.00 | SPT | 50 N | | 1.90 m: Coarse gravel and shattered flint in SPT. 2.00 2.00 m: SPT: 6,6/12,18,14,6 for 15mm | 2.00 | | SHERINGHAM CLIFFS FORMATION | |
| | | | | | 2.40 (34.21) | | | |
| | | | | | 3.00 | | | |
| | | | | | 4.00 | | | |
| General Remarks: Borehole terminated at 2.40m bgl due to refusal. Dynamic probing from 2.40m to 5.00m bgl. Installed with 50mm standpipe, gas tap and flush metal cover. | | | | | Surface Elevation Level: 36.61 mAOD | | BRD Telephone: 01295 272244 Email: info@brduk.com | |
| | | | | | All dimensions in metres Log Scale 1:25 | | | |

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS05</h2> | | | | |
|--|-----------|-------|-------|--|-----------------|--------|-----------------------------|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 1.00 | SPT | 46 N | | TOPSOIL: Grass over: Dark brown, silty clay with roots. | 0.30 (36.42) | | TS | |
| | | | | Soft, wet, brown, clayey SILT. | 0.50 (36.22) | | | |
| | | | | Medium dense, orange brown and reddish brown, gravelly, fine SAND. Gravel of fine to coarse, subangular to rounded flint. | 0.70 (36.02) | | | |
| | | | | Dense, brown, slightly silty, sandy GRAVEL. Gravel of fine to coarse, subangular to rounded flint. 1.00 m: SPT: 8,11/11,12,11,12,12 1.00 m: Saturated. | 1.00 | | | |
| | | | | Dense, brown, slightly gravelly SAND. | 1.20 (35.52) | | | |
| 2.00 | SPT | 29 N | | Medium dense to dense, orangey brown, sandy GRAVEL. Gravel of fine to medium, subangular to rounded flint. | 1.50 (35.22) | | SHERINGHAM CLIFFS FORMATION | |
| | | | | Medium dense, orange brown, gravelly SAND. 2.00 m: SPT: 3,5/7,8,7,7,7 | 2.00 (34.72) | | | |
| | | | | | 2.50 (34.22) | | | |
| | | | | | 3.00 | | | |
| | | | | | 4.00 | | | |

General Remarks:
 Borehole terminated at 2.50m bgl due to sampler got stuck.
 Dynamic probing from 0.00m to 5.00m bgl, 1m away from the borehole.

Surface Elevation Level:
36.72 mAOD

All dimensions in metres
 Log Scale 1:25



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PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS06</h2> | | | | |
|--|-----------------|-----------------|-------|--|-----------------|--------|-----------------------------|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.10 | J1 | | | TOPSOIL: Grass over. Brown, silty with roots and occasional fine to medium, angular gravel of flint. | 0.25 (33.93) | | TS | |
| 0.50 0.50 0.60 | PEN J2 D1 | 1.0x3 kg/cm² | | Soft, brown, clayey SILT with occasional fine to medium subangular gravel of flint. | 0.65 (33.53) | | | |
| 0.90 1.00 | D2 SPT | 19 N | ↓ | Medium dense, orange and light grey, slightly gravelly, clayey, fine SAND with sandy clay layers. Gravel of fine to medium, subangular to rounded flint. 0.90 m: Clay, sandy layer. | 1.00 (33.18) | | | |
| 1.80 | D3 | | | Medium dense, wet, orange, brown, slightly gravelly, clayey, fine SAND. Gravel of fine to medium, subangular to rounded flint. 1.00 m: SPT: 2,3/4,5,5,5 | | | | |
| 2.00 2.00 | SPT B1 | 35 N | ↓ | Dense, light brown, sandy GRAVEL. Gravel of fine to coarse, subangular to rounded flint. 2.00 m: SPT: 12,10/9,9,8,9 | 2.00 (34.23) | | SHERINGHAM CLIFFS FORMATION | |
| 2.40 | B3 | | | | | | | |
| 2.80 2.90 | B2 SPT | 44 N | | | 3.00 | | | |
| 3.90 | SPT | 37 N | | Dense, saturated, gravelly SAND. 3.90 m: SPT: 2,9/7,8,9,13. | 3.90 (32.28) | | | |
| | | | | | 4.00 | | | |
| | | | | | 4.50 | | | |

General Remarks:
 Borehole terminated at 4.50m bgl due to refusal of the liner.
 Subsequent borehole collapsed.
 Installed with 50mm standpipe, gas tap and flush metal cover.
 Borehole cased to 2.90m bgl due to refusal.

