

RESIDENTIAL DEVELOPMENT AT  
SANDRINGHAM ROAD, CHEADLE HULME

VALIDATION REPORT

**Client:**

Wiggett Construction Ltd.  
Viking House  
449 Middleton Road  
Chadderton  
Oldham  
OL9 9LB

**Consultant:**

Build Vision Ltd  
Consulting Engineers  
Suite 1, Westleigh House  
Wakefield Road  
Denby Dale  
Huddersfield  
HD8 8QJ

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2. REMEDIATION STRATEGY
3. VALIDATION
4. CONCLUSIONS

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## 1 INTRODUCTION

- 1.1 The WML Consulting Ltd Geo-Environmental Investigation and Assessment Report Ref: 5062G/02, dated February 2012 and the Build Vision Consulting Engineers Remediation Strategy Report, dated October 2012 should be referred to for further information.

## 2 REMEDIATION STRATEGY

- 2.1 The site investigation identified up to 450mm of topsoil and ash fill made ground over clay drift deposits.
- 2.2 Chemical analysis has determined that topsoil and sub-soil at the site are not contaminated and thus suitable for re-use within the proposed development. Where topsoil is to be re-used it should be stockpiled separately from other construction materials and covered to prevent mixing with other soil.
- 2.3 The level of contamination within the ash fill renders this material unsuitable for use in garden areas. Where it cannot be re-used beneath hard paved areas it should either be removed or capped by minimum 600mm capping layers to gardens, comprising minimum 150mm granular capillary break layer and the remainder as 'inert' subsoil and/or topsoil.
- 2.4 If the ash fill is removed, validation on site by inspection of the clay formation and photographs should be taken by an Engineer and waste transfer notes provided.
- 2.5 Validation sampling of any imported material will be required and should comprise 1 sample per 50m<sup>3</sup> of topsoil and subsoil with 3 no. samples minimum of any source of material. Delivery tickets and waste transfer notes will be required for all material imported and disposed off site.
- 2.6 The gas monitoring results fall into CS1, however as only three gas monitoring readings were taken and water levels in the standpipes were high, it would be prudent to incorporate gas protection measures in accordance with CS2 and NHBC Amber 1 from BS 8485 in the substructure design. For residential, a score of 3 is required, this can be achieved by providing the following gas protection measures:-
- § Pre-cast beam and block floors with low permeability gas membranes with taped joints and sealed entries using specialist approved gas prevention tape and underfloor ventilated void or vented layer as shown on the foundation drawings in Appendix B.

2.7 Validation of the installation of the gas membrane will be required with photographic evidence of gas taped sealed joints/entries and/or certificates of inspection by a specialist.

### 3 VALIDATION

3.1 The finished floor levels for Plots 1 to 2 were elevated and therefore 600mm capping layers were provided in the garden areas. However, for Plots 3 to 6 the floor levels were lower and the ash fill was removed and clay was present in the garden areas, therefore only 300mm of topsoil was provided above the clay. Waste transfer notes for the material removed from site are enclosed in Appendix A.

3.2 Topsoil was imported on to the site for the garden areas from a site at Foden Bank Farm in Lower Withington, near Chelford. Waste transfer notes for the transfer of the topsoil are enclosed in Appendix A.

3.3 Build Vision Consulting Engineers obtained 3 no. samples from the topsoil at Foden Bank Farm.

3.4 The samples were tested for a general suite of contaminants, the results were analysed and were all below Residential Tier 1 assessment values, and therefore the topsoil was considered suitable for use in the capping layers. The test results and analysis are enclosed in Appendix A.

3.5 Build Vision validated the capping layers in three locations to a depth of 600mm confirming 450mm of topsoil over 150mm of stone in the gardens of Plot 1 to 2 and 300mm of topsoil over the clay formation in the gardens of Plots 3 to 6. The validation location plan and photos are enclosed in Appendix A.

3.6 Gas protection measures have been provided in accordance with CS3/Amber2 from BS8485 as shown on the foundation drawings enclosed in Appendix B.

#### 4 CONCLUSIONS

- 4.1 The remediation measures carried out have reduced the risk to end user receptors from the source of the contamination and landfill gases by removing the source and effectively eliminating the pathway of direct contact/ingestion and migration.

## APPENDIX A

### CAPPING LAYERS

- § Validation Location Plan
- § Validation Photos
- § Topsoil Assessment
- § Contamination Test Results
- § Contaminant Analysis
- § Human Health GAC's
- § Residential 1% GAC's assessment
- § Waste Transfer Notes for removal of fill
- § Waste Transfer Notes for topsoil



**Summary:**

**Schedule of Accommodation:**

Type	Description	Area	Count
Type A	3 Bedroom 5 Person House	68m <sup>2</sup>	5
Type B	2 Bedroom 3 Person Wheelchair Runglow	70m <sup>2</sup>	1
<b>Total</b>			<b>6</b>

Parking provision 100% for 5 dwellings and 200% tandem parking for 1 dwelling

**Notes:**  
All existing trees to be removed where shown and repositioned/planted elsewhere as agreed with the Local Authority

**Unit design:**  
Designed to meet the following guidance & standards:  
- Standards & Quality in Development  
- Lifetime Home  
- The Code for Sustainable Homes (Level 3)

**Key:**

- Trees to be retained (For all tree information pertaining to the site, please refer to the site tree assessment and tree impact assessment, as submitted with the Full Planning Application)
- Trees to be removed
- Wholly Bins (To Stockpile Requirements)
- Washing Line (To CODE Level 3 requirements)
- Water Butt (Min 200 Litre Capacity)
- Compost Bin
- Shed - including PCC paving base & 2 Cycle hoist secured through shed base into PCC base
- Boundary Type A
- Boundary Type B
- Boundary Type C
- Boundary Type D
- PCC Paving Slabs - Buff Yellow
- PCC Paving Slabs Grey
- Block Pavers

**NOTES:**  
The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.  
This drawing is the property of POZZONI LLP

**SCALE BAR - TO BE USED ONLY AS GUIDANCE**

1:500	1:1000	1:2000
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**Site Layout Plan - Proposed**  
1 : 200



**Boundary - Type A**  
1 : 50



**Boundary - Type B**  
1 : 50



**Boundary - Type C**  
1 : 50



**Boundary - Type D**  
1 : 50

B	Planning Inspector's Tracker	DATE	2008/12
P	Approved parking agreement	DATE	19/05/12
Rev	Description	By	Date

Client  
**Stockport Homes**

Site  
**Sandringham Rd, Cheadle Hulme**

Drawing  
**Site Layout Plan & Boundary Types**

<input type="checkbox"/> Feasibility	Scale	As indicated	Sheet	04 of 11
<input type="checkbox"/> Design	Author	EMc		
<input type="checkbox"/> Tender	Checker	GM		
<input type="checkbox"/> Contract	Checked	PM		
<input type="checkbox"/> Construction	Issue Date	21/03/2012	Rev	
<input type="checkbox"/> As Built	Proj. No.	P2799 - 103	Sheet	B





Trial Pit 1



Trial Pit 2





Trial Pit 3



# Scientific Analysis Laboratories Ltd

## Certificate of Analysis

Hadfield House  
Hadfield Street  
Cornbrook  
Manchester  
M16 9FE  
Tel : 0161 874 2400  
Fax : 0161 874 2468

Scientific Analysis Laboratories is a  
limited company registered in England and  
Wales (No 2514788) whose address is at  
Hadfield House, Hadfield Street, Manchester M16 9FE

**Report Number:** 306053-1

**Date of Report:** 06-Dec-2012

**Customer:** Build Vision Ltd  
Suite 1  
Westleigh House  
Wakefield Road  
Denby Dale  
Huddersfield  
HD8 8QJ

**Customer Contact:** M/S Sarah Griggs

**Customer Job Reference:** 1041/SJG/PG

**Customer Site Reference:** Foden Farm, Chelford

**Date Job Received at SAL:** 28-Nov-2012

**Date Analysis Started:** 28-Nov-2012

**Date Analysis Completed:** 06-Dec-2012

The results reported relate to samples received in the laboratory  
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation  
This report should not be reproduced except in full without the written approval of the laboratory  
Tests covered by this certificate were conducted in accordance with SAL SOPs  
All results have been reviewed in accordance with QP22



Report checked  
and authorised by :  
Lianne Bromiley  
Project Manager

Issued by :  
Lianne Bromiley  
Project Manager

<b>SAL Reference:</b> 306053							
<b>Project Site:</b> Foden Farm, Chelford							
<b>Customer Reference:</b> 1041/SJG/PG							
<b>Soil</b> Analysed as Soil							
<b>MCERTS Preparation</b>							
<b>SAL Reference</b>		<b>306053 001</b>	<b>306053 002</b>	<b>306053 003</b>			
<b>Customer Sample Reference</b>		<b>1041 - TP1</b>	<b>1041 - TP2</b>	<b>1041 - TP3</b>			
<b>Date Sampled</b>		<b>Deviating</b>	<b>Deviating</b>	<b>Deviating</b>			
<b>Depth</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>			
<b>Type</b>		<b>Sandy Soil</b>	<b>Sandy Soil</b>	<b>Sandy Soil</b>			
<b>Determinand</b>	<b>Method</b>	<b>Test Sample</b>	<b>LOD</b>	<b>Units</b>			
Moisture	T277	AR	0.1	%	15	12	13
Moisture @ 105 C	T162	AR	0.1	%	15	13	12

