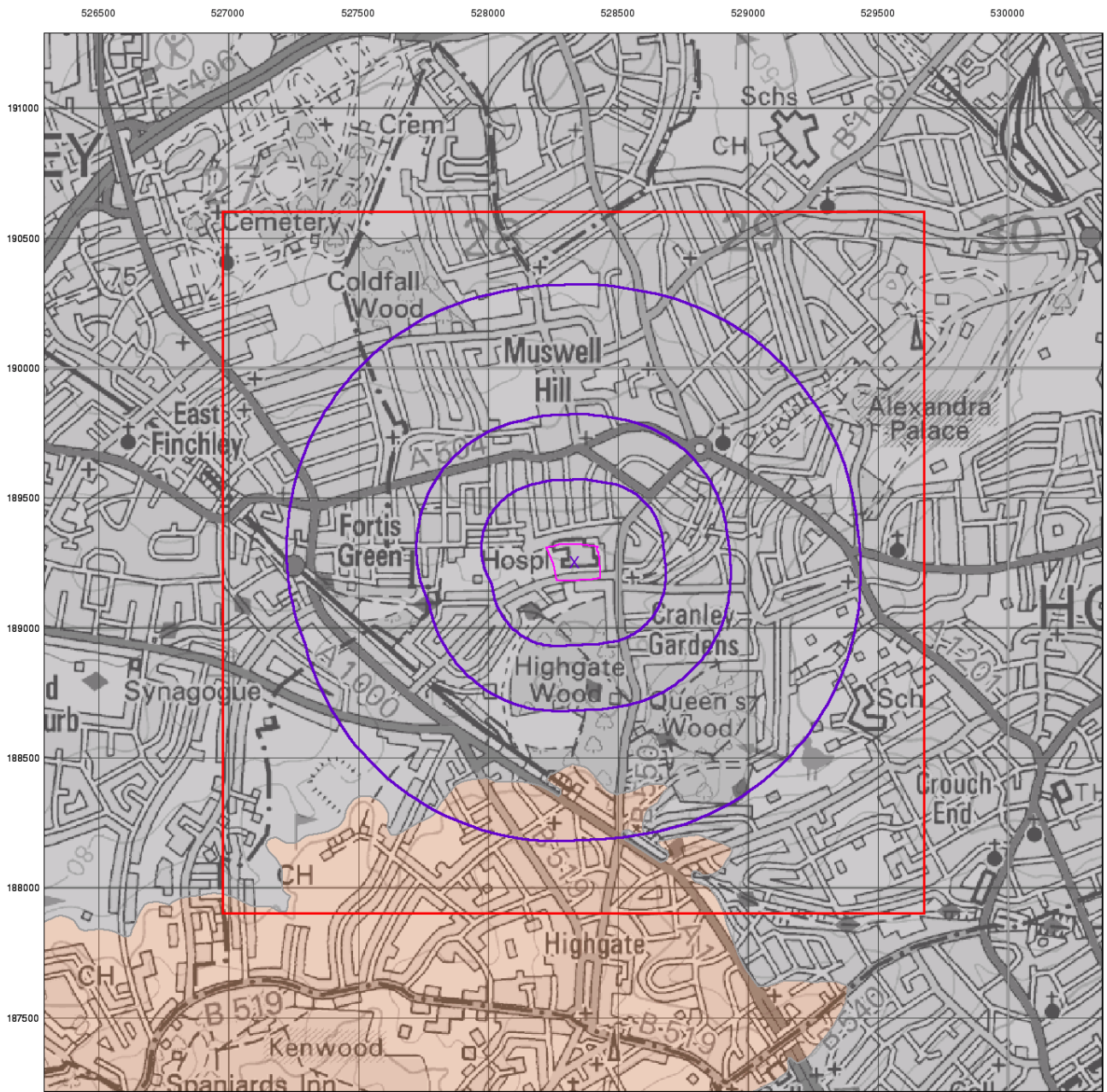
**APPENDIX B**

**Geotechnical Map & Borehole Logs**




GEA Geotechnical & Environmental Associates

# Bedrock Aquifer Designation

## General

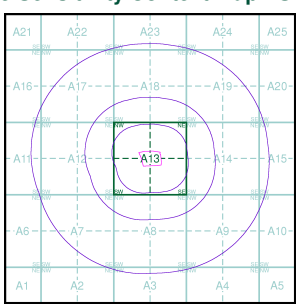
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

## Agency and Hydrological

**Geological Classes**

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown

## Site Sensitivity Context Map - Slice A



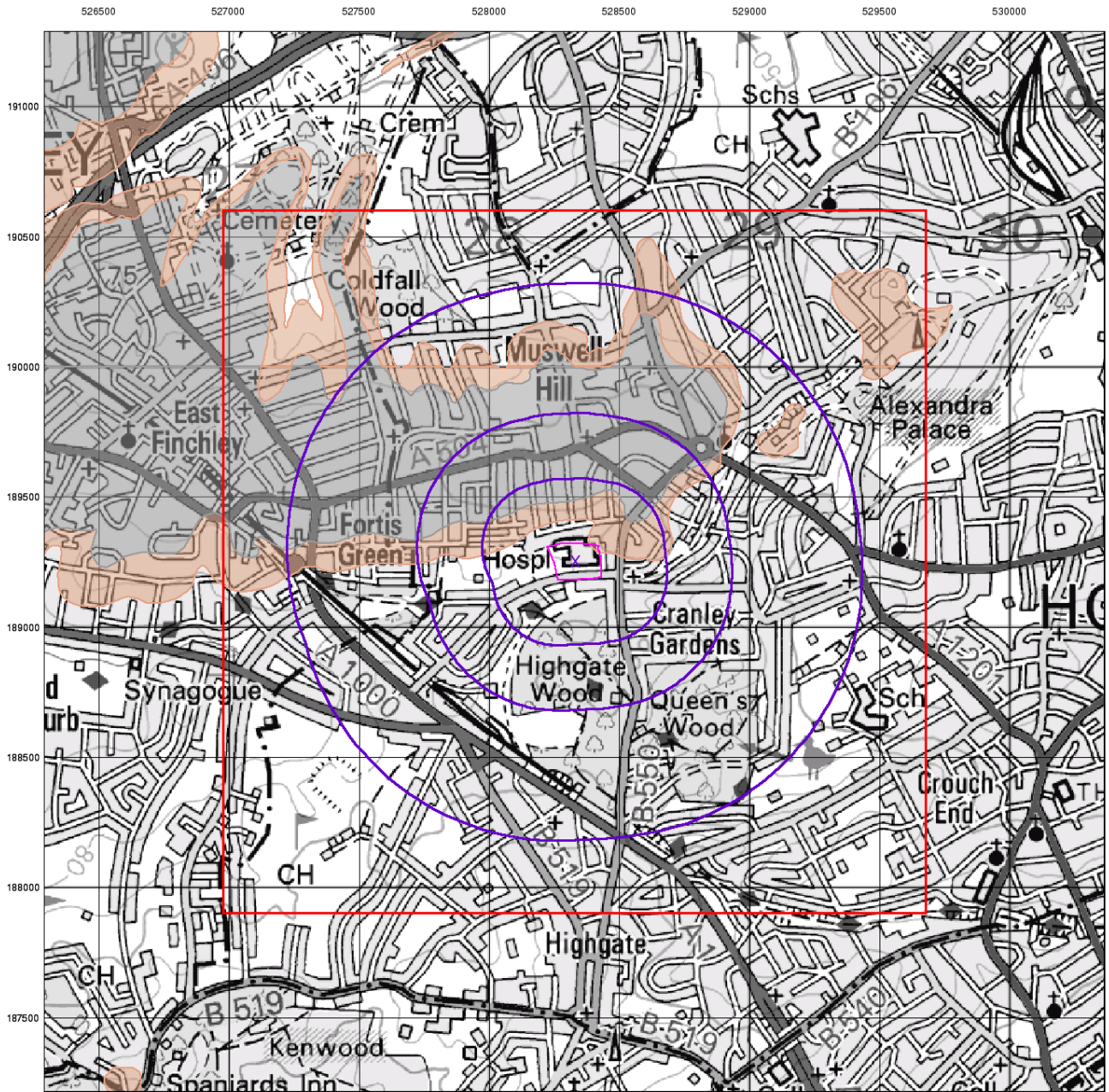

## Order Details

| | |
|---|---|
| Order Number: | 41160789_1_1 |
| Customer Ref: | J12212 |
| National Grid Reference: | 528330, 189250 |
| Slice: | A |
| Site Area (Ha): | 2.43 |
| Search Buffer (m): | 1000 |

## Site Details

St. Lukes Woodside Hospital, Woodside Avenue, Muswell Hill, LONDON, N10 3HU

Landmark Information Group
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk




GEA Geotechnical & Environmental Associates

# Superficial Aquifer Designation

## General

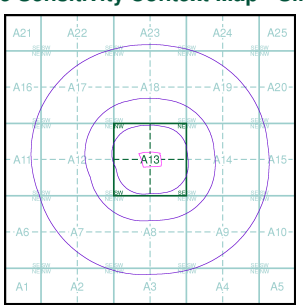
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

## Agency and Hydrological

**Geological Classes**

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown

## Site Sensitivity Context Map - Slice A

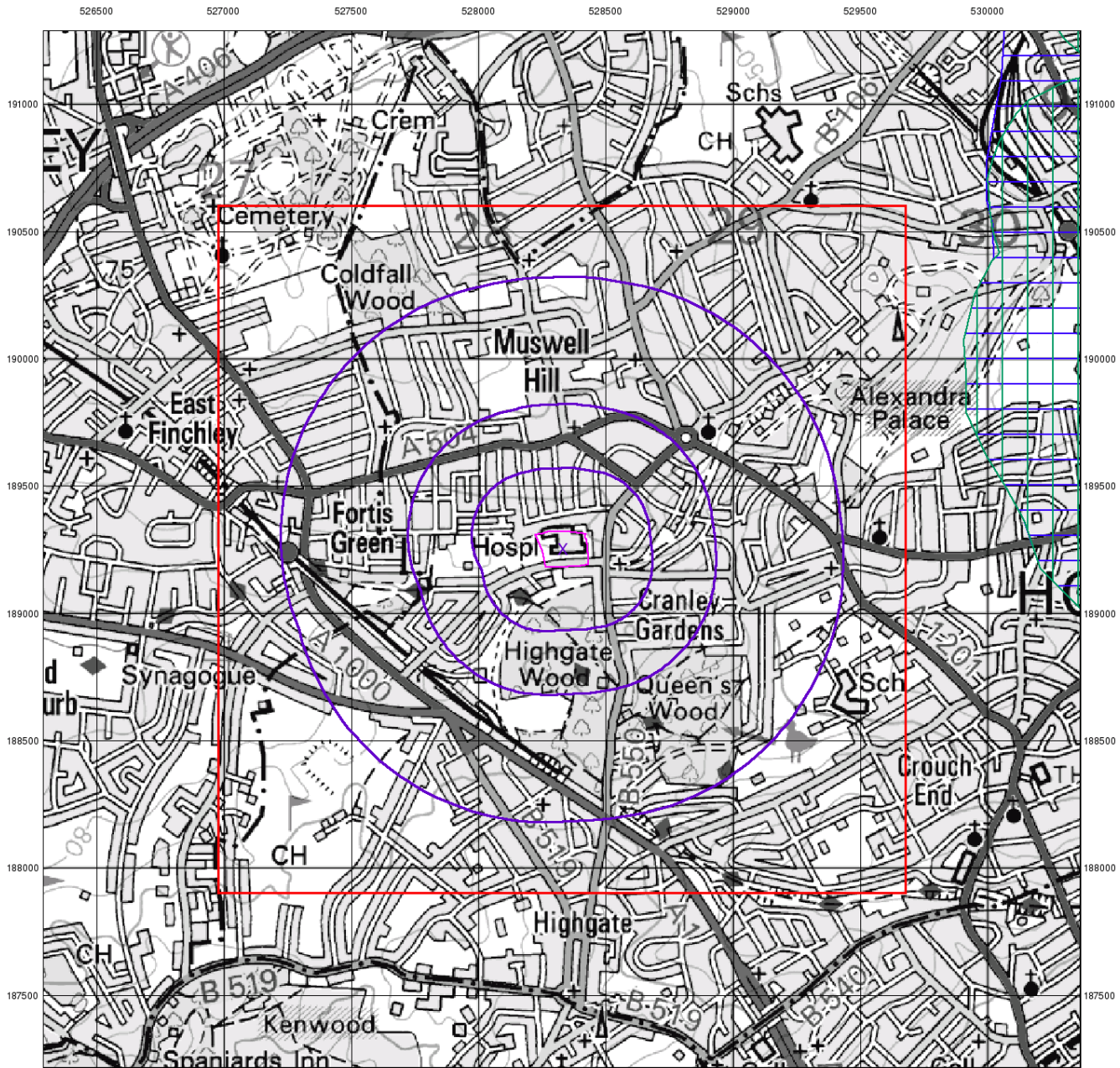



## Order Details

| | |
|---|---|
| Order Number: | 41160789_1_1 |
| Customer Ref: | J12212 |
| National Grid Reference: | 528330, 189250 |
| Slice: | A |
| Site Area (Ha): | 2.43 |
| Search Buffer (m): | 1000 |

## Site Details

St. Lukes Woodside Hospital, Woodside Avenue, Muswell Hill, LONDON, N10 3HU




GEA Geotechnical & Environmental Associates

# Source Protection Zones

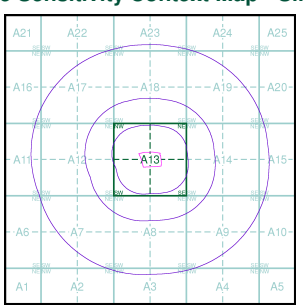
## General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

## Agency and Hydrological

- Source Protection Zone I
- Source Protection Zone II
- Source Protection Zone III
- Zone of Special Interest
- Source Protection Zone Borehole

## Site Sensitivity Context Map - Slice A




## Order Details

| | |
|---|---|
| Order Number: | 41160789_1_1 |
| Customer Ref: | J12212 |
| National Grid Reference: | 528330, 189250 |
| Slice: | A |
| Site Area (Ha): | 2.43 |
| Search Buffer (m): | 1000 |

## Site Details

St. Lukes Woodside Hospital, Woodside Avenue, Muswell Hill, LONDON, N10 3HU

Landmark Information Group
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | Site<br>St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number<br>BH1 |
|---|---|---|---|

| Boring Method | Casing Diameter | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Cable Percussion | 150mm cased to 1.50m | 90.90 | Hanover Housing Association | J12212 |
| | **Location** | **Dates**<br>06/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 90.80 | (0.10) | Tarmac | | |
| | | | | | | 0.10 | | | |
| 0.30 | B1 | | | | 90.60 | (0.20) | Road-stone (hardcore) | | |
| | | | | | | 0.30 | Made Ground (dark brown mottled orange-brown very clayey gravelly sand with brick and tarmac fragments) | | |
| | | | | | | (1.40) | | | |
| 1.20-1.65<br>1.20 | CPT N=7<br>B2 | 1.20 | DRY | 1,2/2,2,1,2 | | | | | |
| | | | | | 89.20 | 1.70 | Firm to stiff high strength brown silty fissured CLAY with occasional grey markings and crystals | | |
| 2.00-2.45<br>2.00 | SPT N=9<br>D3 | 1.50 | DRY | 2,2/2,2,2,3 | | | | | |
| 2.70 | D4 | | | | | | | | |
| 3.00-3.45 | U5 | | | | | | | | |
| 3.50 | D6 | | | | | | | | |
| 3.80 | D7 | | | | | | | | |
| 4.00-4.45<br>4.00 | SPT N=14<br>D9 | 1.50 | DRY | 2,3/3,3,4,4 | | | | | |
| | | | | | | (5.30) | | | |
| 4.70 | D10 | | | | | | | | |
| 5.00-5.45 | U11 | | | | | | | | |
| 5.50 | D12 | | | | | | | | |
| 6.00-6.45<br>6.00 | SPT N=16<br>D13 | 1.50 | DRY | 3,3/3,4,4,5 | | | | | |
| | | | | | 83.90 | 7.00 | Stiff high strength grey silty fissured CLAY | | |
| 7.50-7.95 | U14 | | | | | | | | |
| 8.00 | D15 | | | | | | | | |
| 9.00-9.45<br>9.00 | SPT N=21<br>D16 | 1.50 | DRY | 3,4/4,5,6,6 | | | | | |
| | | | | | | (5.00) | | | |

**Remarks**
13/9/12: water level in standpipe at a depth of 4.5 m
Standpipe installed to 6.0m with a gas tap
Services inspection pit excavated to 1.2 m for 1 hour 15 minutes