Surface Elevation Level:
36.18 mAOD

All dimensions in metres
 Log Scale 1:25



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PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS07</h2> | | | | |
|--|-----------|-------|-------|--|-----------------------------|--|-----------------------------|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.20 | J1 | | | TOPSOIL: Grass over. Clayey silt with roots and occasional fine to medium, subangular flint gravel. | 0.30 (36.30) | | TS | |
| 0.50 | J2 | | | Soft, wet, brown with dark brown, slightly gravelly, clayey SILT. Gravel of fine to medium, subangular flint. Dense to very dense, orange brown and reddish brown, silty, gravelly SAND. Gravel of fine to coarse, subangular to rounded flint and ironstone. | 0.45 (36.15) | | | |
| 1.00 | SPT | 35 N | | 1.00 m: SPT: 5,6/7,9,9,10 | 1.00 | | | |
| 2.00 | SPT | 33 N | ↓ | 2.00 m: SPT: 8,5/7,6,9,11 | 2.00 | | SHERINGHAM CLIFFS FORMATION | |
| 2.80 | SPT | 50 N | | 2.80 m: SPT: 12,11/15,15,16,4/20mm | 3.00 3.20 (33.40) | | | |
| General Remarks: Borehole terminated at 3.20m bgl due to refusal. | | | | Surface Elevation Level: 36.60 mAOD | | | | |
| | | | | All dimensions in metres Log Scale 1:25 | | Telephone: 01295 272244 Email: info@brduk.com | | |

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS08</h2> | | | | |
|--|-----------|-------|-------|--|-----------------|--------|-----------------------------|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.20 | J1 | | | MADE GROUND/TOPSOIL: Grass over: Dark brown, slightly gravelly, clayey silt with charcoal fragments and roots. Gravel of fine to medium, angular flint. | 0.40 (39.68) | | MG/T/S | |
| 0.70 | J2 | | | Soft, wet, orange brown, slightly gravelly, clayey SILT. Gravel of fine to medium, subangular flint. | 0.90 (39.18) | | SHERINGHAM CLIFFS FORMATION | |
| 1.00 | SPT | 32 N | ↓ | Dense to very dense, saturated, orange brown, slightly silty, gravelly SAND. Gravel of fine to coarse, subangular to rounded flint. 1.00 m: SPT: 0,0/5,6,9,12 | 1.00 (38.18) | | SHERINGHAM CLIFFS FORMATION | |
| 1.30 | SPT | 40 N | ↓ | 1.30 m: SPT: 7,8/13,10,10,10 1.30 - 2.00 m: Liner saturated. | 2.00 | | SHERINGHAM CLIFFS FORMATION | |
| 2.00 | SPT | 50 N | | 2.00 m: SPT: 25 for 65mm/27,23 for 70mm | 2.20 (38.88) | | SHERINGHAM CLIFFS FORMATION | |
| | | | | | 3.00 | | | |
| | | | | | 4.00 | | | |

General Remarks:
 Borehole terminated at 2.20m bgl due to refusal.
 Installed with 50mm standpipe, gas tap and flush metal cover.
 Borehole cased to 1.30m due to refusal.