<b>SAL Reference:</b> 306053							
<b>Project Site:</b> Foden Farm, Chelford							
<b>Customer Reference:</b> 1041/SJG/PG							
<b>Soil</b> Analysed as Soil							
<b>Build Vision Standard</b>							
<b>SAL Reference</b>		<b>306053 001</b>	<b>306053 002</b>	<b>306053 003</b>			
<b>Customer Sample Reference</b>		<b>1041 - TP1</b>	<b>1041 - TP2</b>	<b>1041 - TP3</b>			
<b>Date Sampled</b>		<b>Deviating</b>	<b>Deviating</b>	<b>Deviating</b>			
<b>Depth</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>			
<b>Type</b>		<b>Sandy Soil</b>	<b>Sandy Soil</b>	<b>Sandy Soil</b>			
<b>Determinand</b>	<b>Method</b>	<b>Test Sample</b>	<b>LOD</b>	<b>Units</b>			
Arsenic	T6	M40	2	mg/kg	8	5	<2
Boron (water-soluble)	T6	AR	1	mg/kg	<1	<1	<1
Cadmium	T6	M40	1	mg/kg	<1	<1	<1
Chromium	T6	M40	1	mg/kg	12	6	3
Chromium (trivalent)	T85	AR	2	mg/kg	12	6	3
Chromium VI	T6	AR	1	mg/kg	<1	<1	<1
Copper	T6	M40	1	mg/kg	25	19	6
Cyanide(Total)	T546	AR	1	mg/kg	<1	<1	<1
Lead	T6	M40	1	mg/kg	63	30	15
Mercury	T355	M40	0.001	mg/kg	0.001	0.001	<0.001
Nickel	T6	M40	1	mg/kg	11	7	3
pH	T7	AR			6.5	6.9	6.3
Phenols(Mono)	T546	AR	1	mg/kg	<1	<1	<1
Selenium	T6	M40	3	mg/kg	<3	<3	<3
SO4(Total)	T6	M40	0.01	%	0.08	0.05	0.02
SO4(2:1)	T6	AR	0.1	g/l	<0.1	<0.1	<0.1
Sulphide	T546	AR	1	mg/kg	<1	<1	<1
Zinc	T6	M40	1	mg/kg	71	59	29

<b>SAL Reference:</b> 306053							
<b>Project Site:</b> Foden Farm, Chelford							
<b>Customer Reference:</b> 1041/SJG/PG							
<b>Soil</b> Analysed as Soil							
<b>BTEX, MTBE</b>							
<b>SAL Reference</b>		<b>306053 001</b>	<b>306053 002</b>	<b>306053 003</b>			
<b>Customer Sample Reference</b>		<b>1041 - TP1</b>	<b>1041 - TP2</b>	<b>1041 - TP3</b>			
<b>Date Sampled</b>		<b>Deviating</b>	<b>Deviating</b>	<b>Deviating</b>			
<b>Depth</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>			
<b>Type</b>		<b>Sandy Soil</b>	<b>Sandy Soil</b>	<b>Sandy Soil</b>			
<b>Determinand</b>	<b>Method</b>	<b>Test Sample</b>	<b>LOD</b>	<b>Units</b>			
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	<10	<10	<10
Benzene	T209	M105	10	µg/kg	<10	<10	<10
Toluene	T209	M105	10	µg/kg	<10	<10	<10
EthylBenzene	T209	M105	10	µg/kg	<10	<10	<10
M/P Xylene	T209	M105	10	µg/kg	<10	<10	<10
O Xylene	T209	M105	10	µg/kg	<10	<10	<10

<b>SAL Reference:</b> 306053							
<b>Project Site:</b> Foden Farm, Chelford							
<b>Customer Reference:</b> 1041/SJG/PG							
Soil TPH							
Analysed as Soil							
<b>SAL Reference</b>		<b>306053 001</b>	<b>306053 002</b>	<b>306053 003</b>			
<b>Customer Sample Reference</b>		<b>1041 - TP1</b>	<b>1041 - TP2</b>	<b>1041 - TP3</b>			
<b>Date Sampled</b>		<b>Deviating</b>	<b>Deviating</b>	<b>Deviating</b>			
<b>Depth</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>			
<b>Type</b>		<b>Sandy Soil</b>	<b>Sandy Soil</b>	<b>Sandy Soil</b>			
<b>Determinand</b>	<b>Method</b>	<b>Test Sample</b>	<b>LOD</b>	<b>Units</b>			
TPH (C6-C10)	T54	M105	0.10	mg/kg	<0.10	<0.10	<0.10
TPH (C10-C21)	T8	M105	1	mg/kg	1	3	1
TPH (C21-C40)	T8	M105	1	mg/kg	18	23	12
Total Petroleum Hydrocarbons	T8	M105	1	mg/kg	19	26	13

<b>SAL Reference:</b> 306053							
<b>Project Site:</b> Foden Farm, Chelford							
<b>Customer Reference:</b> 1041/SJG/PG							
Soil Total and Speciated USEPA16 PAH							
Analysed as Soil							
<b>SAL Reference</b>		<b>306053 001</b>	<b>306053 002</b>	<b>306053 003</b>			
<b>Customer Sample Reference</b>		<b>1041 - TP1</b>	<b>1041 - TP2</b>	<b>1041 - TP3</b>			
<b>Date Sampled</b>		<b>Deviating</b>	<b>Deviating</b>	<b>Deviating</b>			
<b>Depth</b>		<b>0.2</b>	<b>0.2</b>	<b>0.2</b>			
<b>Type</b>		<b>Sandy Soil</b>	<b>Sandy Soil</b>	<b>Sandy Soil</b>			
<b>Determinand</b>	<b>Method</b>	<b>Test Sample</b>	<b>LOD</b>	<b>Units</b>			
Naphthalene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1
Acenaphthylene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1
Acenaphthene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1
Fluorene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1
Phenanthrene	T207	M105	0.1	mg/kg	0.2	0.4	0.1
Anthracene	T207	M105	0.1	mg/kg	<0.1	0.1	<0.1
Fluoranthene	T207	M105	0.1	mg/kg	0.6	1.4	0.3
Pyrene	T207	M105	0.1	mg/kg	0.5	1.2	0.3
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	0.2	0.6	0.1
Chrysene	T207	M105	0.1	mg/kg	0.2	0.5	0.1
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	0.4	1.0	0.3
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	0.2	0.5	<0.1
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	0.1	0.3	<0.1
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	<0.1	0.3	<0.1
PAH(total)	T207	M105	0.1	mg/kg	2.4	5.4	1.2

## Index to symbols used in 306053-1

Value	Description
M105	Analysis conducted on an "as received" aliquot. Results are reported on a dry weight basis where moisture content was determined by assisted drying of sample at 105C
M40	Analysis conducted on sample assisted dried at no more than 40C. Results are reported on a dry weight basis.
AR	As Received
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

## Notes

The date of sampling has not been provided and therefore the time from sampling to analysis is unknown. It is possible therefore that the results provided may be compromised

## Method Index

Value	Description
T355	CVAFS
T8	GC/FID
T209	GC/MS(Head Space)(MCERTS)
T162	Grav (1 Dec) (105 C)
T546	Colorimetry (CF)
T207	GC/MS(MCERTS)
T6	ICP/OES
T7	Probe
T277	Grav (1 Dec) (40 C)
T54	GC/MS (Headspace)
T85	Calc

## Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Methyl tert-Butyl Ether	T209	M105	10	µg/kg	M	001-003
Benzene	T209	M105	10	µg/kg	M	001-003
Toluene	T209	M105	10	µg/kg	M	001-003
EthylBenzene	T209	M105	10	µg/kg	M	001-003
M/P Xylene	T209	M105	10	µg/kg	M	001-003
O Xylene	T209	M105	10	µg/kg	M	001-003
Arsenic	T6	M40	2	mg/kg	M	001-003
Boron (water-soluble)	T6	AR	1	mg/kg	N	001-003
Cadmium	T6	M40	1	mg/kg	M	001-003
Chromium	T6	M40	1	mg/kg	M	001-003
Chromium (trivalent)	T85	AR	2	mg/kg	N	001-003
Chromium VI	T6	AR	1	mg/kg	N	001-003
Copper	T6	M40	1	mg/kg	M	001-003
Cyanide(Total)	T546	AR	1	mg/kg	M	001-003
Lead	T6	M40	1	mg/kg	M	001-003
Mercury	T355	M40	0.001	mg/kg	N	001-003
Nickel	T6	M40	1	mg/kg	M	001-003
pH	T7	AR			M	001-003
Phenols(Mono)	T546	AR	1	mg/kg	M	001-003
Selenium	T6	M40	3	mg/kg	M	001-003
SO4(Total)	T6	M40	0.01	%	N	001-003
SO4(2:1)	T6	AR	0.1	g/l	N	001-003
Sulphide	T546	AR	1	mg/kg	N	001-003
Zinc	T6	M40	1	mg/kg	M	001-003
Naphthalene	T207	M105	0.1	mg/kg	M	001-003
Acenaphthylene	T207	M105	0.1	mg/kg	U	001-003
Acenaphthene	T207	M105	0.1	mg/kg	M	001-003
Fluorene	T207	M105	0.1	mg/kg	M	001-003
Phenanthrene	T207	M105	0.1	mg/kg	M	001-003
Anthracene	T207	M105	0.1	mg/kg	U	001-003
Fluoranthene	T207	M105	0.1	mg/kg	M	001-003
Pyrene	T207	M105	0.1	mg/kg	M	001-003
Benzo(a)Anthracene	T207	M105	0.1	mg/kg	M	001-003
Chrysene	T207	M105	0.1	mg/kg	M	001-003
Benzo(b/k)Fluoranthene	T207	M105	0.1	mg/kg	M	001-003
Benzo(a)Pyrene	T207	M105	0.1	mg/kg	M	001-003
Indeno(123-cd)Pyrene	T207	M105	0.1	mg/kg	M	001-003
Dibenzo(ah)Anthracene	T207	M105	0.1	mg/kg	M	001-003
Benzo(ghi)Perylene	T207	M105	0.1	mg/kg	M	001-003
PAH(total)	T207	M105	0.1	mg/kg	U	001-003
TPH (C6-C10)	T54	M105	0.10	mg/kg	N	001-003
TPH (C10-C21)	T8	M105	1	mg/kg	N	001-003
TPH (C21-C40)	T8	M105	1	mg/kg	N	001-003
Total Petroleum Hydrocarbons	T8	M105	1	mg/kg	M	001-003
Moisture	T277	AR	0.1	%	N	001-003
Moisture @ 105 C	T162	AR	0.1	%	N	001-003

## **Contaminant Analysis of Samples**

The Model Procedures of CLR 11 provide guidance on key information sources with respect to potential contamination arising from past land uses of a site. In particular, the now withdrawn CLR (Environment Agency 2002b), the DoE Industry Profile documents and ISO10381-5 provide good summaries of priority pollutants for UK sites. Additionally, the Environment Agency (2004b) has produced a list of priority pollutants for ecological risk assessment. These documents have been used, with the findings of the Phase 1 investigation, to scope the analyses of chemicals of potential concern. It should be noted that whilst CLR 8 was withdrawn in August 2008 it was not replaced and its findings are still considered useful.

## **Generic Risk Assessment Criteria for Human Health**

Generic assessment criteria (GAC) are criteria derived using largely generic assumptions about the characteristics and behaviour of sources, pathways and receptors. These assumptions will be conservative in a defined range of conditions. The Contaminated Land Exposure Assessment (CLEA) framework uses Soil Guideline Values (SGV) in assessing risks to human health from exposure to soils contaminated with selected contaminants.

