

Report Market Street, Hoyland
Client Linton Properties
Project No. 10086
Status PRELIMINARY
Date 15th April 2010

The recommendations made in this preliminary report are based on the findings of the recently completed initial 'look-see' intrusive works. The Client should be aware that the scope of the 'look-see' works does not constitute a full Phase I Desk Study and Phase II Exploratory Investigation for the site. Therefore, BSP Consulting reserves the right to amend our recommendations upon completion of a full Phase I and II Site Investigation.

These comments have been prepared on the understanding that it is currently proposed to redevelop the main body of the site for a commercial end-use. A residential end-use is currently proposed for the northeastern portion of the site.

THE SITE

The main body of the site comprises the site of the former Market Street School, which is defined by metal fencing. The concrete floor slabs to the school buildings and the brick/breeze block bases to suspected mobile classrooms remain. The northeastern portion of the site comprises a predominantly grassed area.

SITE HISTORY

Based on the evidence of historical maps, the site remained largely undeveloped until c1956 when a school building was constructed in the southern extremity of the site. Between c1973 and c2000, further school buildings were constructed within the main body of the site.

A large pond used to be present in the northern extremity of the site between c1893 and c1948. A watercourse/drain used to run through the northeastern portion of the site until c1973. A playground and a few suspected vehicle storage garages used to occupy the northeastern portion of the site between c1973 and c2000.

GEOLOGY

Published geological information reveals the natural stratum underlying the site comprises the Pennine Middle Coal Measures Formation, which typically comprise interbedded mudstone, siltstone, sandstone and coal seams.

COAL MINING ISSUES

The coal mining report for the site states that the site is not affected by past shallow coal workings and on this basis, no coal mining precautions or associated coal mining investigation works are required at the site.

SITE WORKS

Initial 'look-see' works were undertaken on 7th and 8th April 2010 and comprised the following.

- a) Sub-contracted sub-surface utility scan of exploratory hole locations to attempt to avoid buried services during intrusive works.
- b) Advancement of six trial pits (TP1-TP6) and six window sampling boreholes (WS1-WS6).
- c) Installation of 5No. ground gas monitoring points.

The approximate locations of the exploratory holes are indicated on the attached plan (Figure No. 10086/01). Exploratory hole logs are also attached.

GROUND CONDITIONS

Made Ground Surfacing

The surface materials within the main body of the site comprised either tarmacadam overlying sub-base, reinforced concrete (i.e. a former floor slab) or poor quality topsoil. The surface materials within the northeastern portion of the site comprised topsoil.

General Made Ground

Beneath the surface materials, general Made Ground was encountered to variable depths of between 0.30m and 2.90m begl. Made Ground was encountered at depths of up to 2.90m begl beneath the approximate footprint of the proposed building.

The general Made Ground within the main body of the site typically comprised soft to firm (locally stiff) gravelly clay with localised ash and brick fragments. However, Made Ground comprising firm gravelly clay with whole bricks, fragments of concrete plus metal sheeting, carpet and wood together with loose sand and coal gravel was encountered in the central southern area of the site (TP5, TP6 and WS4). The general Made Ground within the northeastern portion of the site included very loose black ash and ashy sand.

A plan showing the depth to the base of the Made Ground at each exploratory hole located is attached (Figure No. 10086/02).

Natural Strata

The Natural Strata generally comprised firm to stiff sandy gravelly CLAY, which graded into a very weak to weak (becoming moderately weak to moderately strong with depth) weathered MUDSTONE with interbeds of weak to moderately strong weathered SANDSTONE and SILTSTONE.

The exploratory holes were terminated within the Natural Strata, at depths of between 2.00m or 3.60m begl.

FOUNDATION DISCUSSION

The Natural Strata underlying the site represents a suitable bearing strata for strip, trench fill or pad foundations. Foundations should be deepened through any Made Ground to encounter the underlying undisturbed suitably competent natural soils.

However, the initial 'look-see' intrusive works have revealed the presence of between 0.70m and 2.90m of Made Ground (below existing ground level) beneath the approximate footprint of the proposed building.

The presence of significant depths of Made Ground and the likely requirement to undertake site regrading works prior to development may preclude the use of shallow foundations and it may become necessary to adopt deeper foundations (i.e. piles or ground improvement, for example).