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH1

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House, Coursers Road, St Albans, AL4 0PG | Site: St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number: BH1 |
|---|---|---|---|

| Boring Method | Casing Diameter | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Cable Percussion | 150mm cased to 1.50m | 90.90 | Hanover Housing Association | J12212 |

| Location | Dates | Engineer | Sheet |
|---|---|---|---|
| | 06/09/2012 | Conisbee | 2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50-10.95 | U17 | | | | | | | | |
| 11.00 | D18 | | | | | (5.00) | | | |
| 12.00-12.45 | SPT N=27 | 1.50 | DRY | 4,5/6,6,7,8 | 78.90 | 12.00 | | | |
| 12.00 | D19 | | | | | | Very stiff very high strength grey silty fissured CLAY with claystone at 13.2m | | |
| | | | | Seepage(1) at 13.20m, no rise after 20 mins. | | | | | 1 |
| 13.80-14.25 | U20 | | | | | | | | |
| 14.30 | D21 | | | | | | | | |
| 15.00-15.45 | SPT N=28 | 1.50 | 14.70 | 4,5/6,7,7,8 | | | | | |
| 15.00 | D22 | | | | | | | | |
| | | | | | | (8.00) | | | |
| 16.50-16.95 | U23 | | | | | | | | |
| 17.00 | D24 | | | | | | | | |
| 18.00-18.45 | U25 | | | | | | | | |
| 18.50 | D26 | | | | | | | | |
| 19.50-19.95 | SPT N=30 | 1.50 | 19.20 | 5,6/6,7,8,9 | | | | | |
| 19.50 | D27 | | | | 70.90 | 20.00 | | | |

**Remarks**

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.** J12212.BH1

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>**BH2** |
|---|---|---|---|
| **Boring Method**<br>Demountable Rig | **Casing Diameter**<br>150mm cased to 2.00m | **Ground Level (mOD)**<br>89.60 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>12/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| 0.10<br>0.30 | D1<br>D2 | | | | | (0.50) | Made Ground (grass over dark grey sandy gravelly clay with brick fragments) | | |
| 0.50 | B3 | | | | 89.10 | 0.50 | "Stiff" high strength brown silty slightly sandy fissured CLAY with occasional crystals and rootlets (desiccated soil) | | |
| 1.20-1.65<br>1.20-1.65 | CPT N=11<br>D4 | | DRY | 2,2/2,3,3,3 | | | | | |
| 1.75 | D5 | | | | | (2.50) | | | |
| 2.00-2.45 | U8 | | | 30 blows | | | | | |
| 2.75 | D9 | | | | | | | | |
| 3.00-3.45<br>3.00-3.45 | SPT N=13<br>D10 | 2.00 | DRY | 2,4/3,3,3,4 | 86.60 | 3.00 | Stiff high strength brown silty slightly sandy fissured CLAY | | |
| 3.75 | D11 | | | | | | | | |
| 4.00-4.45 | U12 | | | 40 blows | | | | | |
| 4.75 | D13 | | | | | (3.40) | | | |
| 5.00-5.45<br>5.00-5.45 | SPT N=17<br>D14 | 2.00 | DRY | 4,5/4,4,4,5 | | | | | |
| 6.00 | D15 | | | | | | | | |
| 6.50-6.95 | U16 | | | 45 blows | 83.20 | 6.40 | Stiff high strength dark grey slightly silty slightly sandy fissured CLAY | | |
| 7.50 | D17 | | | | | | | | |
| 8.00-8.45<br>8.00-8.45 | SPT N=22<br>D18 | 2.00 | DRY | 3,4/5,5,5,7 | | | | | |
| 9.00 | D19 | | | | | | | | |
| 9.50-9.95 | U20 | | | 50 blows | | | | | |

**Remarks**
Groundwater not encountered
Services inspection pit excavated to 1.2 m for 1 hour 15 minutes

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH2

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>**BH2** |
|---|---|---|---|

| **Boring Method** | **Casing Diameter** | **Ground Level (mOD)** | **Client** | **Job Number** |
|---|---|---|---|---|
| Demountable Rig | 150mm cased to 2.00m | 89.60 | Hanover Housing Association | J12212 |
| | **Location** | **Dates**<br>12/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50 | D21 | | | | | | | | |
| 11.00-11.45 | SPT N=23 | 2.00 | DRY | 3,3/5,6,6,6 | | | | | |
| 11.00-11.45 | D22 | | | | | | | | |
| 12.00 | D23 | | | | | | | | |
| 12.50-12.95 | U24 | | | 50 blows | | | | | |
| 13.50 | D25 | | | | | | | | |
| 14.00-14.45 | SPT N=26 | 2.00 | DRY | 6,5/5,6,7,8 | | (11.60) | | | |
| 14.00-14.45 | D26 | | | | | | | | |
| 15.00 | D27 | | | | | | | | |
| 15.50-15.95 | U28 | | | 50 blows | | | | | |
| 16.50 | D29 | | | | | | | | |
| 17.00-17.45 | SPT N=27 | 2.00 | DRY | 3,5/5,7,7,8 | | | | | |
| 17.00-17.45 | D30 | | | | | | | | |
| 18.00 | D31 | | | | 71.60 | 18.00 | Very stiff very high strength dark grey slightly silty slightly sandy fissured CLAY | | |
| 18.50-18.95 | U32 | | | 50 blows | | | | | |
| 19.25 | D33 | | | | | (2.00) | | | |
| 19.55-20.00 | SPT N=36 | 2.00 | DRY | 5,6/8,8,9,11 | | | | | |
| 19.55-20.00 | D34 | | | | | | | | |
| | | | | | 69.60 | 20.00 | | | |

**Remarks**

| **Scale (approx)** | **Logged By** |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH2

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House, Coursers Road, St Albans, AL4 0PG | Site: St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number: BH3 |
|---|---|---|---|

| Boring Method | Casing Diameter | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Cable Percussion | 150mm cased to 1.50m | 91.20 | Hanover Housing Association | J12212 |
| | **Location** | **Dates** 05/09/2012 | **Engineer** Conisbee | **Sheet** 1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | (0.40) | Tarmac over hardcore | | |
| | | | | | 90.80 | 0.40 | | | |
| 0.50 | B1 | | | | | (0.90) | Made Ground (dark brown silty sandy gravelly clay with brick and tarmac fragments and occasional black organic matter) | | |
| 1.20-1.65 | SPT N=6 | | | 1,1/1,2,1,2 | 89.90 | 1.30 | | | |
| 1.20 | D2 | | | | | | Firm medium strength brown silty fissured CLAY with grey markings and crystals | | |
| 1.80 | D3 | | | | | | | | |
| 2.00-2.45 | U4 | | | | | (1.70) | | | |
| 2.50 | D5 | | | | | | | | |
| 2.80 | D6 | | | | | | | | |
| 3.00-3.45 | SPT N=7 | | | 1,1/1,2,1,3 | 88.20 | 3.00 | | | |
| 3.00 | D7 | | | | | | Stiff high strength brown silty fissured CLAY with grey markings and crystals | | |
| 4.00-4.45 | U8 | | | | | | | | |
| 4.50 | D9 | | | | | (3.30) | | | |
| 4.80 | D10 | | | | | | | | |
| 5.00-5.45 | SPT N=15 | | | 2,3/3,3,4,5 | | | | | |
| 5.00 | D11 | | | | | | | | |
| 6.00-6.45 | U12 | | | | | | | | |
| | | | | | 84.90 | 6.30 | | | |
| 6.50 | D13 | | | | | | Stiff high strength grey silty fissured CLAY | | |
| 7.50-7.95 | SPT N=18 | | | 2,3/3,4,5,6 | | | | | |
| 7.50 | D14 | | | | | | | | |
| 9.00-9.45 | U15 | | | | | | | | |
| 9.50 | D16 | | | | | | | | |

**Remarks**
Services inspection pit excavated to 1.2 m for 1 hour 30 minutes
Standpipe installed to 6.0m with a gas tap.
Groundwater not encountered.
13/9/12: Standpipe dry

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.** J12212.BH3

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>BH3 |
|---|---|---|---|
| **Boring Method**<br>Cable Percussion | **Casing Diameter**<br>150mm cased to 1.50m | **Ground Level (mOD)**<br>91.20 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>05/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50-10.95<br>10.50 | SPT N=22<br>D17 | | | 3,4/5,5,6,6 | | | | | |
| 12.00-12.45 | U18 | | | | | (7.70) | | | |
| 12.50 | D19 | | | | | | | | |
| 13.50-13.95<br>13.50 | SPT N=27<br>D20 | | | 4,5/6,6,7,8 | | | | | |
| | | | | | 77.20 | 14.00 | Very stiff very high strength grey silty fissured CLAY | | |
| 15.00-15.45 | U21 | | | | | | | | |
| 15.50 | D22 | | | | | | | | |
| 16.50-16.95<br>16.50 | SPT N=33<br>D23 | | | 5,6/6,8,9,10 | | | | | |
| | | | | | | (6.00) | | | |
| 18.00-18.45 | U24 | | | | | | | | |
| 18.50 | D25 | | | | | | | | |
| 19.50-19.95<br>19.50 | SPT N=35<br>D26 | | | 5,6/7,8,9,11 | | | | | |
| | | | | | 71.20 | 20.00 | | | |