The original Soil Guideline Values were all withdrawn in August 2008 and the Agency has started a programme of publishing replacements using its 'new approach' which involves a number of changes to the way exposure is assessed. This was started using the CLEA 1.04 software. The current version is CLEA 1.06.

A significant change in the new approach is to publish SGVs only at 6% soil organic matter (SOM) content. This appears to be counter productive because in cases where the SGV varies with the SOM, the published SGV report states that "at a lower SOM, they may not be sufficiently protective". The SGV introduction report Using Soil Guideline Values states that in such circumstances a new GAC can be produced by adjusting the SGV.

Furthermore, the SGVs are no longer published for the residential without plant uptake land use.

Consequently, the approach taken by Build Vison is to take the various input parameters from the SGV reports and produce GACs for various SOM and for the residential without plant uptake land use, using CLEA 1.06. The GACs adopted for the standard CLEA land uses are given in Table A together with the source of the GAC. The table also lists GACs for open space (see below).

The absence of published SGVs for certain chemicals of potential concern has been addressed by the derivation of GAC using generic assumptions about the characteristics and behaviour of sources, pathways and receptors and the CLEA 1.06 software. Input data have been derived wither from published GAC lists (EIC/AGS/CL:AIRE and LQM/CIEH) or by in-house research of the recommended data sources.

Please note also that CLEA 1.06 allows for other variations, most notably of soil type (9 options) and building type (5 residential options). The defaults are a sandy loam soil, a small terraced house in the residential setting and a pre-1970s office block in the commercial setting. These are generally conservative and the resultant SGV/GAC are protective of other combinations (unlike the default SOM mentioned above). It is not practical to include all

permutations in Table A and in the cases where specific GACs have been derived, this is referred to in the text of the report and the relevant values included in the assessment tables.

Lead is a special case as the former SGV was not based on the CLEA model, but equations utilising blood lead concentrations. There is currently no guidance on how to risk assess lead but it is understood that a new methodology is being formulated which will allow the use of CLEA. Consequently, the former SGVs for lead have been retained until this has been clarified.

Further details including data sources can be obtained on request.

### Human Health GAC's for Soil



Contaminant	Source of GAC	Human Health Generic Assessment Criteria (mg/kg)														
		Human health-residential with plant uptake (1% SOM)	Human health-residential with plant uptake (2.5% SOM)	Human health-residential with plant uptake (6% SOM)	Human health-residential without plant uptake (1% SOM)	Human health-residential without plant uptake (2.5% SOM)	Human health-residential without plant uptake (6% SOM)	Human health-allotments (1% SOM)	Human health-allotments (2.5% SOM)	Human health-allotments (6% SOM)	Human health-commercial (1% SOM)	Human health-commercial (2.5% SOM)	Human health-commercial (6% SOM)	Human health-open space (1% SOM)	Human health-open space (2.5% SOM)	Human health-open space (6% SOM)
General Suite		Default for SGV					Default for SGV					Default for SGV				
Arsenic	SGV report + CLEA 1.06	32	32	32	35	35	35	43	43	43	640	640	640	590	590	590
Boron	LQM/CI/EH + CLEA 1.06	290	290	290	1000	1000	1000	45	45	45	190000	190000	190000	45000	45000	45000
Cadmium	SGV report + CLEA 1.06	11	11	11	85	85	85	1.9	1.9	2	230	230	230	860	860	860
Chromium (III)	LQM/CI/EH + CLEA 1.06	3000	3000	3000	3000	3000	3000	35000	35000	35000	30000	30000	30000	720000	720000	720000
Chromium (VI)	LQM/CI/EH + CLEA 1.06	4.3	4.3	4.3	4.3	4.3	4.3	2.2	2.2	2.2	35	35	35	4400	4400	4400
Copper	LQM/CI/EH + CLEA 1.06	2300	2300	2300	6200	6200	6200	520	520	520	72000	72000	72000	400000	400000	400000
Lead	SGV 10 (old method)	450	450	450	450	450	450	450	450	450	750	750	750	450	450	450
Lead	CLEA 1.06 (not yet in use)	220	220	220	220	220	220	590	590	590	5100	5100	5100	11000	11000	11000
Mercury, inorganic	SGV report + CLEA 1.06	170	170	170	240	240	240	80	80	80	3600	3600	3600	9900	9900	9900
Mercury elemental	SGV report + CLEA 1.06	0.17	0.42	1.0	0.17	0.42	1.0	4.3	11	26	4.3	11	26	4.3	11	26
Mercury Methyl	SGV report + CLEA 1.06	7.4	9.6	11	8.4	11	14	7.9	8.0	8.0	370	390	410	180	180	180
Nickel	SGV report + CLEA 1.06	130	130	130	130	130	130	230	230	230	1800	1800	1800	38000	38000	38000
Selenium	SGV report + CLEA 1.06	350	350	350	600	600	600	120	120	120	13000	13000	13000	29000	29000	29000
Zinc	LQM/CI/EH + CLEA 1.06	3700	3700	3700	40000	40000	40000	620	620	620	670000	670000	670000	1000000	1000000	1000000
Cyanide (free)	CLEA 1.06	750	750	750	760	760	760	2300	2300	2300	16000	16000	16000	21000	21000	21000
Phenol	SGV report + CLEA 1.06	180	290	420	310	420	520	66	140	280	3200	3200	3200	3000	3000	3000
Acenaphthene	LQM/CI/EH + CLEA 1.06	210	480	1000	2000	3100	3900	34	85	200	85000	98000	100000	39000	39000	39000
Acenaphthylene	LQM/CI/EH + CLEA 1.06	170	400	850	2000	3000	3900	28	69	160	84000	97000	100000	39000	39000	39000
Anthracene	LQM/CI/EH + CLEA 1.06	2300	4900	9200	20000	22000	23000	380	950	2200	520000	540000	540000	200000	200000	200000
Benzo(a)anthracene	LQM/CI/EH + CLEA 1.06	3.1	4.7	5.9	3.7	5.2	6.2	2.5	5.5	10	89	95	97	89	89	89
Benzo(a)pyrene	LQM/CI/EH + CLEA 1.06	0.83	0.94	1.0	1.0	1.0	1.0	0.6	1.2	2.1	14	14	14	13.0	13.0	13.0
Benzo(b)fluoranthene	LQM/CI/EH + CLEA 1.06	5.6	6.5	7.0	7.0	7.3	7.4	3.5	7.4	13	100	100	100	92	92	92
Benzo(ghi)perylene	LQM/CI/EH + CLEA 1.06	44	46	47	47	47	47	70	120	160	650	660	660	590	590	590
Benzo(k)fluoranthene	LQM/CI/EH + CLEA 1.06	8.5	9.6	10	10	10	10	6.8	14	23	140	140	140	130	130	130
Chrysene	LQM/CI/EH + CLEA 1.06	6.0	8.0	9.3	8.8	9.7	10	2.6	5.8	12	140	140	140	130	130	130
Dibenz(ah)anthracene	LQM/CI/EH + CLEA 1.06	0.76	0.86	0.9	0.86	0.91	0.93	0.76	1.5	2.3	13	13	13	12.0	12.0	12.0
Fluoranthene	LQM/CI/EH + CLEA 1.06	260	460	670	970	990	1000	52	130	290	23000	23000	23000	8100	8100	8100
Fluorene	LQM/CI/EH + CLEA 1.06	160	380	780	1900	2500	2900	27	67	160	64000	69000	71000	26000	26000	26000
Indeno(123cd)pyrene	LQM/CI/EH + CLEA 1.06	3.2	3.9	4.2	4.2	4.4	4.4	1.8	3.8	7.1	60	61	62	56	56	56
Naphthalene	LQM/CI/EH + CLEA 1.06	1.5	3.7	8.7	1.6	3.9	9.3	4.1	9.9	23	200	480	1100	13000	13000	13000
Phenanthrene	LQM/CI/EH + CLEA 1.06	92	200	380	840	930	970	16	38	90	22000	22000	23000	8100	8100	8100
Pyrene	LQM/CI/EH + CLEA 1.06	560	1000	1600	2300	2400	2400	110	270	620	54000	54000	55000	20000	20000	20000
VOCs-BTEX & MTBE																
Benzene	SGV report + CLEA 1.06	0.08	0.16	0.33	0.27	0.49	1.0	0.017	0.035	0.075	28	50	95	240	240	240
Toluene	SGV report + CLEA 1.06	120	270	610	610	1300	2700	22	51	120	870	1900	4400	180000	180000	180000
Ethylbenzene	SGV report + CLEA 1.06	65	150	350	170	380	840	16	39	91	520	1200	2800	81000	81000	81000
Xylene o-	SGV report + CLEA 1.06	45	110	250	60	140	320	28	67	160	480	1100	2600	150000	150000	150000
Xylene m-	SGV report + CLEA 1.06	44	100	240	55	130	300	31	74	180	630	1500	3500	150000	150000	150000
Xylene p-	SGV report + CLEA 1.06	42	98	230	53	130	290	29	70	160	580	1400	3200	150000	150000	150000
MTBE	EIC/AGS/CLA:IRE + CLEA 1.06	49	84	160	73	120	220	23	44	90	7900	13000	24000	240000	240000	240000
TPH Fractions																
TPH ali EC05-EC06	LQM/CI/EH + CLEA 1.06	30	55	110	30	55	110	740	1700	3900	300	560	1200	1000000	1000000	1000000
TPH ali >EC06-EC08	LQM/CI/EH + CLEA 1.06	73	160	370	73	160	370	2300	5600	13000	140	320	740	1000000	1000000	1000000
TPH ali >EC08-EC10	LQM/CI/EH + CLEA 1.06	19	46	110	19	46	110	320	770	1700	78	190	450	41000	41000	41000
TPH ali >EC10-EC12	LQM/CI/EH + CLEA 1.06	48	120	280	48	120	280	2200	4400	7300	48	120	280	41000	41000	41000
TPH ali >EC12-EC16	LQM/CI/EH + CLEA 1.06	24	59	140	24	59	140	11000	13000	13000	24	59	140	41000	41000	41000
TPH ali >EC16-EC35	LQM/CI/EH + CLEA 1.06	45000	64000	76000	45000	64000	77000	260000	270000	270000	1000000	1000000	1000000	81000	81000	81000
TPH ali >EC35-EC44	LQM/CI/EH + CLEA 1.06	45000	64000	76000	45000	64000	77000	260000	270000	270000	1000000	1000000	1000000	81000	81000	81000
TPH aro EC05-EC07	LQM/CI/EH + CLEA 1.06	65	130	280	260	480	980	13	27	57	1200	2300	4700	180000	180000	180000
TPH aro >EC07-EC08	LQM/CI/EH + CLEA 1.06	120	270	610	610	1300	2700	22	51	120	870	1900	4400	180000	180000	180000
TPH aro >EC08-EC10	LQM/CI/EH + CLEA 1.06	27	65	150	33	81	190	8.6	21	51	610	1500	3600	16000	16000	16000
TPH aro >EC10-EC12	LQM/CI/EH + CLEA 1.06	69	160	350	180	420	870	13	31	74	360	900	2200	16000	16000	16000
TPH aro >EC12-EC16	LQM/CI/EH + CLEA 1.06	140	310	590	1250	1600	1700	23	57	130	36000	37000	38000	16000	16000	16000
TPH aro >EC16-EC21	LQM/CI/EH + CLEA 1.06	250	480	770	1300	1300	1300	46	110	260	28000	28000	28000	12000	12000	12000
TPH aro >EC21-EC35	LQM/CI/EH + CLEA 1.06	890	1100	1200	1300	1300	1300	370	820	1600	28000	28000	28000	12000	12000	12000
TPH aro >EC35-EC44	LQM/CI/EH + CLEA 1.06	890	1100	1200	1300	1300	1300	370	820	1600	28000	28000	28000	12000	12000	12000
TPH >EC44-EC70	LQM/CI/EH + CLEA 1.06	1200	1300	1300	1300	1300	1300	1200	2100	3000	28000	28000	28000	12000	12000	12000
Dioxins, furans & dioxin-like-PCBs																
Total Dioxins, furans & DL-PCB (aerial dep)	SGV report + CLEA 1.06	0.0085	0.0087	0.0087	0.0099	0.0099	0.0099	0.0073	0.008	0.0083	0.24	0.24	0.24	0.15	0.15	0.15
Non-dioxin-like PCBs																
PCB-28	CLEA 1.06	0.20	0.27	0.32	0.39	0.39	0.39	0.058	0.13	0.23	9.0	9.0	9.0	3	3	3
PCB-52	CLEA 1.06	0.20	0.28	0.34	0.39	0.39	0.39	0.062	0.14	0.28	9.0	9.0	9.0	3	3	3
PCB-101	CLEA 1.06	0.34	0.37	0.38	0.39	0.39	0.39	0.03	0.53	0.76	9.0	9.0	9.0	3	3	3
PCB-138	CLEA 1.06	0.36	0.37	0.38	0.39	0.39	0.39	0.41	0.67	0.89	9.0	9.0	9.0	3	3	3
PCB-153	CLEA 1.06	0.36	0.38	0.38	0.39	0.39	0.39	0.51	0.77	0.96	9.0	9.0	9.0	3	3	3
PCB-180	CLEA 1.06	0.37	0.38	0.39	0.39	0.39	0.39	0.60	0.87	1.1	9.0	9.0	9.0	3	3	3
NOTES																
If >1,000,000 is calculated, 1,000,000 is adopted.																
where calculated GAC exceeds saturation value in CLEA - saturation value adopted for GAC																