GROUND GAS PRECAUTIONS

Various on and off-site sources of potential hazardous ground gas (i.e. carbon dioxide and methane) have been identified as part of our works. During the intrusive works, five of the window sampling boreholes were installed with monitoring points to facilitate an initial 2 week programme of ground gas monitoring.

The results of the monitoring will be forwarded as an addendum when completed.

RADON PRECAUTIONS

No radon precautions are required at the site.

BUILDING NEAR TREES

Foundation designs are likely to require adjusting when building near trees due to the presence of cohesive soils underlying the site.

WATER

Water was not encountered within the exploratory holes. Therefore, excavations are unlikely to require dewatering.

STABILITY & EXCAVATIONS

The sides of the exploratory holes were noted to be locally unstable within the Made Ground. The sides of the exploratory holes within the Natural Strata were noted to be stable.

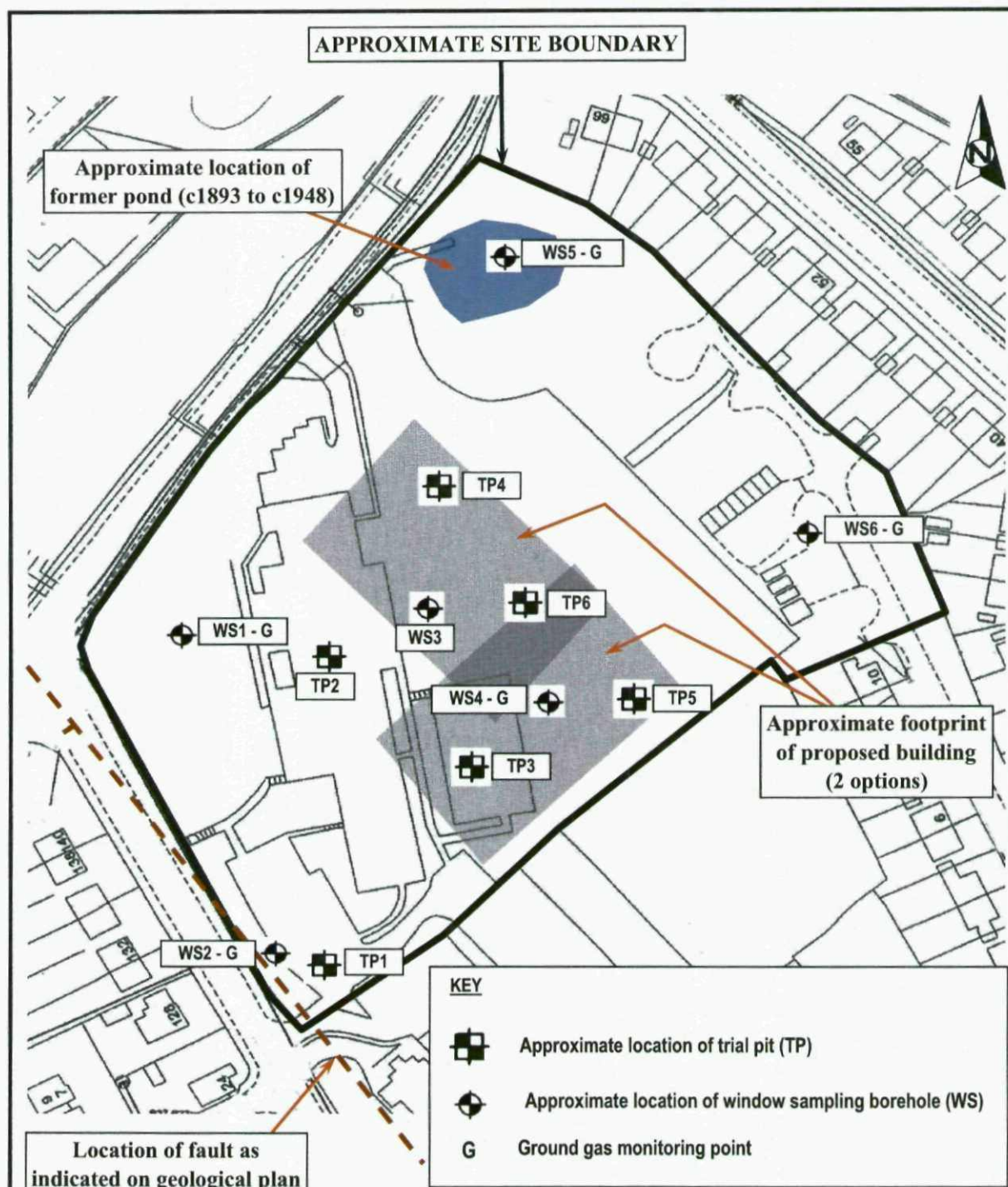
SURFACE WATER DRAINAGE

The use of soakaways is not recommended due to the relatively impermeable nature of the Natural Strata (i.e. the predominant presence of clay/mudstone soils). Therefore, at this stage it is recommended that alternative methods should be investigated.