**Remarks**

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH3

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House, Coursers Road, St Albans, AL4 0PG | Site: St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number: BH4 |
|---|---|---|---|

| Boring Method | Casing Diameter | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Cable Percussion | 150mm cased to 1.50m | 92.20 | Hanover Housing Association | J12212 |
| | **Location** | **Dates** 07/09/2012 | **Engineer** Conisbee | **Sheet** 1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 92.15 | (0.05) 0.05 | Tarmac | | |
| | | | | | 91.90 | (0.25) 0.30 | Concrete with reinforcing | | |
| 0.40 | B1 | | | | | (1.10) | Made Ground (brown mottled orange-brown and grey silty slightly sandy clay with brick fragments and occasional roots) | | |
| 1.00 | D1 | | | | | | | | |
| 1.20-1.65 | CPT N=7 | | DRY | 1,1/1,2,2,2 | 90.80 | 1.40 | | | |
| 1.20 | B2 | | | | | | Firm medium strength brown silty fissured CLAY with occasional grey markings and crystals and rootlets to 2.0m | | |
| 1.80 | D2 | | | | | | | | |
| 2.00 | U1 | | | | | | | | |
| 2.50 | D3 | | | | | | | | |
| 2.80 | D4 | | | | | | | | |
| 3.00-3.45 | SPT N=10 | | DRY | 1,2/2,2,3,3 | | | | | |
| 3.00 | D5 | | | | | (3.60) | | | |
| 3.70 | D6 | | | | | | | | |
| 4.00 | U2 | | | | | | | | |
| 4.50 | D7 | | | | | | | | |
| 4.80 | D8 | | | | | | | | |
| 5.00-5.45 | SPT N=15 | | DRY | 2,2/3,4,4,4 | 87.20 | 5.00 | | | |
| 5.00 | D9 | | | | | | Stiff high strength brown silty fissured CLAY with occasional grey markings and crystals | | |
| 6.00 | U3 | | | | | (1.80) | | | |
| 6.50 | D10 | | | | | | | | |
| 7.00 | D11 | | | | 85.40 | 6.80 | Stiff high strength grey silty fissured CLAY | | |
| 7.50-7.95 | SPT N=17 | | DRY | 2,3/4,4,4,5 | | | | | |
| 7.50 | D12 | | | | | | | | |
| 9.00 | U4 | | | | | | | | |
| 9.50 | D13 | | | | | | | | |

**Remarks**
Services inspection pit excavated to 1.2 m for 2 hours
Groundwater not encountered

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.** J12212.BH4

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>BH4 |
|---|---|---|---|

| **Boring Method** | **Casing Diameter** | **Ground Level (mOD)** | **Client** | **Job Number** |
|---|---|---|---|---|
| Cable Percussion | 150mm cased to 1.50m | 92.20 | Hanover Housing Association | J12212 |
| | **Location** | **Dates**<br>07/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50-10.95<br>10.50 | SPT N=19<br>D14 | | DRY | 3,4/4,4,5,6 | | | | | |
| 12.00 | U5 | | | | | | | | |
| 12.50 | D15 | | | | | | | | |
| 13.50-13.95<br>13.50 | SPT N=26<br>D16 | | DRY | 4,5/6,6,7,7 | | | | | |
| 15.00 | U6 | | | | | (13.20) | | | |
| 15.50 | D17 | | | | | | | | |
| 16.50-16.95<br>16.50 | SPT N=27<br>D18 | | DRY | 5,5/6,6,7,8 | | | | | |
| 18.00 | U7 | | | | | | | | |
| 18.50 | D19 | | | | | | | | |
| 19.50-19.95<br>19.50 | SPT N=33<br>D20 | | DRY | 5,6/7,8,8,10 | | | | | |
| | | | | | 72.20 | 20.00 | | | |

**Remarks**

| **Scale (approx)** | **Logged By** |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH4

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>**BH5** |
|---|---|---|---|
| **Boring Method**<br>Demountable Rig | **Casing Diameter** | **Ground Level (mOD)**<br>91.70 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>06/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| 0.10 | D1 | | DRY | | | (0.50) | Made Ground (grass surface overlying dark grey silty clay with roots and occasional brick fragments) | | |
| 0.50 | B1 | | DRY | | 91.20 | 0.50 | Soft to firm medium strength brown silty slightly sandy fissured CLAY | | |
| 1.20-1.65 | CPT N=9 | | DRY | 1,1/2,2,2,3 | | (1.50) | | | |
| 1.20-1.65 | D2 | | DRY | | | | | | |
| 1.75 | D3 | | DRY | | | | | | |
| 2.00-2.45 | U1 | | DRY | | 89.70 | 2.00 | Firm high strength brown silty slightly sandy fissured CLAY | | |
| 2.75 | D4 | | DRY | | | | | | |
| 3.00-3.45 | SPT N=12 | | DRY | 2,2/3,3,3,3 | | | | | |
| 3.00-3.45 | D5 | | DRY | | | | | | |
| 3.75 | D6 | | DRY | | | | | | |
| 4.00-4.45 | U2 | | DRY | | | (5.20) | | | |
| 4.75 | D7 | | DRY | | | | | | |
| 5.00-5.45 | SPT N=15 | | DRY | 1,2/3,4,4,4 | | | | | |
| 5.00-5.45 | D8 | | DRY | | | | | | |
| 6.00 | D9 | | DRY | | | | | | |
| 6.50-6.95 | U3 | | DRY | | | | | | |
| 7.50 | D10 | | DRY | | 84.50 | 7.20 | Stiff high strength dark blue-grey silty slightly sandy fissured CLAY with lenses of fine grey sand | | |
| 8.00-8.45 | SPT N=19 | | DRY | 3,3/4,4,5,6 | | | | | |
| 8.00-8.45 | D11 | | DRY | | | | | | |
| 9.00 | D12 | | DRY | | | (3.80) | | | |
| 9.50-9.95 | U4 | | DRY | | | | | | |

**Remarks**
Services inspection pit excavated to 1.2 m for 1 hour 15 minutes
Groundwater not encountered.

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH5

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House, Coursers Road, St Albans, AL4 0PG | Site: St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number: BH5 |
|---|---|---|---|
| Boring Method: Demountable Rig | Casing Diameter | Ground Level (mOD): 91.70 | Client: Hanover Housing Association | Job Number: J12212 |
| | Location | Dates: 06/09/2012 | Engineer: Conisbee | Sheet: 2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50 | D13 | | DRY | | | (3.80) | | | |
| | | | | | 80.70 | 11.00 | | | |
| 11.00-11.45 | SPT N=22 | | DRY | 4,4/5,5,6,6 | | | Very stiff very high strength dark blue-grey silty slightly sandy fissured CLAY with lenses of fine grey sand | | |
| 11.00-11.45 | D14 | | DRY | | | | | | |
| 12.00 | D15 | | DRY | | | | | | |
| 12.50-12.95 | U5 | | DRY | | | | | | |
| 13.50 | D16 | | DRY | | | | | | |
| 14.00-14.45 | SPT N=23 | | DRY | 3,4/5,6,6,6 | | | | | |
| 14.00-14.45 | D17 | | DRY | | | | | | |
| 15.00 | D18 | | DRY | | | | | | |
| 15.50-15.95 | U6 | | DRY | | | (9.00) | | | |
| 16.50 | D19 | | DRY | | | | | | |
| 17.00-17.45 | SPT N=26 | | DRY | 3,5/5,6,7,8 | | | | | |
| 17.00-17.45 | D20 | | DRY | | | | | | |
| 18.00 | D21 | | DRY | | | | | | |
| 18.50-18.95 | U7 | | DRY | | | | | | |
| 19.00 | D22 | | DRY | | | | | | |
| 19.55-20.00 | SPT N=44 | | DRY | 8,9/10,11,11,12 | | | | | |
| 19.55-20.00 | D23 | | DRY | | | | | | |
| | | | | | 71.70 | 20.00 | | | |

**Remarks**

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

Figure No. J12212.BH5

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>**BH6** |
|---|---|---|---|
| **Boring Method**<br>Demountable Rig | **Casing Diameter**<br>150mm cased to 2.00m | **Ground Level (mOD)**<br>97.30 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>11/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| 0.10 | D1 | | | | 97.00 | (0.30)<br>0.30 | Made Ground (grass surface overlying dark grey sandy clay). | | |
| 0.40 | D2 | | | | 96.80 | (0.20)<br>0.50 | Made Ground (yellowish brown silty clayey sand) | | |
| 0.50 | B1 | | | | | | Soft to firm medium strength brown slightly silty slightly sandy fissured CLAY. | | |
| 1.20-1.65 | SPT N=8 | | DRY | 1,1/1,2,2,3 | | | | | |
| 1.20-1.65 | D3 | | DRY | | | | | | |
| 1.75 | D4 | | | | | (2.50) | | | |
| 2.00-2.45 | U1 | | DRY | | | | | | |
| 2.75 | D5 | | | | | | | | |
| 3.00-3.45 | SPT N=12 | | DRY | 2,2/3,3,3,3 | 94.30 | 3.00 | Soft to firm high strength brown slightly silty slightly sandy fissured CLAY. | | |
| 3.00-3.45 | D6 | | DRY | | | | | | |
| 3.75 | D7 | | | | | | | | |
| 4.00-4.45 | U2 | | DRY | | | | | | |
| 4.75 | D8 | | | | | | | | |
| 5.00-5.45 | SPT N=16 | 2.00 | DRY | 3,3/3,4,4,5 | | (4.20) | | | |
| 5.00-5.45 | D9 | 2.00 | DRY | | | | | | |
| 6.00 | D10 | | | | | | | | |
| 6.50-6.95 | U3 | | DRY | | | | | | |
| 7.50 | D11 | | | | 90.10 | 7.20 | Stiff high strength dark blue-grey slightly silty slightly sandy fissured CLAY. | | |
| 8.00-8.45 | SPT N=19 | 2.00 | DRY | 6,4/4,5,5,5 | | | | | |
| 8.00-8.45 | D12 | | DRY | | | | | | |
| 9.00 | D13 | | | | | | | | |
| 9.50-9.95 | U4 | | DRY | | | | | | |