**DHI Excavations Ltd**

Junction Business Park, Rake Lane, Swinton, Manchester M27 8LR

Serial No. DHI/000319.

**Duty of Care - Controlled Waste Transfer Note**

41202.

Official use only

**A**

Description of the waste

- How is the waste contained?  
 Loose  Skips  Sacks  Drums  Other (Specify): \_\_\_\_\_
- Describe the waste being transferred: \_\_\_\_\_  
INERT SPILL
- Quantity 2000 Kg / (Tonnes) / m<sup>3</sup> / sacks / drums / other (specify): \_\_\_\_\_ Classification code: 17-05-04
- Analysis attached / not attached (delete as necessary)

**B**

Producer of the waste

- Full name (print): GNL CONSTRUCTION LTD.
- Company name, address and postcode: 324 STYAL RD, GATLEY, CHESHIRE
- Which of the following are you? (please tick one or more boxes)
 

A	<input checked="" type="checkbox"/> Waste producer	<input type="checkbox"/> Waste Importer	<input type="checkbox"/> Waste collection/disposal authority	<input type="checkbox"/> Broker
B	<input type="checkbox"/> Holder of disposal / management licence <input type="checkbox"/> Exempt from carrier Licence / Carrier number(s): _____ Issued by: _____			
C	<input type="checkbox"/> Exempt from licensing requirements <input type="checkbox"/> Exempt from carrier registration Reason: _____			

**C**

Carrier of the waste

- Full name (print): DHI Excavations Ltd
- Company name, address and postcode: Junction Business Park, Rake Lane, Swinton, Manchester M27 8LR
- Which of the following are you? (please tick one or more boxes)
 

<input type="checkbox"/> Waste collection authority	<input type="checkbox"/> Waste disposal authority
<input checked="" type="checkbox"/> Registered carrier (give number): <u>EAN/957407/B</u>	
<input type="checkbox"/> Exempt from registration (give reason): _____	

**D**

First transfer (producer to carrier)

- Place of transfer: SANDRINGHAM RD - CHEADLE
- Date of transfer: 10/6/13 - 10/6/14  
(for multiple transfers give between dates, see notes)
- Name and address of broker arranging transfer (if applicable): \_\_\_\_\_
- Producers representatives: \_\_\_\_\_ Carriers representatives: \_\_\_\_\_  
 Name (print): GARY GOLDRICK Name (print): RAY CROOK  
 Signed: [Signature] Signed: [Signature]

**E**

Disposer of the waste

- Full name (print): P. CASEY ENVIRO LTD.
- Company name, address and postcode: MORLEY QUARRY - ASTLEY - M29 7EW.
- Which of the following are you? (please tick box)
 

<input checked="" type="checkbox"/> Holder of waste disposal / management licence (give number): <u>602/LP3597SR.</u> Issued by: _____
<input type="checkbox"/> Exempt from licence requirements (give reason): _____

**F**

Second transfer (carrier to disposer)

- Place of transfer: MORLEY QUARRY, ASTLEY, M29 7EW.
- Date of transfer: 10/6/13 TO 10/6/14  
(for multiple consignments give between dates)
- Name and address of broker arranging transfer (if applicable): \_\_\_\_\_
- Carriers representatives: \_\_\_\_\_ Disposers representatives: \_\_\_\_\_  
 Name (print): RAY CROOK Name (print): A. J. INK.  
 Signed: [Signature] Signed: [Signature]  
 Company name: DHI Excavations Ltd Company name: P. CASEY ENVIRO

**Important:** This page must be retained by you, on a register held by you, for at least two years from the date of the last transfer to which this note applies.

<b>DHI Excavations Ltd</b> 177 Walkden Road, Worsley, Manchester M28 7QH		Serial No. DHI/
<b>Duty of Care - Controlled Waste Transfer Note</b>		SIC Code: <b>41202.</b> Official use only
<b>A</b> Description of the waste	1. How is the waste contained? <input checked="" type="checkbox"/> Loose <input type="checkbox"/> Skips <input type="checkbox"/> Sacks <input type="checkbox"/> Drums <input type="checkbox"/> Other (Specify): _____	
	2. Describe the waste being transferred: <b>TOPSOIL</b> Classification code: <b>17-05-04</b>	
	3. Quantity <b>400 kg (Tonnes)</b> m <sup>3</sup> /sacks/drums/other (specify): _____	
	4. Analysis attached / not attached (delete as necessary)	
<b>B</b> Producer of the waste	1. Full name (print): <b>GNL CONSTRUCTION LTD</b>	
	2. Company name, address and postcode: <b>323 SMAL RD, GATLEY, CHESHIRE</b>	
	3. Which of the following are you? (Please tick one or more boxes)	
<b>A</b>	<input checked="" type="checkbox"/> Waste producer <input type="checkbox"/> Waste importer <input type="checkbox"/> Waste collection/disposal authority <input type="checkbox"/> Broker	
<b>B</b>	<input type="checkbox"/> Holder of disposal / management licence <input type="checkbox"/> Exempt from carrier Licence / Carrier number(s): _____ Issued by: _____	
<b>C</b>	<input type="checkbox"/> Exempt from licensing requirements <input type="checkbox"/> Exempt from carrier registration Reason: _____	
<b>C</b> Carrier of the waste	1. Full name (print): <b>DHI Excavations Ltd</b>	
	2. Company name, address and postcode: <b>177 Walkden Road, Worsley, Manchester M28 7QH</b>  <input checked="" type="checkbox"/> Registered carrier (give number): <b>CB/BM3787KJ</b>	
<b>We have fulfilled our obligations with regards to the waste heirachy regulations</b>		
<b>D</b> First Transfer (producer to carrier)	1. Place of transfer: <b>LAPWING LANE, LOWER WHITHINGTON, HOLMES CHAPEL</b>	
	2. Date of transfer: <b>15/7/13 TO 31/8/13</b> (for multiple transfers give between dates, see notes)	
	3. Name and address of broker arranging transfer (if applicable): _____	
	4. Producers representatives: Name (print): <b>GARY GOLDRICK</b> Signed: <i>Gary Goldrick</i>	Carriers representatives: Name (print): <b>SEAN KINGSTON</b> Signed: <i>Sean Kingston</i>
<b>E</b> Disposer of the waste	1. Full name (print): <b>GNL CONSTRUCTION</b>	
	2. Company name, address and postcode: <b>AS SECT B.</b>	
	3. Which of the following are you? (Please tick one or more boxes)	
<input type="checkbox"/> Holder of waste disposal / management licence (give number): _____ Issued by: _____	<b>N/A</b>	
<input type="checkbox"/> Exempt from licence requirements (give reason): _____		
<b>F</b> Second Transfer (carrier to disposer)	1. Place of transfer: <b>SANDRINGHAM AVE, CHADLE HULME, CHESHIRE</b>	
	2. Date of transfer: <b>15/7/13 TO 31/8/13</b> (for multiple consignments give between dates)	
	3. Name and address of broker arranging transfer (if applicable): _____	
	4. Carriers representatives: Name (print): <b>SEAN KINGSTON</b> Signed: <i>Sean Kingston</i> Company name: <b>DHI Excavations Ltd</b>	Disposers representatives: Name (print): <b>GARY GOLDRICK</b> Signed: <i>Gary Goldrick</i> Company name: <b>GNL Construction Ltd</b>

**Important:** This page must be retained by you, on a register held by you, for at least two years from the date of the last transfer to which this note applies.  
 White - DHI copy, Blue - Disposers copy, Yellow - Producers copy, Pink - Spare

## APPENDIX B

GAS PROTECTION MEASURES  
§ Foundation Layout Drawings

**NOTES**

Do not scale from this drawing.