CONTAMINATION ASSESSMENT

The Made Ground is considered to be visually undesirable due to the inclusions of brick, concrete, wood and ash, for example. A comprehensive chemical soil assessment should be undertaken as part of a full site investigation to confirm the contamination status of the soils beneath the site and confirm any potential remedial measures.

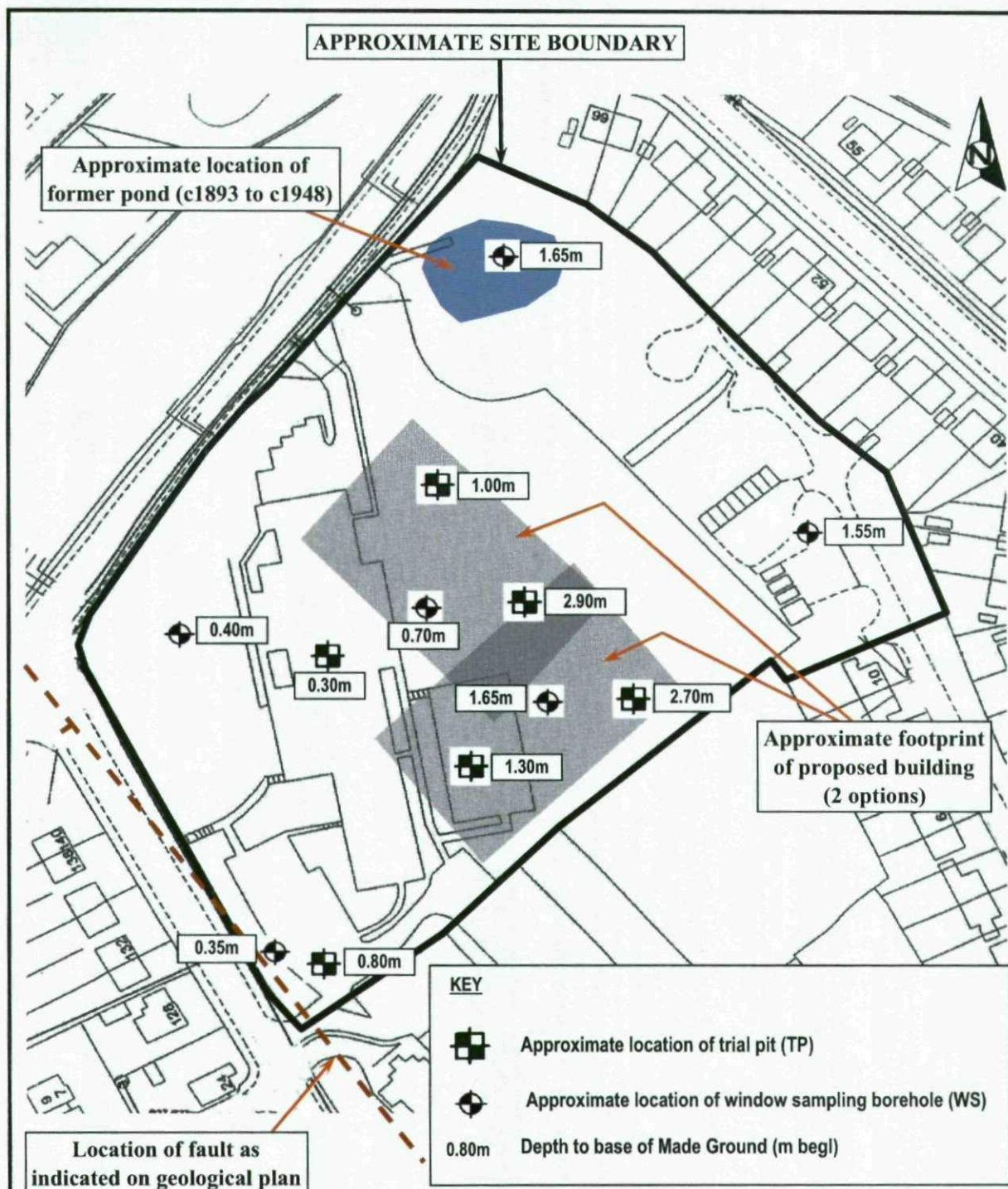
It should be noted that any chemical soil assessment should include the northeastern portion of the site (i.e. the area proposed for a residential end-use) as this represents a more sensitive end-use compared to the proposed commercial part of the site.



REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE
CROWN COPYRIGHT RESERVED. LICENCE NO. 100041272

Project No.	10086	Drawn	PK
Client	Linton Properties	Checked	
Project	Market Street Hoyland	Approved	
		Scale	NTS
		Date Drawn	14.04.10
Title	Exploratory Hole Location Plan	Rev.	
		Figure No.	10086/01





REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE
CROWN COPYRIGHT RESERVED. LICENCE NO. 100041272

Project No.	10086	Drawn	PK
Client	Linton Properties	Checked	
Project	Market Street Hoyland	Approved	
		Scale	NTS
		Date Drawn	14.04.10
Title	Plan Showing Depth to Base of Made Ground	Rev.	
		Figure No.	10086/02

bsp
CONSULTING

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Tarmacadam surfacing (MADE GROUND)		0.10	T1	D			
Limestone gravel sub-base (MADE GROUND)		0.30					
Soft brown slightly damp very gravelly clay with rare fragments of brick (MADE GROUND) ...with a land drain encountered at 0.35m		0.40					
Firm light brown very sandy CLAY with rare gravel of mudstone (PENNINE MIDDLE COAL MEASURES FORMATION)		0.80	T2	D	SV in-situ	54 56	
...becoming light brown mottled light grey with depth with occasional mudstone gravel		0.90					
		1.00					
Weak light grey mottled orange-brown highly weathered very silty MUDSTONE. Recovered as mudstone gravel with occasional cobble in a damp clayey matrix (PENNINE MIDDLE COAL MEASURES FORMATION)		1.50					
...becoming moderately weak with depth							
...becoming moderately strong below approximately 2.50m							
End of Trial Pit at 2.90 m		2.90					

Remarks:

1. Trial pit sides generally stable.
2. Water encountered as slight seepage from a broken land drain at 0.35m.

Key: B = Bulk Sample D = Disturbed Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample = Water Strike (m) = Steady Water Level (m)

Project:
 Market Street, Hoyland

Client:
 Linton Properties

Logged:
 PK

Checked:
Field Book Ref:
Plant:
 JCB

Drawing No.
Date:
 07/04/2010

Approved:

PK1001

Scale:
 1:20

TP1

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Reinforced concrete (MADE GROUND)		0.15	T3	D	SV in-situ	120 108 120	
Loose yellow-brown limestone in a sandy matrix (MADE GROUND)		0.20					
		0.30					
Stiff brown locally grey-brown mottled orange-brown slightly sandy silty CLAY with rare fine gravel and rare black carbonaceous inclusions (PENNINE MIDDLE COAL MEASURES FORMATION)		0.50	T4	D			
		0.90					
Very weak to weak grey-brown highly weathered thinly laminated MUDSTONE. Recovered as mudstone gravel and cobbles in a sandy gravelly matrix (PENNINE MIDDLE COAL MEASURES FORMATION)		1.20					
		1.60					
Moderately strong orange-brown slightly weathered SANDSTONE. Recovered as gravel and cobbles in a sandy matrix (PENNINE MIDDLE COAL MEASURES FORMATION)							
		2.30					
End of Trial Pit at 2.30 m							

Remarks:

1. Trial pit sides generally stable.
2. No water encountered.

Key: B = Bulk Sample D = Disturbed Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample = Water Strike (m) = Steady Water Level (m)

Project:
 Market Street, Hoyland

Client:
 Linton Properties

Logged:

PK

Checked:

Field Book Ref:

PK1001

Plant:

JCB

Drawing No.