**Remarks**
Services inspection pit excavated to 1.2 m for 1 hour 15 minutes

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH6

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>BH6 |
|---|---|---|---|
| **Boring Method**<br>Demountable Rig | **Casing Diameter**<br>150mm cased to 2.00m | **Ground Level (mOD)**<br>97.30 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>11/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50 | D14 | | | | | | | | |
| 11.00-11.45 | SPT N=25 | 2.00 | DRY | 3,5/6,6,6,7 | | | | | |
| 11.00-11.45 | D15 | | DRY | | | | | | |
| 12.00 | D16 | | | | | | | | |
| 12.50-12.95 | U5 | | DRY | | | | | | |
| 13.50 | D17 | | | | | | | | |
| 14.00-14.45 | SPT N=25 | 2.00 | DRY | 4,5/5,5,7,8 | | | | | |
| 14.00-14.45 | D18 | | DRY | | | | | | |
| 15.00 | D19 | | | | | (12.80) | | | |
| 15.50-15.95 | U6 | 2.00 | DAMP | Seepage(1) at 15.50m. | | | | | ▽1 |
| 16.50 | D20 | | | | | | | | |
| 17.00-17.45 | SPT N=27 | 2.00 | DAMP | 2,4/6,6,7,8 | | | | | |
| 17.00-17.45 | D21 | | DAMP | | | | | | |
| 18.00 | D22 | | | | | | | | |
| 18.50-18.95 | U7 | | DAMP | | | | | | |
| 19.25 | D23 | | | | | | | | |
| 19.55-20.00 | SPT N=32 | 2.00 | DAMP | 5,5/6,7,8,11 | | | | | |
| 19.55-20.00 | D24 | 2.00 | DAMP | | | | | | |
| | | | | | 77.30 | 20.00 | | | |

**Remarks**

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH6

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>**BH7** |
|---|---|---|---|
| **Boring Method**<br>Demountable Rig | **Casing Diameter**<br>150mm cased to 2.00m | **Ground Level (mOD)**<br>98.50 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>10/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| 0.10 | D1 | | | | | (0.50) | Made Ground (grass surface overlying dark grey silty clay with roots) | | |
| 0.30 | D2 | | | | 98.00 | 0.50 | | | |
| 0.50 | B1 | | | | | | "Stiff" medium strength brown slightly silty slightly sandy fissured CLAY (desiccated soil) | | |
| 1.20-1.65 | SPT N=10 | | DRY | 2,3/2,2,2,4 | | (1.50) | | | |
| 1.20-1.65 | D3 | | DRY | | | | | | |
| 1.75 | D4 | | | | | | | | |
| 2.00-2.45 | U1 | | DRY | | 96.50 | 2.00 | Firm to stiff high strength brown slightly silty slightly sandy fissured CLAY | | |
| 2.75 | D5 | | | | | | | | |
| 3.00-3.45 | SPT N=13 | 2.00 | DRY | 1,2/3,2,3,5 | | | | | |
| 3.00-3.45 | D6 | 2.00 | DRY | | | (3.00) | | | |
| 3.75 | D7 | | | | | | | | |
| 4.00-4.45 | U2 | | DRY | | | | | | |
| 4.75 | D8 | | | | | | | | |
| 5.00-5.45 | SPT N=17 | 2.00 | DRY | 2,4/4,4,4,5 | 93.50 | 5.00 | Stiff high strength dark grey slightly silty slightly sandy fissured CLAY with occasional lenses of fine grey sand from 8.0m and claystone at 18.7m | | |
| 5.00-5.45 | D9 | | DRY | | | | | | |
| 6.00 | D10 | | | | | | | | |
| 6.50-6.95 | U3 | | DRY | | | | | | |
| 7.50 | D11 | | | | | | | | |
| 8.00-8.45 | SPT N=20 | 2.00 | DRY | 3,3/4,5,5,6 | | | | | |
| 8.00-8.45 | D12 | | DRY | | | | | | |
| 9.00 | D13 | | | | | | | | |
| 9.50-9.95 | U4 | | DRY | | | | | | |

**Remarks**
Groundwater not encountered.
Services inspection pit excavated to 1.2 m for 1 hour 15 minutes

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH7

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | Site<br>St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number<br>BH7 |
|---|---|---|---|

| Boring Method | Casing Diameter | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Demountable Rig | 150mm cased to 2.00m | 98.50 | Hanover Housing Association | J12212 |
| | **Location** | **Dates**<br>10/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50 | D14 | | | | | | | | |
| 11.00-11.45 | SPT N=22 | 2.00 | DRY | 2,3/4,5,6,7 | | | | | |
| 11.00-11.45 | D15 | | DRY | | | | | | |
| 12.00 | D16 | | | | | | | | |
| 12.50-12.95 | U5 | | DRY | | | | | | |
| 13.50 | D17 | | | | | | | | |
| 14.00-14.45 | SPT N=25 | 2.00 | DRY | 3,4/5,6,6,8 | | | | | |
| 14.00-14.45 | D18 | | DRY | | | | | | |
| 15.00 | D19 | | | | | (15.00) | | | |
| 15.50-15.95 | U6 | | DRY | | | | | | |
| 16.50 | D20 | | | | | | | | |
| 17.00-17.45 | SPT N=26 | 2.00 | DRY | 3,6/5,6,7,8 | | | | | |
| 17.00-17.45 | D21 | | DRY | | | | | | |
| 18.00 | D22 | | | | | | | | |
| 18.50-18.95 | U7 | 2.00 | DRY | | | | | | |
| 19.00-19.45 | D23 | | DRY | | | | | | |
| 19.55-20.00 | D24 | 2.00 | DRY | | | | | | |
| 20.00-20.45 | SPT N=30 | 2.00 | DRY | 1,5/7,7,8,8 | 78.50 | 20.00 | | | |

| Remarks | Scale (approx) | Logged By |
|---|---|---|
| | 1:50 | DA |
| | Figure No.<br>J12212.BH7 | |

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House, Coursers Road, St Albans, AL4 0PG | Site: St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number: BH8 |
|---|---|---|---|

| Boring Method | Casing Diameter | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Cable Percussion | 150mm cased to 1.50m | 93.20 | Hanover Housing Association | J12212 |
| | **Location** | **Dates** 06/09/2012 | **Engineer** Conisbee | **Sheet** 1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 93.10 | (0.10) | Tarmac | | |
| | | | | | | 0.10 | | | |
| 0.20 | B1 | | | | | (0.50) | Made Ground (dark brown mottled orange brown very sandy, silty gravelly clay with brick and tarmac fragments and occasional rootlets) | | |
| | | | | | 92.60 | 0.60 | | | |
| 0.80 | D2 | | | | | | Firm to stiff high strength brown silty fissured CLAY with grey markings and crystals | | |
| 1.20-1.65 | U3 | | | | | | | | |
| 1.70 | D4 | | | | | | | | |
| 1.80 | D5 | | | | | | | | |
| 2.00-2.45 | SPT N=9 | | DRY | 1,2/2,2,2,3 | | | | | |
| 2.00 | D6 | | | | | | | | |
| 2.80 | D7 | | | | | | | | |
| 3.00-3.45 | U8 | | | | | | | | |
| | | | | | | (5.60) | | | |
| 3.50 | D9 | | | | | | | | |
| 3.80 | D10 | | | | | | | | |
| 4.00-4.45 | SPT N=14 | | DRY | 1,2/3,3,4,4 | | | | | |
| 4.00 | D11 | | | | | | | | |
| 4.70 | D12 | | | | | | | | |
| 5.00-5.45 | U13 | | | | | | | | |
| 5.50 | D14 | | | | | | | | |
| 6.00-6.45 | SPT N=17 | | DRY | 2,3/4,4,4,5 | | | | | |
| 6.00 | D15 | | | | 87.00 | 6.20 | Stiff high strength grey silty fissured CLAY | | |
| 7.50-7.95 | U16 | | | | | | | | |
| 8.00 | D17 | | | | | | | | |
| 9.00-9.45 | SPT N=24 | | DRY | 4,4/5,6,6,7 | | | | | |
| 9.00 | D18 | | | | | | | | |
| | | | | | | (6.80) | | | |