This drawing is to be read in conjunction with all other relevant drawings and their specifications.

All dimensions & setting out shall be in accordance with the Architect's details and shall be verified by the contractor prior to construction.

All temporary works and propping must be designed and detailed by the general contractor, calculations etc. to be approved by the Engineer. If loadings are required then ask.

Any drawing discrepancies shown are to be reported to the Engineer prior to construction.

Health and Safety  
Consideration has been made to risks associated within the design, some elements shown on this drawing are in excess of 20kg, some risk still exists and cannot be designed out - ensure the health & safety file has been read. Contractor to ensure these risks are dealt with in the correct manner.

Pads & Strip Foundation  
Any foundation levels shown on this drawing are approximate and are dependent on the foundation strata at the depth shown being capable of safely sustaining a net bearing pressure of 80kN/m<sup>2</sup>.

Reduce level dig remove all deleterious material under the building footprint. Ensure reduce dig is to a consistent level to all areas.

Local soft spots to be reported to Engineer.

If any foundation formation surface is to remain open for in excess of 24 hours the surface must be sealed with 50mm concrete blinding, irrespective of whether the top surface of the blinding concrete shall be finished at the intended foundation formation level.

All structural/reinforced concrete shall be Grade RC35  
All mass fill concrete shall be grade FND2

All concrete mixes to be in accordance with BS EN 206-1 and complementary BS 8500 parts 1 & 2.

Min. concrete cover to all reinforcement to be 40mm unless noted otherwise.

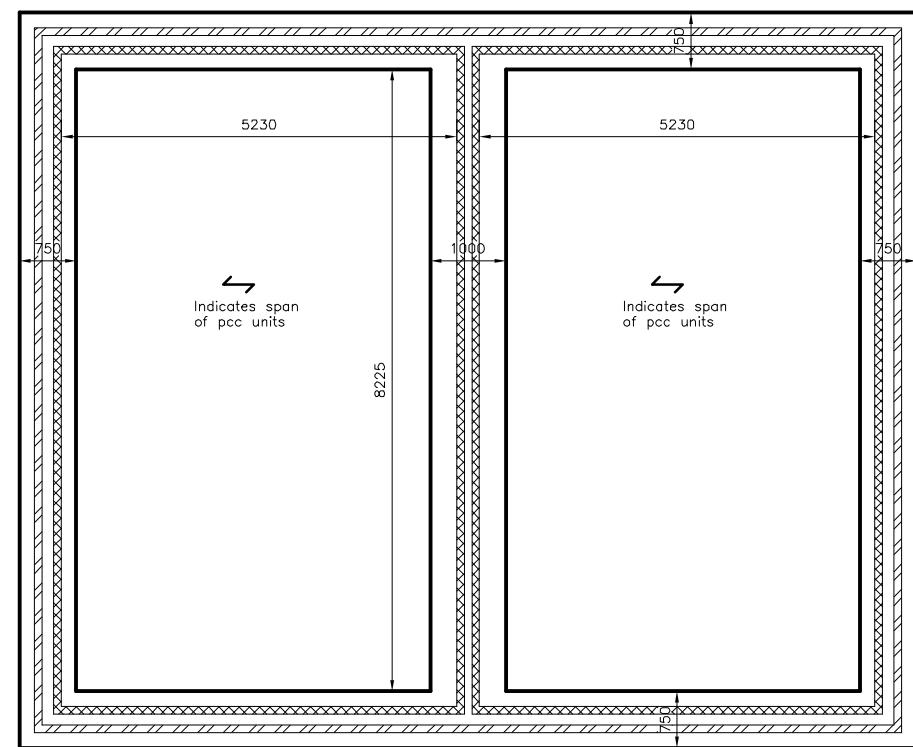
Substructure brickwork to be in concrete common bricks having a minimum crushing strength of 20N/mm<sup>2</sup> water absorption of 10%

Substructure blockwork to be dense aggregate blockwork >/1500kg/m<sup>3</sup> minimum compressive strength >/7.0N/mm<sup>2</sup>.

Mortar to be class iii above ground, class ii below dpc. Colour to external mortar to Architects spec.

All wall ties to be stainless steel Type 1 for cavities greater than 100mm or Type 2 otherwise, in accordance BS DD140 part 2, BS5628 parts 1,2&3.

Pre-cast floor units are to be designed for the following:  
Superimposed 1.50KN/Msq.  
Studded Partitions 1.00KN/Msq.  
Finishes 1.75KN/Msq.  
Block Wall 6KN/M run



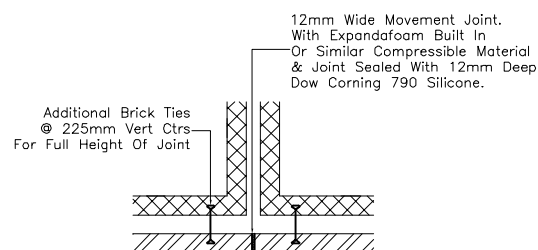
**Foundation Layout**

External Wall - 352.5mm  
Internal Party Wall - 300mm

Wall Finishes To Be Discontinuous At Joint Position Using Stop Beads With A Mastic Sealant.

200mm x 40mm x 1.5mm Galvanised Mild Steel Strip Tie In Alternate Courses.

Typical Movement Joint in Blockwork.  
Max spacing to be approx 9 metres if Stranlite blocks used.



Typical Movement Joint in External Wall.  
Max spacing to be 12m or 6m from a corner (For positions refer to Architect Drawings).

All Structural Concrete To Be Designated Mix RC35

All Foundations depths indicated on plan are for minimum depths  
Foundations are to go down deeper if stiff clay isn't encountered at depths shown.  
Min Depth Of All Foundations To Be 900mm From External Level.

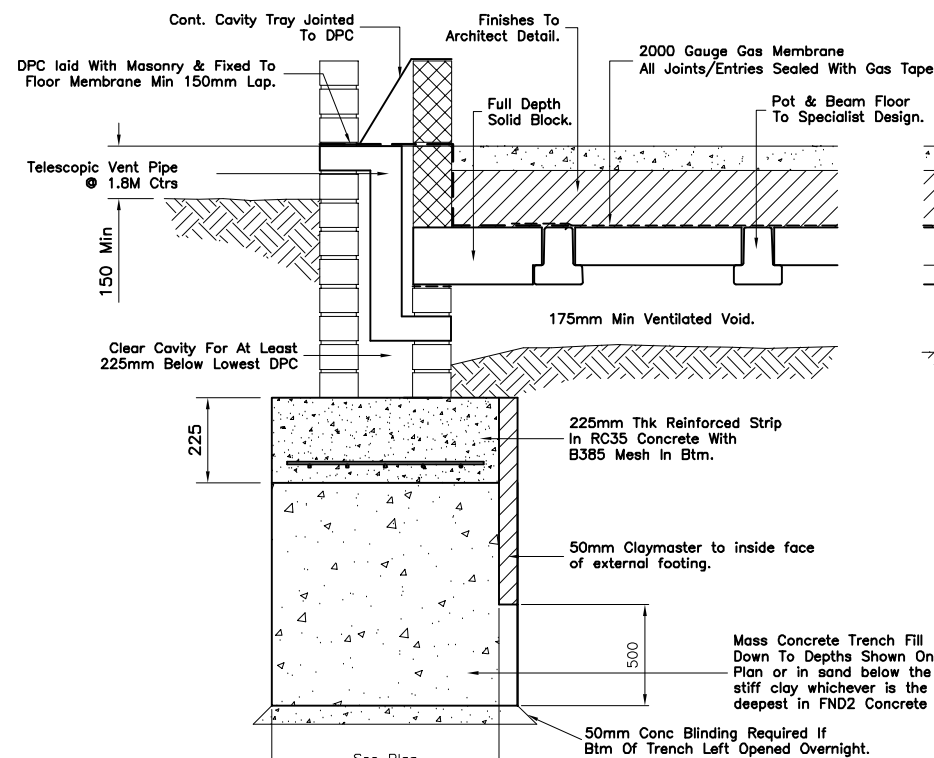
Gas Membrane To Be 2000Gauge Visqueen. All joints and service entries to be gas taped

In Accordance With Building Regulations Approved Document C4. Two Opposing External Walls Should Have Ventilation Openings Placed So That The Ventilating Air Will Have A Free Path Between Opposite Sides And To All Parts. The Openings Should Be Large Enough To Give An Actual Opening Of At Least Equivalent To 1500mm For Each Metre Run Of Wall. For Position Of Air Vents Refer To Architectural Elevations.

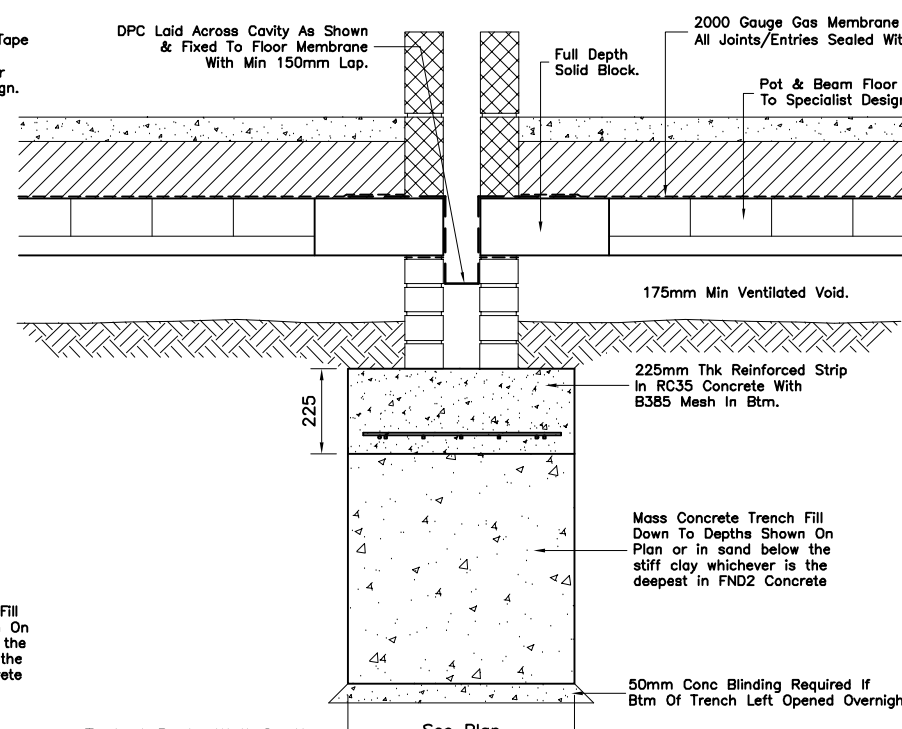
**Foundation Depths**  
Anticipated depth from FFL to base of Mass Concrete is 2.50 metres.