Date:

07/04/2010

Approved:

Scale:

1:20

TP2

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Tarmacadam surfacing (MADE GROUND)		0.10	T5	D	SV in-situ	116 120 106	
Limestone gravel sub-base (MADE GROUND)		0.25					
Firm tight grey mottled orange-brown silty clay (POSSIBLE NATURAL STRATA) ...becoming stiff with depth and with occasional black carbonaceous inclusions		0.90 0.90					
Weak to moderately weak orange-brown highly weathered SANDSTONE. Recovered as gravel and cobbles in a sandy matrix (PENNINE MIDDLE COAL MEASURES FORMATION)		1.30					
Moderately strong grey slightly weathered SILTSTONE. Recovered as platy gravel and cobbles in a sandy matrix (PENNINE MIDDLE COAL MEASURES FORMATION) ...becoming less weathered and with frequent boulders with depth		1.50 <					

Remarks:

1. Trial pit sides slightly collapsing at base of pit.
2. No water encountered.

Key: B = Bulk Sample D = Disturbed Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample = Water Strike (m) = Steady Water Level (m)

Project:
 Market Street, Hoyland

Client:
 Linton Properties

 Logged:
 PK

Checked:

Field Book Ref:

 Plant:
 JCB

Drawing No.

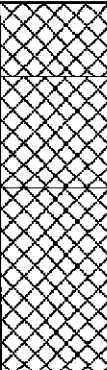
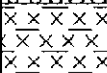
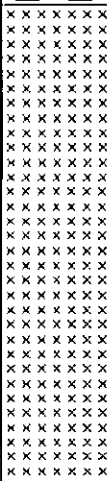
 Date:
 07/04/2010

Approved:

PK1001

 Scale:
 1:20

TP3

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Grass over dark brown slightly gravelly clayey rooty topsoil and rare brick fragments (MADE GROUND)		0.15	T7	D	SV in-situ	88 76 67	
Firm brown slightly silty slightly gravelly clay (MADE GROUND)		0.20					
Firm mixture of brown and grey silty clay and black silty ashy clay with fine to medium gravel of flint, quartzite, black carbonaceous inclusions and rare brick fragments (MADE GROUND)		0.50					
Firm to stiff light grey mottled orange silty CLAY (PENNINE MIDDLE COAL MEASURES FORMATION)		1.00	T8	D			
Moderately strong light grey slightly weathered laminated SILTSTONE. Recovered as platy gravel and cobbles in a sandy matrix (PENNINE MIDDLE COAL MEASURES FORMATION) ...becoming less weathered with depth		1.20					
		1.30					
		2.50					
----- End of Trial Pit at 2.50 m							

Remarks:

1. Trial pit sides generally stable.
2. No water encountered.

Key: B = Bulk Sample D = Disturbed Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample = Water Strike (m) ▼ = Steady Water Level (m)

Project:
 Market Street, Hoyland

Client:
 Linton Properties

Logged:
 PK

Checked:
Field Book Ref:
Plant:
 JCB

Drawing No.
Date:
 07/04/2010

Approved:

PK1001

Scale:
 1:20

TP4

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Grass over dark brown silty slightly gravelly clayey topsoil. Gravel includes quartzite and brick fragments (MADE GROUND)		0.10	T9	D			
Firm brown silty slightly sandy gravelly clay. Gravel includes sandstone, mudstone, quartzite and coal with occasional brick fragments, whole bricks plus large fragments of concrete (MADE GROUND)		0.20					
...with a concrete slab at approximately 0.60m at one end of the pit		1.00	T10	D			
...with clayey pockets below approximately 1.30m							
...with a layer of whole bricks with wood fragments and a piece of polythene bag between approximately 1.70m and 2.90m in a silty clayey matrix.		2.90					
Continued on next sheet							

Remarks:

1. Trial pit sides slightly unstable in Made Ground.
2. No water encountered.

Key: B = Bulk Sample D = Disturbed Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ▽ = Water Strike (m) ▼ = Steady Water Level (m)

Project:
 Market Street, Hoyland

Client:
 Linton Properties

Logged: PK

Checked:

Field Book Ref:

 Plant:
 JCB

Drawing No.