**Remarks**
13/09/2012: Standpipe dry
Standpipe installed to a depth of 6.0 m with gas tap
Groundwater not encountered
Services inspection pit excavated to 1.2 m for 1 hour 15 minutes

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.** J12212.BH8

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Borehole Number**<br>**BH8** |
|---|---|---|---|
| **Boring Method**<br>Cable Percussion | **Casing Diameter**<br>150mm cased to 1.50m | **Ground Level (mOD)**<br>93.20 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>06/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50-10.95 | U19 | | | | | | | | |
| 11.00 | D20 | | | | | | | | |
| | | | | | | (6.80) | | | |
| 12.00-12.45 | SPT N=25 | | DRY | 4,5/5,6,7,7 | | | | | |
| 12.00 | D21 | | | | | | | | |
| | | | | | 80.20 | 13.00 | Very stiff very high strength grey silty fissured CLAY | | |
| 13.50-13.95 | U22 | | | | | | | | |
| 14.00 | D23 | | | | | | | | |
| 15.00-15.45 | SPT N=32 | | DRY | 6,6/7,8,8,9 | | | | | |
| 15.00 | D24 | | | | | | | | |
| | | | | | | (7.00) | | | |
| 16.50-16.95 | U25 | | | | | | | | |
| 17.00 | D26 | | | | | | | | |
| 18.00-18.45 | SPT N=35 | | DRY | 6,7/7,8,9,11 | | | | | |
| 18.00 | D27 | | | | | | | | |
| 19.50-19.95 | U28 | | | | | | | | |
| 20.00 | D29 | | | | 73.20 | 20.00 | | | |

**Remarks**

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.**
J12212.BH8

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House, Coursers Road, St Albans, AL4 0PG | Site: St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number: BH9 |
|---|---|---|---|

| Boring Method | Casing Diameter | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Demountable Rig | 150mm cased to 1.70m | 93.60 | Hanover Housing Association | J12212 |
| | **Location** | **Dates** 07/09/2012 | **Engineer** Conisbee | **Sheet** 1/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | (0.35) | Made Ground (grass surface overlying dark grey silty clay with brick fragments) | | |
| 0.20 | D1 | | | | 93.25 | 0.35 | | | |
| 0.50 | B1 | | | | | | "Stiff" medium strength brown silty slightly sandy fissured CLAY with specks of black organic matter and occasional rootlets (desiccated soil) | | |
| | | | | | | (1.65) | | | |
| 1.20-1.65 | SPT N=10 | | DRY | 1,1/2,3,2,3 | | | | | |
| 1.20-1.65 | D2 | | DRY | | | | | | |
| 1.75 | D3 | | | | | | | | |
| 2.00-2.45 | U1 | | DRY | | 91.60 | 2.00 | | | |
| | | | | | | | Firm to stiff medium strength brown silty slightly sandy fissured CLAY | | |
| 2.75 | D4 | | | | | | | | |
| 3.00-3.45 | SPT N=16 | | DRY | 2,3/3,4,4,5 | | | | | |
| 3.00-3.45 | D5 | | DRY | | | | | | |
| 3.75 | D6 | | | | | | | | |
| | | | | | | (3.80) | | | |
| 4.00-4.45 | U2 | 1.70 | DRY | | | | | | |
| 4.75 | D7 | | | | | | | | |
| 5.00-5.45 | SPT N=20 | 1.70 | DRY | 3,4/4,5,5,6 | | | | | |
| 5.00-5.45 | D8 | | DRY | | | | | | |
| | | | | | 87.80 | 5.80 | | | |
| 6.00 | D9 | | | | | | Stiff high strength dark blue-grey silty slightly sandy fissured CLAY with occasional lenses of fine grey sand and claystone at 17.0m | | |
| 6.50-9.95 | U3 | | DRY | | | | | | |
| 7.50 | D10 | | | | | | | | |
| 8.00-8.45 | SPT N=24 | 1.70 | DRY | 2,4/5,6,6,7 | | | | | |
| 8.00-8.45 | D11 | | DRY | | | | | | |
| 9.00 | D12 | | | | | | | | |
| 9.50-9.95 | U4 | | DRY | | | | | | |

**Remarks**
Services inspection pit excavated to 1.2 m for 1 hour 15 minutes

| Scale (approx) | Logged By |
|---|---|
| 1:50 | DA |

**Figure No.** J12212.BH9

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | Site<br>St Lukes Hospital, Muswell Hill, N10 3HU | Borehole Number<br>BH9 |
|---|---|---|---|

| Boring Method | Casing Diameter | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Demountable Rig | 150mm cased to 1.70m | 93.60 | Hanover Housing Association | J12212 |
| | **Location** | **Dates**<br>07/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>2/2 |

| Depth (m) | Sample / Tests | Casing Depth (m) | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ... as previous | | |
| 10.50 | D13 | | | | | | | | |
| 11.00-11.45 | SPT N=26 | 1.70 | DRY | 4,5/5,6,6,9 | | | | | |
| 11.00-11.45 | D14 | | DRY | | | | | | |
| 12.00 | D15 | | | | | | | | |
| 12.50-12.95 | U5 | | DRY | | | | | | |
| 13.50 | D16 | | | | | | | | |
| 14.00-14.45 | SPT N=28 | 1.70 | DRY | 3,5/5,6,8,9 | | | | | |
| 14.00-14.45 | D17 | | DRY | | | | | | |
| 15.00 | D18 | | | | | (14.20) | | | |
| 15.50-15.95 | U6 | | DRY | | | | | | |
| 16.50 | D19 | | | | | | | | ▼1 |
| 17.00-17.45 | D20 | 1.70 | 16.50 | Fast seepage(1) at 17.00m, rose to 16.50m in 20 mins. | | | | | ▽1 |
| 17.00-17.45 | CPT N=68 | 1.70 | 16.50 | 5,5/18,50 | | | | | |
| 18.00 | D21 | | | | | | | | |
| 18.50-18.95 | U7 | | DRY | | | | | | |
| 19.25 | D22 | | | | | | | | |
| 19.55-20.00 | SPT N=31 | 1.70 | DRY | 5,6/6,7,9,9 | | | | | |
| 19.55-20.00 | D23 | 1.70 | DRY | | 73.60 | 20.00 | | | |

| Remarks | Scale (approx) | Logged By |
|---|---|---|
| | 1:50 | DA |
| | Figure No.<br>J12212.BH9 | |

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Number**<br>**BH10** |
|---|---|---|---|
| **Excavation Method**<br>Opendrive Lined Percussive Sampler (Premier Rig) | **Dimensions** | **Ground Level (mOD)**<br>91.40 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>12/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/1 |

| Depth (m) | Sample / Tests | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|
| | | | | | (0.40) | Topsoil (dark brown slightly gravelly sand with rootlets, occasional fragments of brick and rare ash) | | |
| 0.20 | D1 | | | 91.00 | 0.40 | | | |
| | | | | | (0.30) | Made Ground (reddish brown very sandy gravel with fragments of brick and occasional clinker) | | |
| 0.60 | D2 | | | 90.70 | 0.70 | | | |
| 0.80 | D3 | | pp 3.75 | | (0.20) | | | |
| | | | | 90.50 | 0.90 | "Stiff" brown mottled orange-brown fissured CLAY with roots up to 10 mm diameter (desiccated soil) | | |
| 1.00 | D4 | | pp 1.25 | | (0.60) | | | |
| | | | pp 1.25 | | | Firm brown mottled orange-brown silty fissured CLAY with rootlets | | |
| | | | pp 1.25 | 89.90 | 1.50 | | | |
| 1.50 | D5 | | | | (0.30) | | | |
| | | | pp 1.25 | | | Firm brown, occasionally mottled orange-brown and grey silty fissured CLAY with occasional rootlets | | |
| | | | pp 1.50 | 89.60 | 1.80 | | | |
| 1.90 | D6 | | | | | Firm brown mottled orange-brown and grey silty fissured CLAY with occasional rootlets | | |
| | | | pp 1.50 | | | | | |
| | | | pp 1.50 | | | | | |
| 2.40 | D7 | | pp 1.50 | | (1.20) | | | |
| | | | pp 2.00 | | | | | |
| | | | pp 2.00 | | | | | |
| 2.90 | D8 | | | | | | | |
| | | | pp 2.00 | 88.40 | 3.00 | | | |
| 3.20 | D9 | | pp 2.25 | | | Firm fissured brown mottled grey silty fissured CLAY with occasional selenite crystals and occasional rootlets | | |
| | | | pp 2.25 | | (0.70) | | | |
| | | | pp 2.75 | 87.70 | 3.70 | | | |
| 3.80 | D10 | | pp 2.75 | | | Firm fissured brown mottled grey silty fissured CLAY with occasional partings of orange-brown silty fine sand and rare selenite crystals | | |
| | | | pp 2.50 | | | | | |
| | | | pp 2.50 | | (1.30) | | | |
| 4.40 | D11 | | pp 3.00 | | | | | |
| | | | pp 2.75 | | | | | |
| 4.80 | D12 | | pp 2.75 | | | | | |
| | | | pp 2.75 | 86.40 | 5.00 | | | |
| | | | | | | Complete at 5.00m | | |