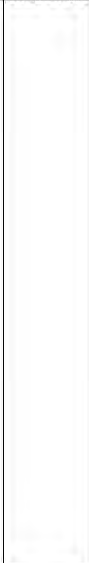

Surface Elevation Level:
36.08 mAOD

All dimensions in metres
 Log Scale 1:25


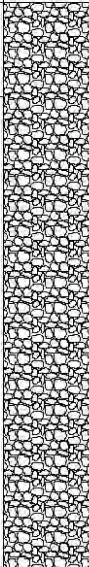

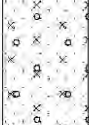
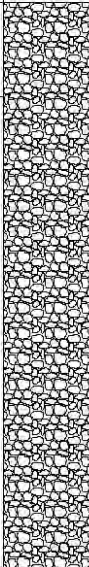






Telephone: 01295 272244
 Email: info@brduk.com

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: A Leon Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS09</h2> | | | | |
|--|-----------------|-----------------|-------|---|---|---|---|---|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.30 | J1 | | | MADE GROUND/TOPSOIL: Grass over: Dark brown, silty clay with roots. Occasional flint gravel and brick fragments. | 0.40 (36.29) |  | MGTS |  |
| 0.50 0.50 0.60 | D1 PEN J2 | 1.0x3 kg/cm² | | Soft, wet, brown, clayey SILT with roots. | 0.80 (36.89) |  | SHERINGHAM CLIFFS FORMATION |  |
| 1.00 | SPT | 38 N | ↓ | Dense to very dense, saturated, reddish brown, silty, sandy GRAVEL. Gravel of fine to coarse, subangular to rounded flint and occasional ironstone. 1.00 m: SPT: 5, 6, 7, 10, 9, 12 1.00 - 1.80 m: Liner saturated. | 1.00 |  | |  |
| 1.80 | SPT | 50 N | | 1.80 m: SPT: 20, 5 for 30mm/16, 21, 13 for 35mm | 2.10 (34.59) |  | |  |
| | | | | | 3.00 | | | |
| | | | | | 4.00 | | | |
| General Remarks: Borehole terminated at 2.10m bgl. | | | | | Surface Elevation Level: 36.69 mAOD | |  <p>BRD</p> <p>Telephone: 01295 272244 Email: info@brduk.com</p> | |
| | | | | | All dimensions in metres Log Scale 1:25 | | | |

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: R Marina Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS10</h2> | | | | |
|--|-----------|--------------------------------|-------|--|---|---|---|--|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.20 | J1 | | | MADE GROUND/TOPSOIL: Grass over dense brown, clayey silt, occasional subrounded to angular flint gravel and brick fragments. | 0.40 (39.44) |  | MGTS |  |
| 0.50 | J2 | | | Loose, orange and light grey, gravelly, clayey SAND. Gravel of fine to medium subrounded to subangular flint. | |  | | |
| 1.00 | SPT | 9 N | | 1.00 m: SPT: 1,1/1,2,2,4 | 1.00 |  | SHERINGHAM CLIFFS FORMATION |  |
| 1.30 | D1 | | | 1.25 - 1.45 Firm, light grey and brown, sandy CLAY. | |  | | |
| 1.40 | PEN | 1.5/2.0/1.5 kg/cm ² | | Very dense, light brown, slightly silty, sandy GRAVEL. Gravel of fine to coarse, subrounded to angular flint. | 1.50 (34.34) |  | | |
| 2.00 | SPT | 50 N | | 2.00 m: SPT: 13,12 for 65mm/21,17,12 for 45mm | 2.00 |  | | |
| | | | | | 2.40 (36.44) | | | |
| | | | | | 3.00 | | | |
| | | | | | 4.00 | | | |
| General Remarks: Borehole terminated at 2.40m bgl due to refusal. Dynamic probing from 2.40 to 3.50m bgl (refuse). | | | | | Surface Elevation Level: 35.84 mAOD | |  Telephone: 01295 272244 Email: info@brduk.com | |
| | | | | | All dimensions in metres Log Scale 1:25 | | | |