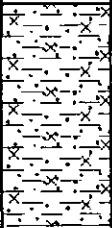
 Date:
 07/04/2010

Approved:

PK1001

 Scale:
 1:20

TP5

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Firm light brown slightly gravelly very clayey SILT (PENNINE MIDDLE COAL MEASURES FORMATION)		3.40	T11	D			
...grading into a very weak highly weathered SILTSTONE at base of pit		3.60					
End of Trial Pit at 3.60 m							

Remarks:

1. Trial pit sides slightly unstable in Made Ground.
2. No water encountered.

Key: B = Bulk Sample D = Disturbed Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample  = Water Strike (m)  = Steady Water Level (m)

Project:
 Market Street, Hoyland

Client:
 Linton Properties

Logged:
 PK

Checked:
Field Book Ref:
Plant:
 JCB

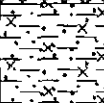
Drawing No.
Date:
 07/04/2010

Approved:

PK1001

Scale:
 1:20

TP5

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Grass over dark brown silty slightly gravelly clayey topsoil. Gravel includes quartzite and brick fragments (MADE GROUND)		0.10					
Firm brown and dark brown slightly silty gravelly clay. Gravel includes quartzite, sandstone, coal and mudstone with occasional brick and concrete fragments, a large piece of metal, rare glass and some whole bricks (MADE GROUND)		0.45	D12	D			
...with an old cable and a large piece of metal sheeting encountered at approximately 1.50m							
...with a piece of carpet encountered at approximately 2.00m							
...with a large piece of timber encountered at approximately 2.20m ...with a large concrete fragment (L=1.30m, W=0.70m, D=0.30m) encountered at approximately 2.30m begl		2.30 2.40	D13	D			
Soft dark grey clayey silt (MADE GROUND)		2.70					
Firm light brown slightly gravelly very clayey SILT (PENNINE MIDDLE COAL MEASURES FORMATION)							

Continued on next sheet

Remarks:

1. Trial pit sides unstable in Made Ground.
2. No water encountered.

Key: B = Bulk Sample D = Disturbed Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample ∇ = Water Strike (m) ▼ = Steady Water Level (m)

Project:
 Market Street, Hoyland

Client:
 Linton Properties

Logged:
 CH

Checked:
Field Book Ref:
Plant:
 JCB

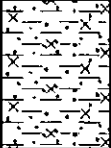
Drawing No.
Date:
 07/04/2010

Approved:

PK1001

Scale:
 1:20

TP6

Description of Strata	Legend	Depth (m)	Sample Ref	Sample Type	Field Test Type	Field Test Result	Ground-Water
Firm light brown slightly gravelly very clayey SILT (PENNINE MIDDLE COAL MEASURES FORMATION)		3.20	D14	D			
End of Trial Pit at 3.40 m		3.40					

Remarks:

1. Trial pit sides unstable in Made Ground.
2. No water encountered.

Key: B = Bulk Sample D = Disturbed Sample SV = Shear Vane (kN/m²) P = Penetrometer (kN/m²)
 J = Jar Sample V = Vial Sample  = Water Strike (m)  = Steady Water Level (m)

Project:
 Market Street, Hoyland

Client:
 Linton Properties

Logged:
 CH

Checked:
Field Book Ref:
Plant:
 JCB

Drawing No.
Date:
 07/04/2010

Approved:

PK1001

Scale:
 1:20

TP6

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.60	D	T1	12	Dark brown clayey silty very sandy topsoil with rare fragments of brick (MADE GROUND)		(0.40)			
1.00-1.45	C			Stiff orange-brown mottled light grey very silty sandy CLAY with occasional siltstone gravel (PENNINE MIDDLE COAL MEASURES FORMATION)		0.40			
2.00-2.45	C			...becoming grey mottled orange-brown below approximately 1.50m with rare sandstone gravel		(1.60)			
			50/180mm	End of Borehole at 2.00 m		2.00			

Remarks:

1 Borehole sides generally stable.
 2 No water encountered.
 3 Shear vane value at 1.00m = 98 kN/m².
 4 Borehole terminated due to SPT refusal at 2.00m.
 5 Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 2.00m begl with a gravel surround.
 6 Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = SPT Split Spoon Test
 U = Undisturbed Sample C = SPT Cone Test
 B = Bulk Sample = Water Strike (m)
 J = Jar Sample = Steady Water Level (m)
 W = Water Sample

Project: Market Street, Hoyland

Client: Linton Properties

Logged: PK

Checked:
Field Book Ref:
Plant: Competitor Rig

Drawing Ref:
Date: 08/04/2010

Approved:

PK1001

Scale: 1:50

WS1

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT "N" Value						
1.00-1.45	C		15	Grass over a thin layer of concrete gravel (MADE GROUND)		0.25			
				Limestone gravel sub-base in a wet clayey matrix (MADE GROUND)		0.35			
				Firm red-brown mottled blue-grey slightly silty CLAY (PENNINE MIDDLE COAL MEASURES FORMATION)		(0.85)			
2.00-2.45	C		50/160mm	Weak light grey mottled orange-brown highly weathered very silty MUDSTONE. Recovered as mudstone gravel in a clayey sandy matrix (PENNINE MIDDLE COAL MEASURES FORMATION)		1.20			
				End of Borehole at 2.00 m		(0.80)			
						2.00			

Remarks:

1. Borehole sides generally stable.
 2. No water encountered.
 3. Shear vane value at 1.00m = 60 kN/m².
 4. Borehole terminated due to SPT refusal at 2.00m.
 5. Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 2.00m begl with a gravel surround.
 6. Bung, valve and lockable cover installed.

Key: D = Disturbed Sample S = SPT Split Spoon Test
 U = Undisturbed Sample C = SPT Cone Test
 B = Bulk Sample = Water Strike (m)
 J = Jar Sample = Steady Water Level (m)
 W = Water Sample

Project: Market Street, Hoyland

Client: Linton Properties

Logged: PK

Checked:
Field Book Ref: PK1001

Plant: Competitor Rig

Drawing Ref:
Date: 08/04/2010

Approved:

Scale: 1:50

WS2

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT "N" Value						
1.00-1.45	C		11	Grass over dark brown slightly gravelly silty clayey topsoil. Gravel includes quartzite and brick fragments (MADE GROUND)		0.25 (0.45)			
				Firm brown slightly gravelly clay with pockets of brown silty sand (MADE GROUND)		0.70			
				Stiff orange-brown very sandy very silty CLAY with much siltstone gravel (PENNINE MIDDLE COAL MEASURES FORMATION) ...with occasional sandstone gravel with depth		(1.30)			
2.00-2.45	C		28	Weak to moderately weak orange-brown highly weathered silty SANDSTONE (PENNINE MIDDLE COAL MEASURES FORMATION)		2.00 (0.80)			
2.80-3.25	C		50/70mm	End of Borehole at 2.80 m		2.80			

Remarks:

1. Borehole sides generally stable.
 2. No water encountered.
 3. Shear vane value at 1.00m = 110 kN/m².
 4. Borehole terminated due to SPT refusal at 2.80m.

Key:

D = Disturbed Sample S = SPT Split Spoon Test
 U = Undisturbed Sample C = SPT Cone Test
 B = Bulk Sample = Water Strike (m)
 J = Jar Sample = Steady Water Level (m)
 W = Water Sample

Project: Market Street, Hoyland

Client: Linton Properties

Logged: PK

Checked:
Field Book Ref:
Plant: Competitor Rig

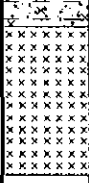
Drawing Ref:
Date: 08/04/2010

Approved:

PK1001

Scale: 1:50

WS3

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
1.00-1.45	C		8	Grass and moss over brown slightly clayey sand with occasional siltstone gravel (MADE GROUND)		(0.40)	2.00		
				Loose black sand with much coal gravel (MADE GROUND)		(0.40)			
				Sandstone gravel and cobble (MADE GROUND)		(0.30)			
				Loose mixture of sandstone and coal gravel in a dark brown-black sandy matrix (MADE GROUND)		0.70			
2.00-2.45	C		22	...with a concrete fragment at 1.55m		0.85			
				Firm orange-brown very silty very sandy CLAY with occasional siltstone gravel (PENNINE MIDDLE COAL MEASURES FORMATION)		(0.80)			
				Weak to moderately weak grey highly weathered SILTSTONE (PENNINE MIDDLE COAL MEASURES FORMATION)		1.65			
3.00-3.45	C		50/275mm	...with occasional sandstone gravel below 2.90m		(0.35)			
				End of Borehole at 3.00 m		2.00			
						(1.00)			
						3.00			

Remarks:

1. Borehole cased to 2.00m.
 2. No water encountered
 3. Borehole terminated due to SPT refusal at 3.00m.

Key:

D = Disturbed Sample S = SPT Split Spoon Test
 U = Undisturbed Sample C = SPT Cone Test
 B = Bulk Sample  = Water Strike (m)
 J = Jar Sample  = Steady Water Level (m)
 W = Water Sample