**Remarks**
Groundwater not encountered
pp denotes pocket penetrometer measurement

| Scale (approx) | Logged By |
|---|---|
| 1:50 | RR |

**Figure No.**
J12212.BH10

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Number**<br>**BH11** |
|---|---|---|---|

| **Excavation Method** | **Dimensions** | **Ground Level (mOD)** | **Client** | **Job Number** |
|---|---|---|---|---|
| Opendrive Lined Percussive Sampler (Premier Rig) | | 91.30 | Hanover Housing Association | J12212 |
| | **Location** | **Dates**<br>12/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/1 |

| Depth (m) | Sample / Tests | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|
| | | | | | (0.20) | Topsoil (dark brown slightly gravelly brown sand with rootlets and rare ash) | | |
| 0.10 | D1 | | | 91.10 | 0.20 | | | |
| 0.50 | D2 | | | | (0.70) | Made Ground ("stiff" brown friable clay with occasional flint gravel, roots, fragments of brick and rare ash - desiccated soil) | | |
| | | | | 90.40 | 0.90 | | | |
| | | | pp 1.50 | | | Firm brown mottled orange-brown silty fissured CLAY with rootlets | | |
| 1.20 | D3 | | pp 1.50<br>pp 1.75 | | (0.60) | | | |
| | | | pp 1.50 | 89.80 | 1.50 | | | |
| 1.70 | D4 | | pp 1.50 | | | Firm brown mottled grey occasionally orange-brown silty fissured CLAY with selenite crystals to 2.0 m | | |
| | | | pp 1.75 | | (1.00) | | | |
| 2.20 | D5 | | pp 2.00<br>pp 2.00 | 88.80 | 2.50 | | | |
| | | | pp 2.25 | | | Firm fissured brown mottled grey silty fissured CLAY | | |
| 2.70 | D6 | | pp 2.75 | | | | | |
| | | | pp 2.50 | | (1.00) | | | |
| 3.20 | D7 | | pp 2.75<br>pp 2.75 | 87.80 | 3.50 | | | |
| | | | pp 2.75 | | | Firm fissured brown mottled grey silty fissured CLAY with occasional selenite crystals and occasional partings of orange-brown silty fine sand | | |
| 3.70 | D8 | | pp 2.75 | | (0.50) | | | |
| | | | pp 2.75 | 87.30 | 4.00 | | | |
| | | | | | | Complete at 4.00m | | |

**Remarks**
Groundwater not encountered
pp denotes pocket penetrometer measurement

| **Scale (approx)** | **Logged By** |
|---|---|
| 1:50 | RR |

**Figure No.**
J12212.BH11

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| | | | |
|---|---|---|---|
| GEA Geotechnical & Environmental Associates<br>Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | | **Number**<br>**BH12** |
| **Excavation Method**<br>Opendrive Lined Percussive Sampler (Premier Rig) | **Dimensions** | **Ground Level (mOD)**<br>92.40 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>12/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/1 |

| Depth (m) | Sample / Tests | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|
| | | | | 92.25 | (0.15) 0.15 | Topsoil (dark brown silty slightly gravelly clay with fragments of brick and rootlets) | | |
| 0.10 | D1 | | | | | Made Ground (brown, dark brown and orange-brown clay with occasional pockets of sand, rootlets and fragments of brick) | | |
| 0.50 | D2 | | | | (1.35) | | | |
| 1.20 | D3 | | | | | | | |
| | | | | 90.90 | 1.50 | | | |
| 1.60 | D4 | | pp 1.75<br>pp 1.75 | | | Firm orange-brown mottled grey silty fissured CLAY with selenite crystals at 2.5 m | | |
| | | | pp 1.75 | | (1.10) | | | |
| 2.20 | D5 | | pp 1.50<br>pp 2.00 | | | | | |
| | | | pp 2.00 | 89.80 | 2.60 | | | |
| 2.70 | D6 | | pp 2.00 | | | Firm fissured orange-brown mottled grey silty fissured CLAY with occasional selenite crystals and claystone at 4.0 m | | |
| | | | pp 2.50 | | | | | |
| 3.20 | D7 | | pp 2.25<br>pp 2.25 | | (1.40) | | | |
| | | | pp 2.25 | | | | | |
| 3.70 | D8 | | pp 2.25 | | | | | |
| | | | | 88.40 | 4.00 | Complete at 4.00m | | |

**Remarks**
pp denotes pocket penetrometer measurement
Groundwater not encountered

| Scale (approx) | Logged By |
|---|---|
| 1:50 | RR |

**Figure No.**
J12212.BH12

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

GEA Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

| Site | Number |
|---|---|
| St Lukes Hospital, Muswell Hill, N10 3HU | BH13 |

| Excavation Method | Dimensions | Ground Level (mOD) | Client | Job Number |
|---|---|---|---|---|
| Opendrive Lined Percussive Sampler (Premier Rig) | | 92.90 | Hanover Housing Association | J12212 |
| | **Location** | **Dates** 12/09/2012 | **Engineer** Conisbee | **Sheet** 1/1 |

| Depth (m) | Sample / Tests | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|
| 0.30 | D1 | | | | (0.50) | Made Ground ("stiff" dark brown friable sandy slightly gravelly clay with roots, fragments of brick and occasional ash - desiccated soil) | | |
| | | | | 92.40 | 0.50 | | | |
| 0.80 | D2 | | | | (0.60) | Made Ground ("stiff" brown and orange-brown friable slightly gravelly clay with rootlets and occasional fragments of brick - desiccated soil) | | |
| | | | | 91.80 | 1.10 | | | |
| 1.20 | D3 | | pp 4.00 | | (0.20) | "Stiff" brown mottled orange-brown silty fissured CLAY (desiccated soil) | | |
| 1.40 | D4 | | pp 2.25 | 91.60 | 1.30 | | | |
| | | | pp 2.25 | | (0.70) | Firm brown mottled orange-brown silty fissured CLAY | | |
| | | | pp 2.00 | | | | | |
| 1.90 | D5 | | pp 1.75 | 90.90 | 2.00 | | | |
| | | | pp 2.25 | | | Firm fissured brown mottled grey silty fissured CLAY with occasional selenite crystals | | |
| 2.40 | D6 | | pp 2.50 | | | | | |
| | | | pp 2.50 | | | | | |
| | | | pp 2.75 | | | | | |
| 2.90 | D7 | | | | (2.00) | | | |
| | | | pp 2.75 | | | | | |
| | | | pp 2.75 | | | | | |
| 3.40 | D8 | | pp 3.00 | | | | | |
| | | | pp 3.00 | | | | | |
| | | | pp 3.00 | | | | | |
| 3.90 | D9 | | | | | | | |
| | | | pp 3.25 | 88.90 | 4.00 | | | |
| | | | | | | Complete at 4.00m | | |

**Remarks**
Groundwater not encountered
pp denotes pocket penetrometer measurement

| Scale (approx) | Logged By |
|---|---|
| 1:50 | RR |

**Figure No.** J12212.BH13

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| | | | |
|---|---|---|---|
| GEA Geotechnical & Environmental Associates<br>Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Number**<br>**BH14** |
| **Excavation Method**<br>Drive-in Window Sampler | **Dimensions** | **Ground Level (mOD)**<br>90.20 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>12/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/1 |

| Depth (m) | Sample / Tests | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|
| 0.10 | D1 | | | 90.00 | (0.20)<br>0.20 | Topsoil (dark brown slightly gravelly sand with rootlets and rare fragments of brick) | | |
| 0.50 | D2 | | | | (0.60) | Made Ground ("stiff" dark brown and brown clay with fragments of brick and occasional ash - desiccated soil) | | |
| | | | | 89.40 | 0.80 | Firm orange-brown mottled grey fissured CLAY | | |
| 1.20 | D3 | | | | (1.20) | | | |
| 1.70 | D4 | | | 88.20 | 2.00 | | | |
| | | | | | | Complete at 2.00m | | |

**Remarks**
Groundwater not encountered

| Scale (approx) | Logged By |
|---|---|
| 1:50 | RR |

**Figure No.**
J12212.BH14

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

| GEA Geotechnical & Environmental Associates | Tyttenhanger House<br>Coursers Road<br>St Albans<br>AL4 0PG | **Site**<br>St Lukes Hospital, Muswell Hill, N10 3HU | **Number**<br>**BH15** |
|---|---|---|---|
| **Excavation Method**<br>Drive-in Window Sampler | **Dimensions** | **Ground Level (mOD)**<br>88.60 | **Client**<br>Hanover Housing Association | **Job Number**<br>J12212 |
| | **Location** | **Dates**<br>12/09/2012 | **Engineer**<br>Conisbee | **Sheet**<br>1/1 |

| Depth (m) | Sample / Tests | Water Depth (m) | Field Records | Level (mOD) | Depth (m) (Thickness) | Description | Legend | Water |
|---|---|---|---|---|---|---|---|---|
| | | | | 88.45 | (0.15) | Topsoil (dark brown slightly gravelly sand with rootlets) | | |
| 0.10 | D1 | | | | 0.15 | Made Ground (brown sand and gravel with fragments of brick and plastic perforated membrane) | | |
| 0.30 | D2 | | | | (0.45) | | | |
| | | | | 88.00 | 0.60 | Firm orange-brown mottled grey fissured CLAY | | |
| 0.80 | D3 | | pp 1.50 | | | | | |
| | | | pp 1.50 | | | | | |
| 1.20 | D4 | | pp 1.50 | | (1.40) | | | |
| | | | pp 1.50 | | | | | |
| | | | pp 1.75 | | | | | |
| 1.80 | D5 | | pp 2.25 | | | | | |
| | | | | 86.60 | 2.00 | | | |
| | | | | | | Terminated at 2.00m | | |

**Remarks**
pp denotes pocket penetrometer measurement
Borehole terminated at a depth of 2.0 m due to sides collapsing in to 0.3 m
Groundwater not encountered

| Scale (approx) | Logged By |
|---|---|
| 1:50 | RR |

**Figure No.**
J12212.BH15

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

**APPENDIX C**

**Thames Water Asset Location Plan**

# CommercialDW Drainage and Water Enquiry Sewer Map- CDWS/CDWS Standard/2011_2087695




The width of the displayed area is 500m

**The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.**

**Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. WU298557 Crown Copyright Reserved.**

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no survey information is available.

| Manhole Reference | Manhole Cover Level | Manhole Invert Level |
|---|---|---|
| 5102 | 86.46 | n/a |
| 5403 | 102.66 | 101.18 |
| 5404 | 102.29 | 100.9 |
| 5103 | 86.03 | 82.67 |
| 5201 | 95.75 | 92.3 |
| 5202 | 95.68 | 92.62 |
| 5101 | 89.6 | 87.83 |
| 5105 | 88.61 | 86.74 |
| 5402 | 102.47 | 96.35 |
| 5401 | 102.6 | 98.03 |
| 5104 | 84.06 | 81.28 |
| 54WP | n/a | n/a |
| 54WV | n/a | n/a |
| 54WW | n/a | n/a |
| 54WX | n/a | n/a |
| 54WQ | n/a | n/a |
| 54WY | n/a | n/a |
| 54VY | n/a | n/a |
| 54WR | n/a | n/a |
| 54WZ | n/a | n/a |
| 54XP | n/a | n/a |
| 54WS | n/a | n/a |
| 5510 | 102.85 | 101.59 |
| 5002 | 90.36 | 86.78 |
| 5001 | 90.81 | 87.76 |
| 5306 | 104.05 | 100.11 |
| 5302 | 101.01 | 99.74 |
| 5412 | 101.18 | 100.02 |
| 5411 | 101.1 | 98.99 |
| 5410 | 101.04 | 98.03 |
| 5405 | 101.42 | 99.86 |
| 1403 | n/a | n/a |
| 2407 | n/a | n/a |
| 2408 | n/a | n/a |
| 2409 | n/a | n/a |
| 2410 | n/a | n/a |
| 2411 | n/a | n/a |
| 2403 | 99.51 | 97.02 |
| 2404 | 99.44 | 97.19 |
| 2303 | 93.82 | 90.39 |
| 2304 | 93.79 | 91.02 |
| 2401 | 100.65 | 97.94 |
| 2402 | 100.57 | 97.78 |
| 2305 | 94.76 | 90.92 |
| 2306 | 94.68 | 91.33 |
| 2102 | 88.99 | 86.25 |
| 3305 | n/a | n/a |
| 3102 | 90.35 | 87.26 |
| 3101 | 90.47 | n/a |
| 3401 | 100.61 | 97.51 |
| 3402 | 100.53 | 97.81 |
| 3301 | 95.99 | 91.69 |
| 3302 | 96 | 92.45 |
| 3103 | 90.75 | 83.74 |
| 4101 | 92.06 | 89.09 |
| 4306 | 99.52 | 98.33 |
| 4302 | 98.29 | 95.53 |
| 4301 | 98.28 | 95.94 |
| 4402 | 99.78 | 97.02 |
| 4401 | 99.89 | 97.39 |
| 2106 | 88.19 | n/a |
| 2104 | 88.49 | 85.35 |
| 2105 | 88.44 | 85.82 |
| 2103 | 88.56 | 85.31 |
| 2101 | 88.59 | 87.75 |
| 1101 | 86.42 | 82.69 |
| 1104 | 86.85 | 82.68 |
| 1103 | 86.75 | 83.07 |
| 1305 | 93.98 | 90.67 |
| 1304 | 94.06 | 89.69 |
| 1303 | 96.24 | 93.35 |
| 1302 | 96.38 | 93.09 |
| 4003 | 93.92 | 90.04 |
| 4002 | 93.7 | 89.82 |
| 4001 | 91.94 | 88.97 |
| 4106 | 91.46 | 89.4 |
| 4105 | 91.81 | 88.23 |
| 4104 | 91.86 | n/a |
| 4103 | 92.76 | 83.36 |
| 4102 | 92.75 | 57.47 |
| 4203 | 93.89 | 91.73 |
| 4202 | 93.79 | 90.36 |

| Manhole Reference | Manhole Cover Level | Manhole Invert Level |
|---|---|---|
| 4204 | 94.98 | 91.89 |
| 4201 | 99.48 | 97.95 |
| 4305 | 100.28 | 97.55 |
| 43YP | n/a | n/a |
| 43YS | n/a | n/a |
| 43XZ | n/a | n/a |
| 43YR | n/a | n/a |
| 4107 | 91.3 | 89.4 |
| 4304 | 100.51 | 98.96 |
| 4303 | 100.67 | 98.15 |
| 5303 | 100.89 | 99.37 |
| 5301 | 101 | 98.43 |
| 44YV | n/a | n/a |
| 54VX | n/a | n/a |
| 44YS | n/a | n/a |
| 44YT | n/a | n/a |
| 44YR | n/a | n/a |
| 1402 | 99.87 | 97.29 |
| 1401 | 100.43 | 97.8 |
| 1202 | 89.8 | 83.2 |
| 1201 | 92.37 | 89.89 |
| 1311 | 92.75 | 84.75 |
| 1310 | 93.06 | 90.3 |
| 1309 | 93.09 | 89.33 |
| 1308 | 93.23 | 90.83 |
| 0305 | 96.59 | 93.12 |
| 1301 | 96.78 | 94.38 |
| 0104 | 85.12 | 81.51 |
| 0103 | 85.07 | 81.95 |
| 1102 | 86.13 | n/a |
| 1105 | n/a | n/a |

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

# Sewer Key - Commercial Drainage and Water

## Public Sewer Types (Operated & Maintained by Thames Water)

**Foul:** A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

**Surface Water:** A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

**Combined:** A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

Trunk Surface Water

Trunk Foul

Storm Relief

Trunk Combined

Vent Pipe

Bio-solids (Sludge)

Proposed Thames Surface Water Sewer

Proposed Thames Water Foul Sewer

Gallery

Foul Rising Main

Surface Water Rising Main

Combined Rising Main

Sludge Rising Main

Proposed Thames Water Rising Main

Vacuum

## Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

Air Valve

Dam Chase

Fitting

Meter

Vent Column

## Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

Control Valve

Drop Pipe

Ancillary

Weir

## End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

Outfall

Undefined End

Inlet

## Other Symbols

Symbols used on maps which do not fall under other general categories

Public/Private Pumping Station

Change of characteristic indicator (C.O.C.I.)

Invert Level

Summit

**Areas**

Lines denoting areas of underground surveys, etc.

Agreement

Operational Site

Chamber

Tunnel

Conduit Bridge

## Other Sewer Types (Not Operated or Maintained by Thames Water)

Foul Sewer

Surface Water Sewer

Combined Sewer

Gulley

Culverted Watercourse

Proposed

Abandoned Sewer

**Notes:**

1) All levels associated with the plans are to Ordnance Datum Newlyn.

2) All measurements on the plans are metric.

3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.

4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

5) 'na' or '0' on a manhole level indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0118 925 1504.