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: R Marina Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS11</h2> | | | | |
|--|-----------|-------|-------|---|-----------------|-----------------------------|-----------------------------|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.10 | J1 | | | TOPSOIL: Grass over: Dark brown, clayey silt with roots. Occasional fine to medium, subangular to subrounded flint gravel. | 0.30 (33.81) | | TS | |
| 0.40 | J2 | | | Medium dense, orange, beige, light brown, slightly silty, gravelly SAND. Gravel of fine to medium, subangular to subrounded flint and occasional ironstone. | 0.50 (35.61) | | | |
| 1.00 | SPT | 37 N | | 1.00 m: SPT: 10,8/8,8,10,11 | 1.00 | SHERINGHAM CLIFFS FORMATION | SHERINGHAM CLIFFS FORMATION | |
| 1.50 | SPT | 50 N | | 1.50 m: SPT: 9,11/13,15,16,7/25mm | 1.90 (34.21) | | | |
| | | | | | 2.00 (34.21) | | | |
| | | | | | 3.00 | | | |
| | | | | | 4.00 | | | |

General Remarks:
 Borehole terminated at 1.90m bgl due to refusal.
 Installed with 50mm standpipe and gas tap.
 Dynamic probing from 1.90m to 4.00m bgl.



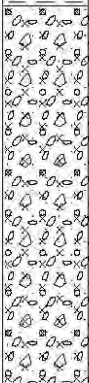


Surface Elevation Level:
36.11 mAOD

All dimensions in metres
 Log Scale 1:25



Telephone: 01295 272244
 Email: info@brduk.com

PROBEHOLE RECORD

| Client: Kier Living Project Title: Salhouse Road, Sprowston Project No: BRD3227 Logged By: R Marina Date Commenced: 02/05/2018 Date Completed: 02/05/2018 Method Used: Windowless Percussive Sampling Rig | | | | Borehole No. <h2 style="margin: 0;">WS12</h2> | | | | |
|--|-----------------|-----------------------|-------|---|--|---|---|-------------------------|
| | | | | Sheet 1 of 1 | | | | |
| Samples & Tests | | | Water | Description of Strata | Depth / (Level) | Legend | Geology | Installation / Backfill |
| Depth | Type & No | Value | | | | | | |
| 0.20 | J1 | | | MADE GROUND/TOPSOIL: Grass over: Dark brown, clayey silt with roots. Occasional fine to medium, subangular to subrounded flint gravel and brick fragments. | 0.40 (35.50) |  | MG/TS | |
| 0.50 0.60 0.70 | J2 D1 PEN | 2.0/2.5/2.0 kg/cm² | | Medium dense, orange, light brown, greyish, sandy CLAY. Occasional natural black manganese deposits, | 0.80 (34.80) |  | | |
| 1.00 | SPT | 20 N | | Medium dense, orange, light brown, slightly silty, very sandy GRAVEL. Gravel of fine to coarse, subangular to subrounded flint. 1.00 m: SPT: 1,2/3,3,6,8 | 1.00 | SHERINGHAM CLIFFS FORMATION  |  | |
| 2.00 | SPT | 50 N | | 2.00 m: SPT: 10,12/13,15,15,7/30mm | 2.00 2.40 (36.30) | | | |
| | | | | | 3.00 4.00 | | | |
| General Remarks: Borehole terminated at 2.00m bgl. Installed with 50mm standpipe and gas tap. Dynamic probing from 2.00m to 2.50m bgl (refused). | | | | | Surface Elevation Level: 35.70 mAOD | |  Telephone: 01295 272244 Email: info@brduk.com | |
| | | | | | All dimensions in metres Log Scale 1:25 | | | |