Project: Market Street, Hoyland

Client: Linton Properties

Logged: PK

Checked:
Field Book Ref: PK1001

Plant: Competitor Rig

Drawing Ref:
Date: 08/04/2010

Approved:

Scale:

1:50

WS4

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT "N" Value						
0.40	D	T2	0	Dark brown sandy topsoil (MADE GROUND)		0.20	2.00		
1.00-1.45 1.10	C	T3		Firm dark brown-black very sandy clay with occasional pockets of brown silty clay with rare brick fragments and occasional siltstone gravel (MADE GROUND)		(0.65)			
	D			Very loose black ash with occasional coal gravel (MADE GROUND)		0.85 (0.35)			
	...becoming wet below 1.00m			1.20					
2.00-2.45	C		15	Very loose wet black slightly ashy very clayey sand (MADE GROUND)		(0.45)			
				Soft orange-brown mottled light grey silty sandy CLAY (PENNINE MIDDLE COAL MEASURES FORMATION) ...becoming firm below 1.80m		1.65 (0.85)			
3.00-3.45	C		50/210mm	Very weak grey-brown highly weathered very silty MUDSTONE (PENNINE MIDDLE COAL MEASURES FORMATION)		2.50 (0.50)			
				End of Borehole at 3.00 m		3.00			

Remarks:

1 Borehole sides cased to 2.00m.
 2 Perched water encountered at 1.00m.
 3 Borehole terminated due to SPT refusal at 3.00m.
 4 Plain pipe installed from ground level to 1.00m begl with a bentonite surround, slotted pipe installed from 1.00m to 3.00m begl with a gravel surround
 5 Bung, valve and lockable cover installed.

Key:

D = Disturbed Sample S = SPT Split Spoon Test
 U = Undisturbed Sample C = SPT Cone Test
 B = Bulk Sample = Water Strike (m)
 J = Jar Sample = Steady Water Level (m)
 W = Water Sample

Project: Market Street, Hoyland

Client: Linton Properties

Logged: PK

Checked:
Field Book Ref:
Plant: Competitor Rig

Drawing Ref:
Date: 08/04/2010

Approved:

PK1001

Scale: 1:50

WS5

Samples and Tests				Description of Strata	Legend	Depth & (Thickness) (m)	Casing (m)	Ground-water	Installation
Depth (m)	Type	Sample Ref	SPT Value						
0.60	D	T4	3	Dark brown sandy topsoil (MADE GROUND)		0.10	1.00		
0.90	D	T5		Loose mixture of mudstone gravel and brick fragments in a brown sandy matrix (MADE GROUND)		0.30			
1.00-1.45	C			Firm dark brown, brown and brown-grey sandy gravelly clay (MADE GROUND)		(0.50)			
1.80	D	T6	10	Loose dark brown slightly gravelly sand (MADE GROUND)		0.80			
2.00-2.45	C			...becoming very loose below 1.00m ...becoming very silty below 1.20m		(0.75)			
				Firm to stiff orange-brown very silty CLAY, slightly carbonaceous in part (PENNINE MIDDLE COAL MEASURES FORMATION)		1.55			
			50/250mm	Very weak orange-brown mottled light grey highly weathered very silty MUDSTONE (PENNINE MIDDLE COAL MEASURES FORMATION)		2.30			
3.00-3.45	C					(0.70)			
				End of Borehole at 3.00 m		3.00			

Remarks:

1. Borehole sides cased to 1.00m
 2. No water encountered.
 3. Borehole terminated due to SPT refusal at 3.00m.
 4. Plain pipe installed from ground level to 1.00m bgl with a bentonite surround, slotted pipe installed from 1.00m to 3.00m bgl with a gravel surround.
 5. Bung, valve and lockable cover installed

Key: D = Disturbed Sample S = SPT Split Spoon Test
 U = Undisturbed Sample C = SPT Cone Test
 B = Bulk Sample = Water Strike (m)
 J = Jar Sample = Steady Water Level (m)
 W = Water Sample

Project: Market Street, Hoyland

Client: Linton Properties

Logged: PK

Checked:
Field Book Ref:
Plant: Competitor Rig

Drawing Ref:
Date: 08/04/2010

Approved:

PK1001

Scale: 1:50

WS6