**AS BUILT.**

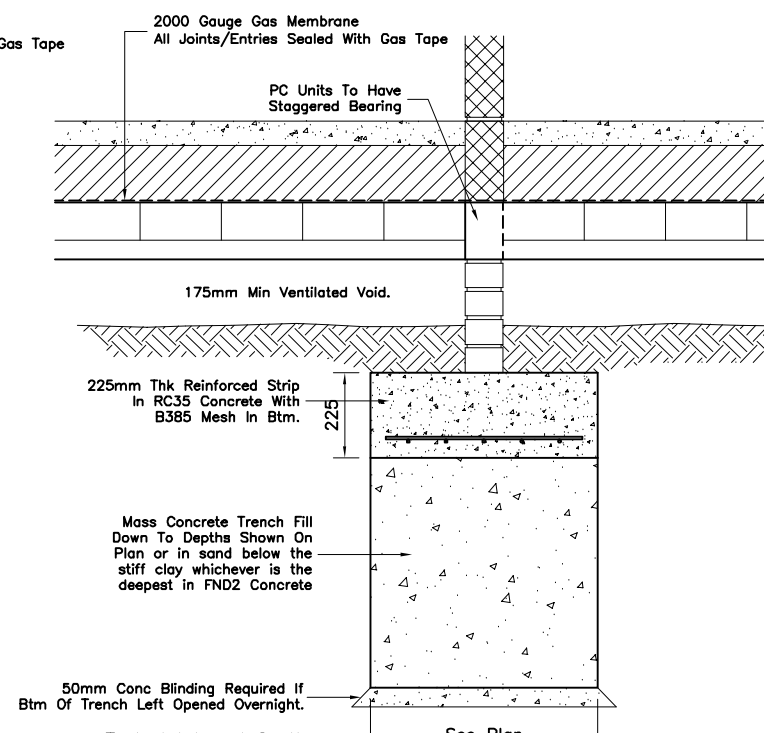
**AS-BUILT RECORD DRAWING :**  
This drawing is based on the latest issue construction drawings modified as necessary from information supplied by the contractor. This information has not been verified by Build Vision Consulting Engineers and cannot be guaranteed correct. Build Vision Consulting Engineers do not accept any responsibility for As Built information provided that does not comply with current design guides



Typical External Section



Typical Party Wall Section



Typical Internal Section

B	18/08/13	MJC	As Built
A	4/12	MJC	Issued for Construction
P1	13/11	MJC	Issued For Approval

Rev	Date	By	Checked	Remarks
-----	------	----	---------	---------

Project  
**Sandringham Road  
Cheadle Hulme**

Client  
**Wiggett Construction Ltd**

Drawing  
**Foundation Layout  
Semi Detached Block**

Number	1037/100	Rev	B
Scale	1@50@A1	Drawn	MJG
Checked		Date	Nov12

**Build Vision  
Consulting Engineers**

Suite 1, Westleigh House, Wakefield Road,  
Denby Dale, Huddersfield HD8 8QJ  
Tel. 01484 868257 email: mail@bvconsulting.co.uk

**NOTES**

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Any drawing discrepancies shown are to be reported to the Engineer prior to construction.

Health and Safety  
Consideration has been made to risks associated within the design, some elements shown on this drawing are in excess of 20kg, some risk still exists and cannot be designed out - ensure the health & safety file has been read. Contractor to ensure these risks are dealt with in the correct manner.

**Pads & Strip Foundation**  
Any foundation levels shown on this drawing are approximate and are dependent on the foundation strata at the depth shown being capable of safely sustaining a net bearing pressure of 80kN/m<sup>2</sup>.

Reduce level dig remove all deleterious material under the building footprint. Ensure reduce dig is to a consistent level to all areas.

Local soft spots to be reported to Engineer.

If any foundation formation surface is to remain open for in excess of 24 hours the surface must be sealed with 50mm concrete blinding, irrespective of whether the top surface of the blinding concrete shall be finished at the intended foundation formation level.

All structural/reinforced concrete shall be Grade RC35  
All mass fill concrete shall be grade FND2

All concrete mixes to be in accordance with BS EN 206-1 and complementary BS 8500 parts 1 & 2.

Min. concrete cover to all reinforcement to be 40mm unless noted otherwise.

Substructure brickwork to be in concrete common bricks having a minimum crushing strength of 20N/mm<sup>2</sup> water absorption of 10%

Substructure blockwork to be dense aggregate blockwork >1500kg/m<sup>3</sup> minimum compressive strength >7.0N/mm<sup>2</sup>.

Mortar to be class iii above ground, class ii below dpc. Colour to external mortar to Architects spec.

All wall ties to be stainless steel Type 1 for cavities greater than 100mm or Type 2 otherwise, in accordance BS DD140 part 2, BS5628 parts 1,2&3.

Pre-cast floor units are to be designed for the following:  
Superimposed 1.50KN/Msq.  
Studded Partitions 1.00KN/Msq.  
Finishes 1.75KN/Msq.  
Block Wall 6KN/M run

B	18/09/13	MJC	As Built
A	4/12	MJC	Issued for Construction
P1	13/11	MJC	Issued For Approval

Rev	Date	By	Checked	Remarks
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Project  
**Sandringham Road  
Cheadle Hulme**

Client  
**Wiggett Construction Ltd**

Drawing  
**Foundation Layout  
Terrace Block**

Number  
**1037/101**

Scale  
**1:50@A1**

Drawn  
**MJC**

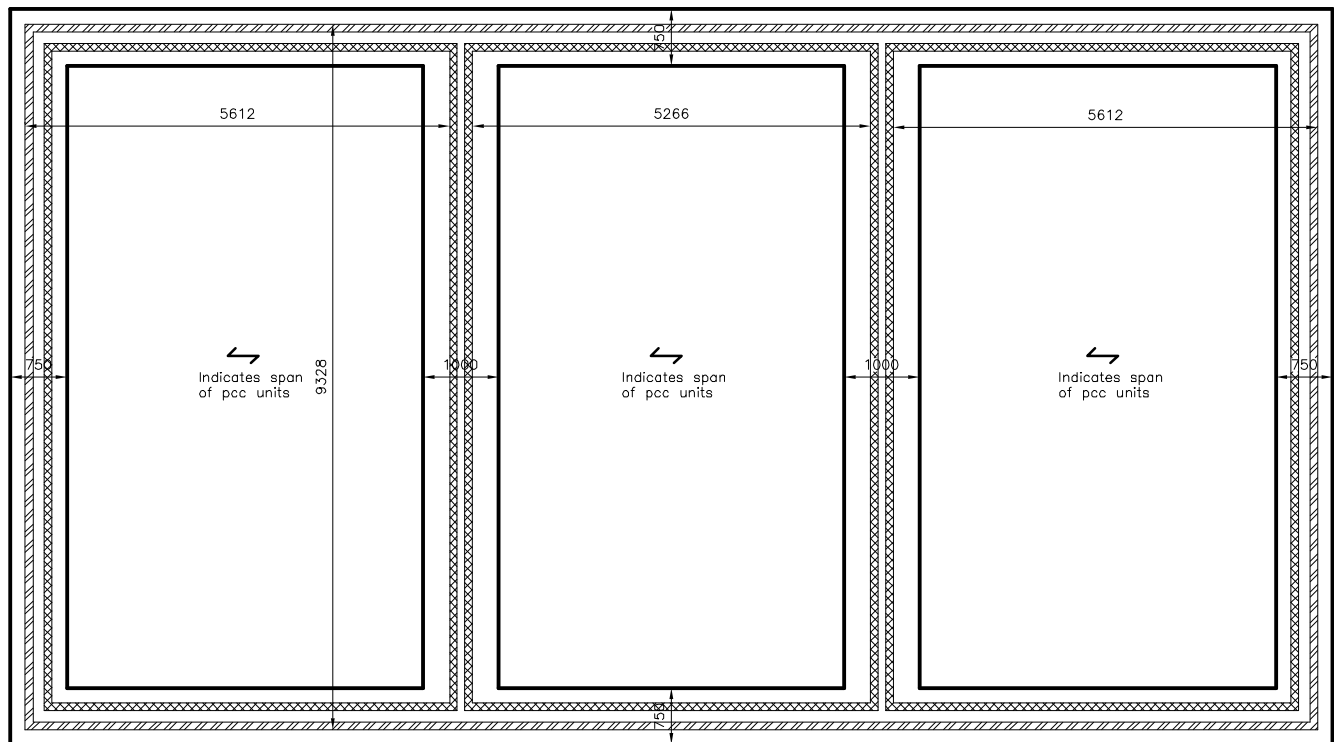
Checked  
**MJC**

Date  
**Nov 12**

Rev  
**B**

**Build Vision  
Consulting Engineers**

Suite 1, Westleigh House, Wakefield Road,  
Denby Dale, Huddersfield HD8 8QJ  
Tel. 01484 868257 email: mail@bvconsulting.co.uk

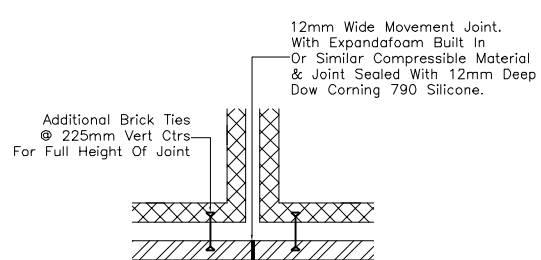


**Foundation Layout**

External Wall - 352.5mm  
Internal Party Wall - 300mm

Wall Finishes To Be Discontinuous At Joint Position Using Stop Beads With A Mastic Sealant.  
200mm x 40mm x 1.5mm Galvanised Mild Steel Strip Tie In Alternate Courses.

Typical Movement Joint in Blockwork. Max spacing to be approx 9 metres if Stranlite blocks used.



Typical Movement Joint in External Wall. Max spacing to be 12m or 6m from a corner (For positions refer to Architect Drawings).

All Structural Concrete To Be Designated Mix RC35

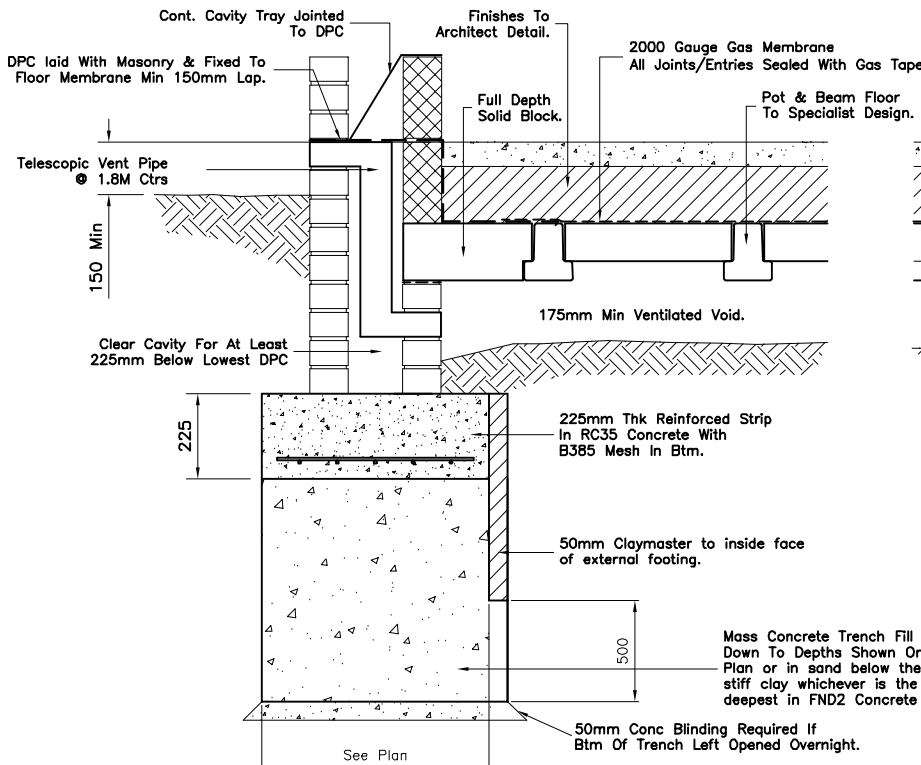
All Foundations depths indicated on plan are for minimum depths. Foundations are to go down deeper if stiff clay is encountered at depths shown. Min Depth Of All Foundations To Be 900mm From External Level.

Gas Membrane To Be 2000Gauge Visqueen. All joints and service entries to be gas taped

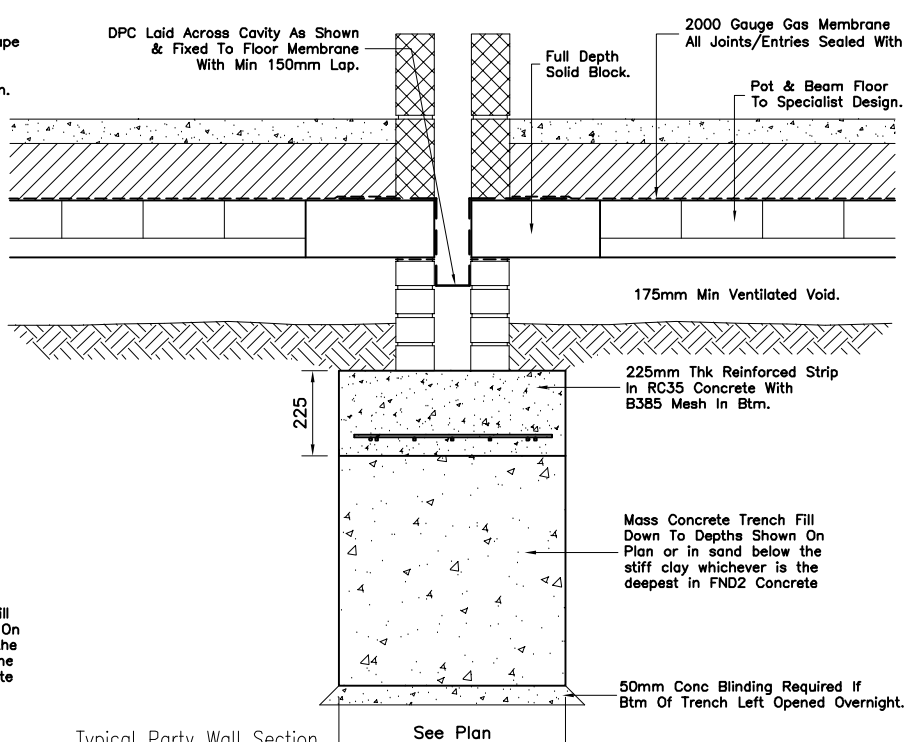
In Accordance With Building Regulations Approved Document C4. Two Opposing External Walls Should Have Ventilation Openings Placed So That The Ventilating Air Will Have A Free Path Between Opposite Sides And To All Parts. The Openings Should Be Large Enough To Give An Actual Opening Of At Least Equivalent To 1500mm For Each Metre Run Of Wall. For Position Of Air Vents Refer To Architectural Elevations.

**AS BUILT.**  
**AS-BUILT RECORD DRAWING :**  
This drawing is based on the latest issue construction drawings modified as necessary from information supplied by the contractor. This information has not been verified by Build Vision Consulting Engineers and cannot be guaranteed correct. Build Vision Consulting Engineers do not accept any responsibility for As Built information provided that does not comply with current design guides

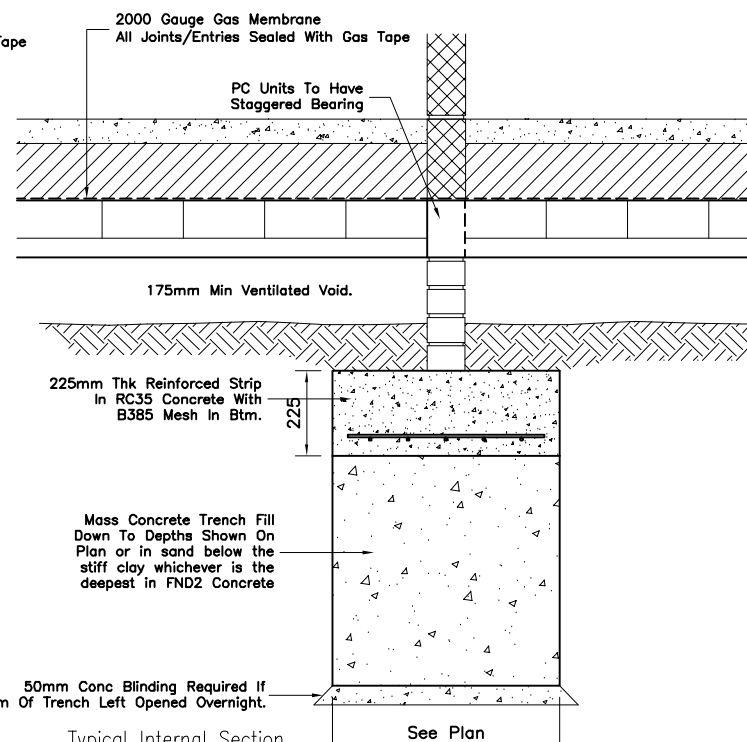
**Foundation Depths**  
**Anticipated depth from FFL to base of Mass Concrete is 2.50 metres.**



Typical External Section



Typical Party Wall Section



Typical Internal Section

**NOTES**

Do not scale from this drawing.

This drawing is to be read in conjunction with all other relevant drawings and their specifications.

All dimensions & setting out shall be in accordance with the Architect's details and shall be verified by the contractor prior to construction.

All temporary works and propping must be designed and detailed by the general contractor, calculations etc. to be approved by the Engineer. If loadings are required then ask.

Any drawing discrepancies shown are to be reported to the Engineer prior to construction.

**Health and Safety**  
 Consideration has been made to risks associated within the design, some elements shown on this drawing are in excess of 20kg, some risk still exists and cannot be designed out - ensure the health & safety file has been read. Contractor to ensure these risks are dealt with in the correct manner.

**Pads & Strip Foundation**  
 Any foundation levels shown on this drawing are approximate and are dependent on the foundation strata at the depth shown being capable of safely sustaining a net bearing pressure of 80kN/m<sup>2</sup>.

Reduce level dig remove all deleterious material under the building footprint. Ensure reduce dig is to a consistent level to all areas.

Local soft spots to be reported to Engineer.

If any foundation formation surface is to remain open for in excess of 24 hours the surface must be sealed with 50mm concrete blinding, irrespective of whether the top surface of the blinding concrete shall be finished at the intended foundation formation level.

All structural/reinforced concrete shall be Grade RC35  
 All mass fill concrete shall be grade FND2

All concrete mixes to be in accordance with BS EN 206-1 and complementary BS 8500 parts 1 & 2.

Min. concrete cover to all reinforcement to be 40mm unless noted otherwise.

Substructure brickwork to be in concrete common bricks having a minimum crushing strength of 20N/mm<sup>2</sup> water absorption of 10%

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Pre-cast floor units are to be designed for the following:

Superimposed	1.50kN/Msq.
Studded Partitions	1.00kN/Msq.
Finishes	1.75kN/Msq.
Block Wall	6kN/M run

B	18/09/13	MJC	As Built
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Rev	Date	By	Checked	Remarks
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Project  
**Sandringham Road  
 Cheadle Hulme**

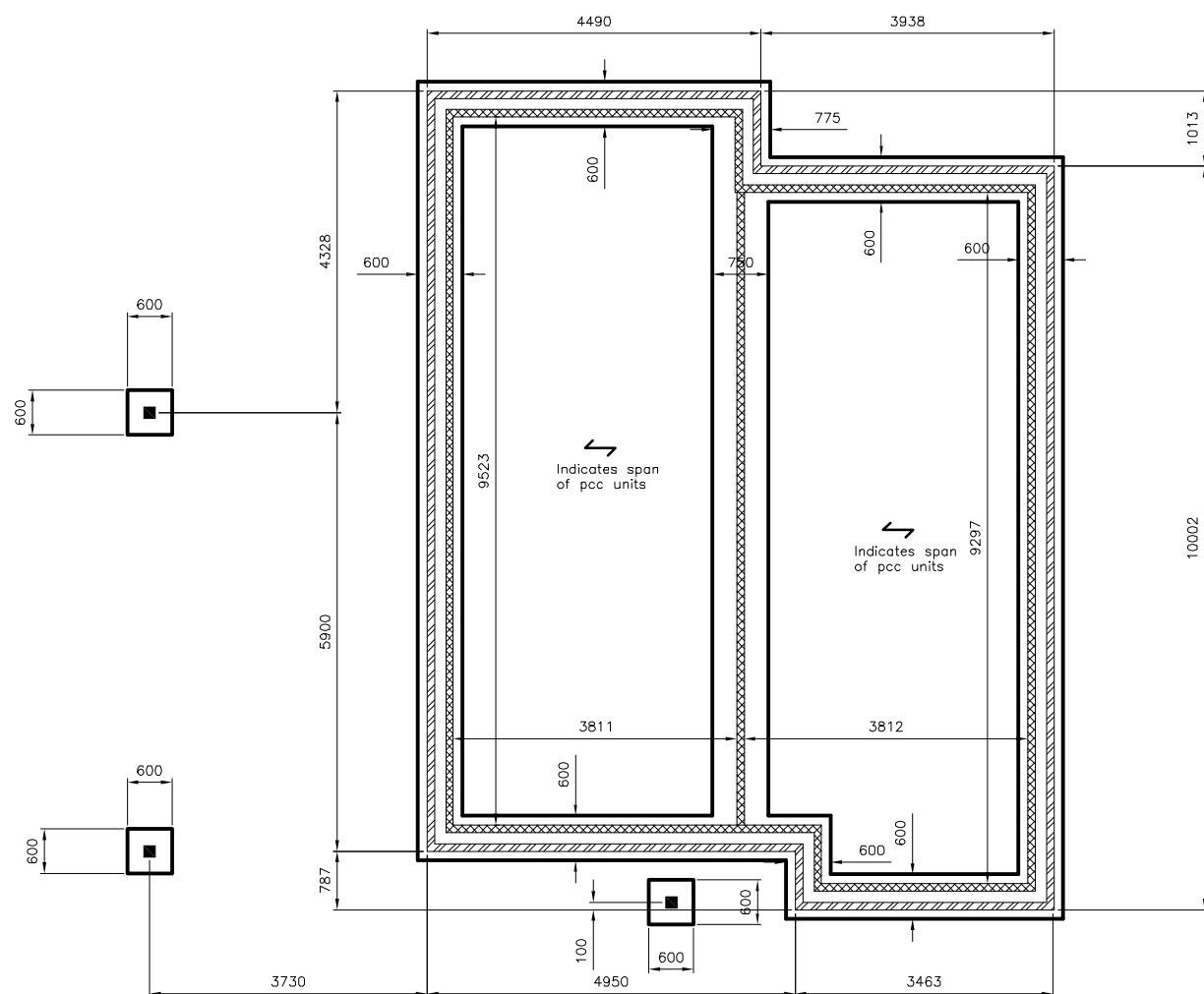
Client  
**Wiggett Construction Ltd**

Drawing  
**Foundation Layout  
 Disabled Block**

Number	1037/102	Rev	B
Scale	1:500A1	Drawn	MJC
Checked		Date	Nov 12

**Build Vision  
 Consulting Engineers**

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 Tel. 01484 868257 email: mail@bvconsulting.co.uk



**Foundation Layout**

External Wall - 352.5mm  
 Internal Party Wall - 300mm

Wall Finishes To Be Discontinuous At Joint Position Using Stop Beads With A Mastic Sealant.

200mm x 40mm x 1.5mm Galvanised Mild Steel Strip Tie In Alternate Courses.

Typical Movement Joint in Blockwork. Max spacing to be approx 9 metres if Stranlite blocks used.

12mm Wide Movement Joint. With Expandafoam Built In Or Similar Compressible Material & Joint Sealed With 12mm Deep Dow Corning 790 Silicone.

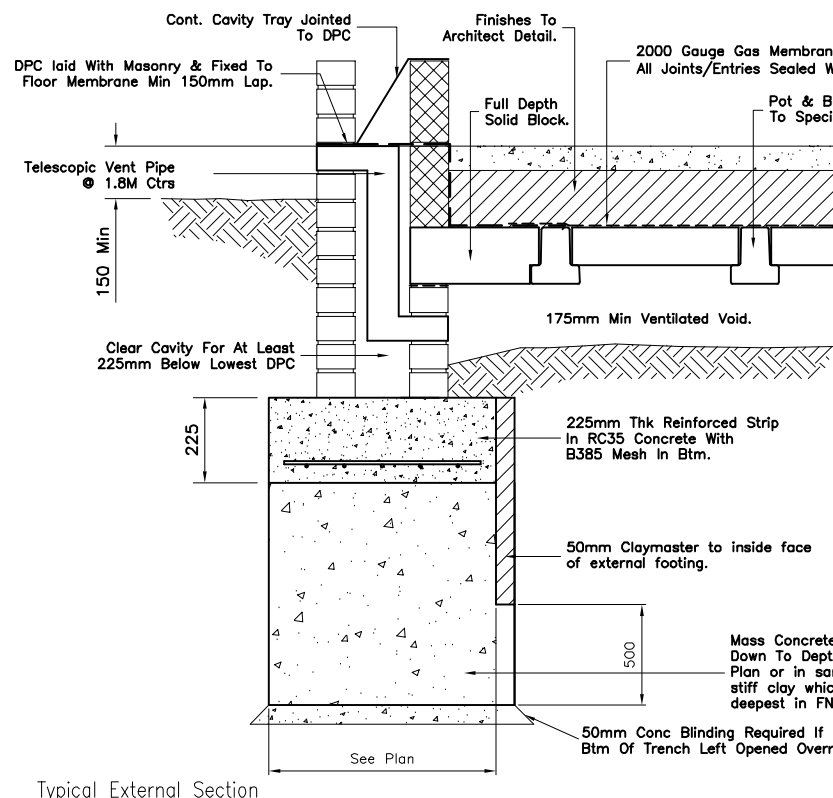
Additional Brick Ties @ 225mm Vert Ctrs For Full Height Of Joint

Typical Movement Joint in External Wall. Max spacing to be 12m or 6m from a corner (For positions refer to Architect Drawings).

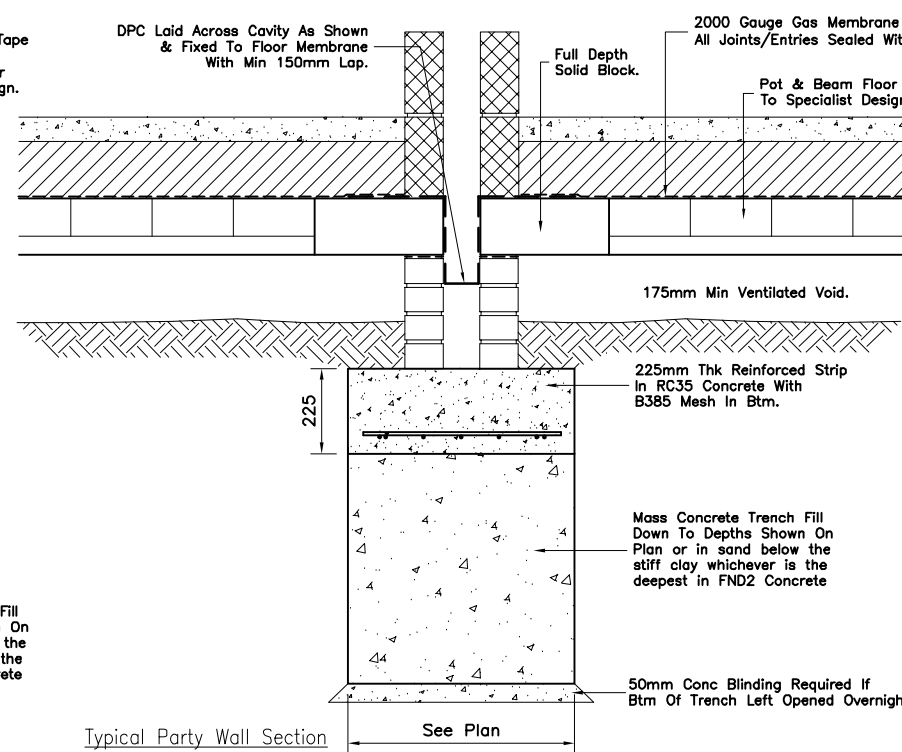
**Foundation Depths**  
 Anticipated depth from FFL to base of Mass Concrete is 2.50 metres.

**AS BUILT.**

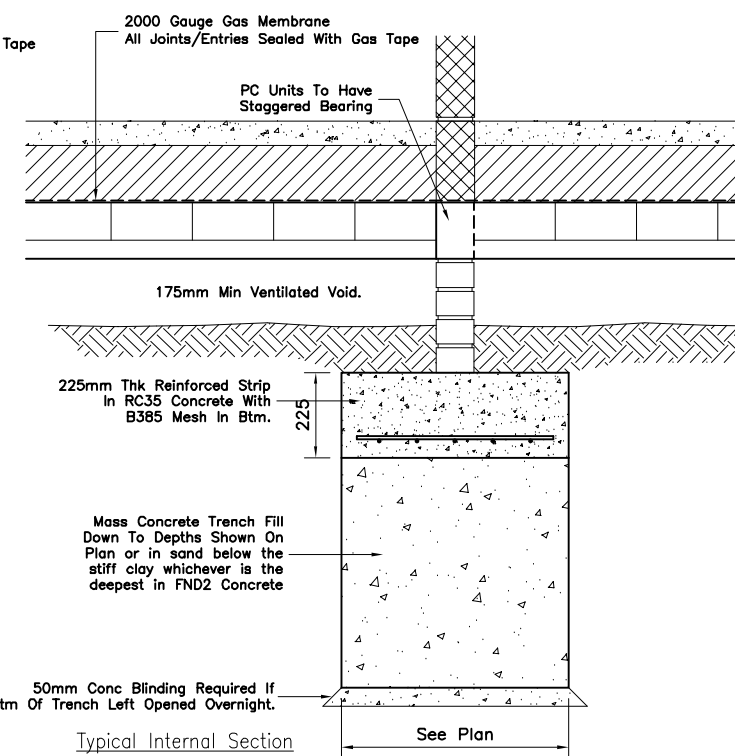
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Typical External Section



Typical Party Wall Section



Typical Internal Section