**Appendix B
Particle Size Distribution (PSD) analysis.**



TEST REPORT

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DATE ISSUED: 23/05/2018



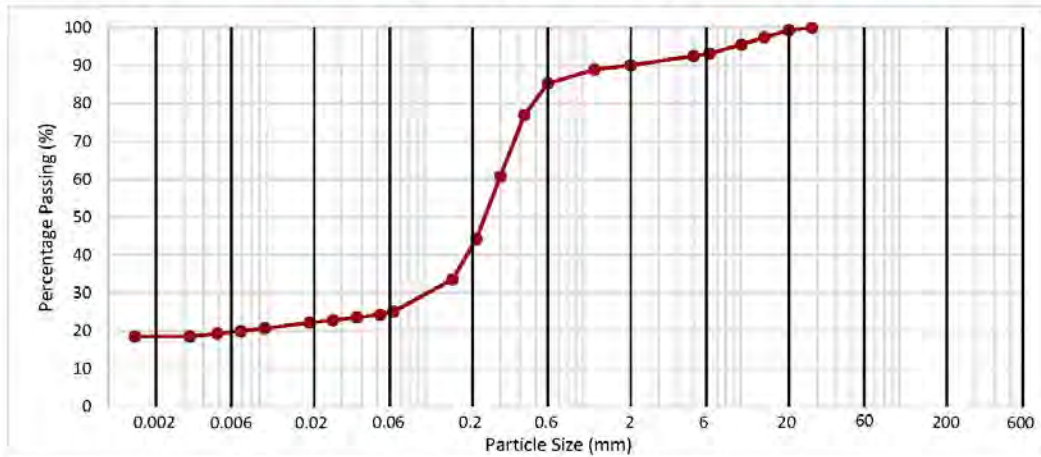
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| | |
|------------|------------------|
| Contract | Sprowston |
| Serial No. | S33055 |

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

| Borehole / Pit No. | Depth (m) | Sample | | Description | Remarks |
|--------------------|-----------|--------|-----------|---|--|
| | | Type | Reference | | |
| TP12 | 1.10 | B | 1 | Orangish brown slightly gravelly silty sandy CLAY. Gravel is black, brown and white subangular to subrounded flint. | Description based on possible engineering behaviour. |

Method of Test: **Wet Sieve + Hydrometer** Method of Pretreatment: **Not required**



| | | | | | | | | | | | |
|------|------|--------|--------|------|--------|--------|--------|--------|--------|---------|----------|
| CLAY | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | COBBLES | BOULDERS |
| | SILT | | | SAND | | | GRAVEL | | | | |

| Hydrometer | Particle Size (mm) | Passing (%) | Silt by Dry Mass (%) |
|------------|--------------------|-------------|-----------------------------|
| | 0.0524 | 24 | 6 |
| | 0.0371 | 24 | |
| | 0.0263 | 23 | |
| | 0.0187 | 22 | Clay by Dry Mass (%) |
| | 0.0097 | 21 | |
| | 0.0069 | 20 | |
| | 0.0049 | 19 | |
| | 0.0033 | 19 | 19 |
| | 0.0015 | 19 | |

| Sieve Size (mm) | Passing (%) | Sand By Dry Mass (%) |
|-----------------|-------------|----------------------|
| 2.00 | 90 | 65 |
| 1.18 | 89 | |
| 0.600 | 85 | |
| 0.425 | 77 | |
| 0.300 | 61 | |
| 0.212 | 44 | |
| 0.150 | 34 | |
| 0.063 | 25 | |

| Sieve Size (mm) | Passing (%) | Gravel By Dry Mass (%) |
|-----------------|-------------|------------------------|
| 150 | | 10 |
| 125 | | |
| 90 | | |
| 63 | | |
| 50 | | |
| 37.5 | | |
| 28 | 100 | |
| 20 | 99 | |
| 14 | 98 | |
| 10 | 95 | |
| 6.3 | 93 | |
| 5 | 93 | |

| Fines By Dry Mass (%) | |
|-----------------------|-----------|
| <0.063mm | 25 |

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
 Method of test: BS1377: Part 2: 1990: 9.2, 9.5
 Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
 Comments:



TEST REPORT

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DATE ISSUED: 23/05/2018



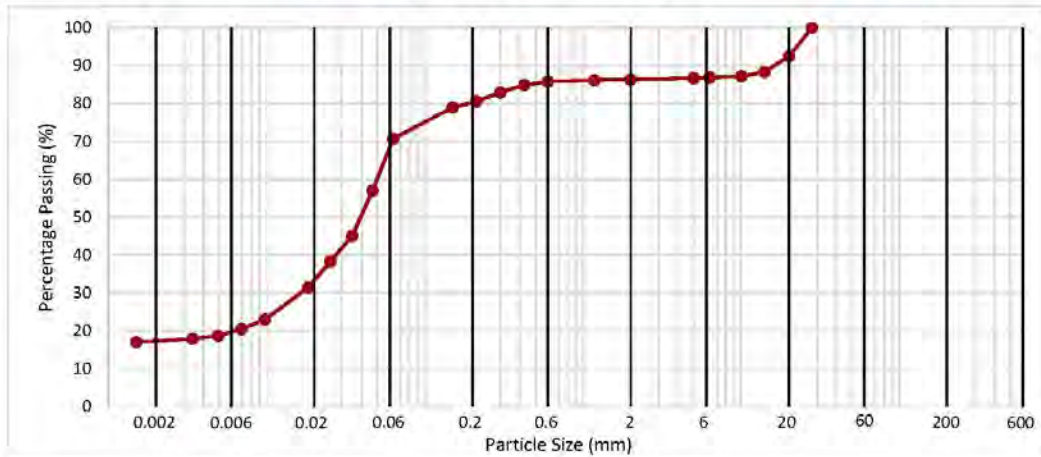
0998

| | |
|-------------------|------------------|
| Contract | Sprowston |
| Serial No. | S33055 |

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

| Borehole / Pit No. | Depth (m) | Sample | | Description | Remarks |
|--------------------|-----------|--------|-----------|---|---------|
| | | Type | Reference | | |
| WS06 | 0.60 | D | 1 | Orangish brown slightly gravelly slightly sandy silty CLAY. Gravel is black, brown and white flint. | |

Method of Test: **Wet Sieve + Hydrometer** Method of Pretreatment: **Not required**



| | | | | | | | | | | | |
|------|------|--------|--------|------|--------|--------|--------|--------|--------|---------|----------|
| CLAY | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | COBBLES | BOULDERS |
| | SILT | | | SAND | | | GRAVEL | | | | |

| Hydrometer | Particle Size (mm) | Passing (%) | Silt by Dry Mass (%) |
|------------|--------------------|-------------|-----------------------------|
| | 0.0467 | 57 | 54 |
| | 0.0348 | 45 | |
| | 0.0253 | 38 | |
| | 0.0183 | 31 | Clay by Dry Mass (%) |
| | 0.0098 | 23 | |
| | 0.0070 | 20 | |
| | 0.0049 | 19 | |
| | 0.0034 | 18 | 17 |
| | 0.0015 | 17 | |

| Sieve Size (mm) | Passing (%) | Sand By Dry Mass (%) |
|-----------------|-------------|----------------------|
| 2.00 | 86 | 15 |
| 1.18 | 86 | |
| 0.600 | 86 | |
| 0.425 | 85 | |
| 0.300 | 83 | |
| 0.212 | 81 | |
| 0.150 | 79 | |
| 0.063 | 71 | |

| Sieve Size (mm) | Passing (%) | Gravel By Dry Mass (%) |
|-----------------|-------------|------------------------|
| 150 | | 14 |
| 125 | | |
| 90 | | |
| 63 | | |
| 50 | | |
| 37.5 | | |
| 28 | 100 | |
| 20 | 92 | |
| 14 | 88 | |
| 10 | 87 | |
| 6.3 | 87 | |
| 5 | 87 | |

| Fines By Dry Mass (%) | |
|-----------------------|-----------|
| <0.063mm | 71 |

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
 Method of test: BS1377: Part 2: 1990: 9.2, 9.5
 Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
 Comments:



TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD
DATE ISSUED: 23/05/2018



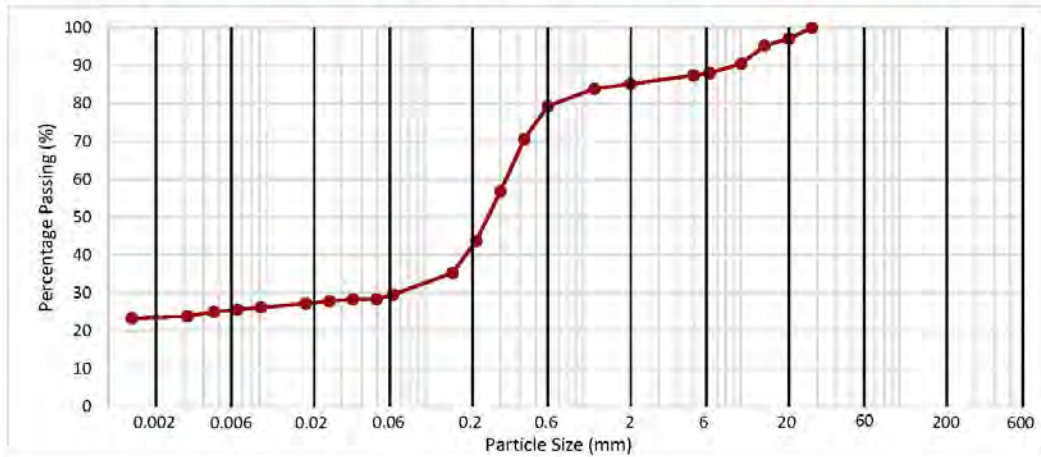
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| | |
|-------------------|------------------|
| Contract | Sprowston |
| Serial No. | S33055 |

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

| Borehole / Pit No. | Depth (m) | Sample | | Description | Remarks |
|--------------------|-----------|--------|-----------|--|--|
| | | Type | Reference | | |
| WS10 | 1.30 | D | 1 | Light grey slightly gravelly sandy CLAY with rare orangish brown sandy pockets. Gravel is black, brown and white subangular to subrounded flint and rare light grey quartzite. | Description based on possible engineering behaviour. |

Method of Test: **Wet Sieve + Hydrometer** Method of Pretreatment: **Not required**



| | | | | | | | | | | | |
|------|------|--------|--------|------|--------|--------|--------|--------|--------|---------|----------|
| CLAY | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | COBBLES | BOULDERS |
| | SILT | | | SAND | | | GRAVEL | | | | |

| Hydrometer | Particle Size (mm) | Passing (%) | Silt by Dry Mass (%) |
|------------|--------------------|-------------|-----------------------------|
| | 0.0497 | 28 | 7 |
| | 0.0351 | 28 | |
| | 0.0249 | 28 | |
| | 0.0177 | 27 | Clay by Dry Mass (%) |
| | 0.0092 | 26 | |
| | 0.0065 | 26 | |
| | 0.0046 | 25 | |
| | 0.0032 | 24 | 23 |
| 0.0014 | 23 | | |

| Sieve Size (mm) | Passing (%) | Sand By Dry Mass (%) |
|-----------------|-------------|----------------------|
| 2.00 | 85 | 55 |
| 1.18 | 84 | |
| 0.600 | 79 | |
| 0.425 | 71 | |
| 0.300 | 57 | |
| 0.212 | 44 | |
| 0.150 | 35 | |
| 0.063 | 30 | |

| Sieve Size (mm) | Passing (%) | Gravel By Dry Mass (%) |
|-----------------|-------------|------------------------|
| 150 | | 15 |
| 125 | | |
| 90 | | |
| 63 | | |
| 50 | | |
| 37.5 | | |
| 28 | 100 | |
| 20 | 97 | |
| 14 | 95 | |
| 10 | 91 | |
| 6.3 | 88 | |
| 5 | 87 | |

| Fines By Dry Mass (%) | |
|-----------------------|-----------|
| <0.063mm | 30 |

Method of Preparation: BS1377: Part 1: 2016: 8.3 & 8.4.5
 Method of test: BS1377: Part 2: 1990: 9.2, 9.5
 Type of Sample Key: U=Undisturbed, B=Bulk, D=Disturbed, J=Jar, W=Water, SPT=Split Spoon Sample, C=Core Cutter
 Comments: