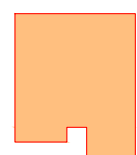


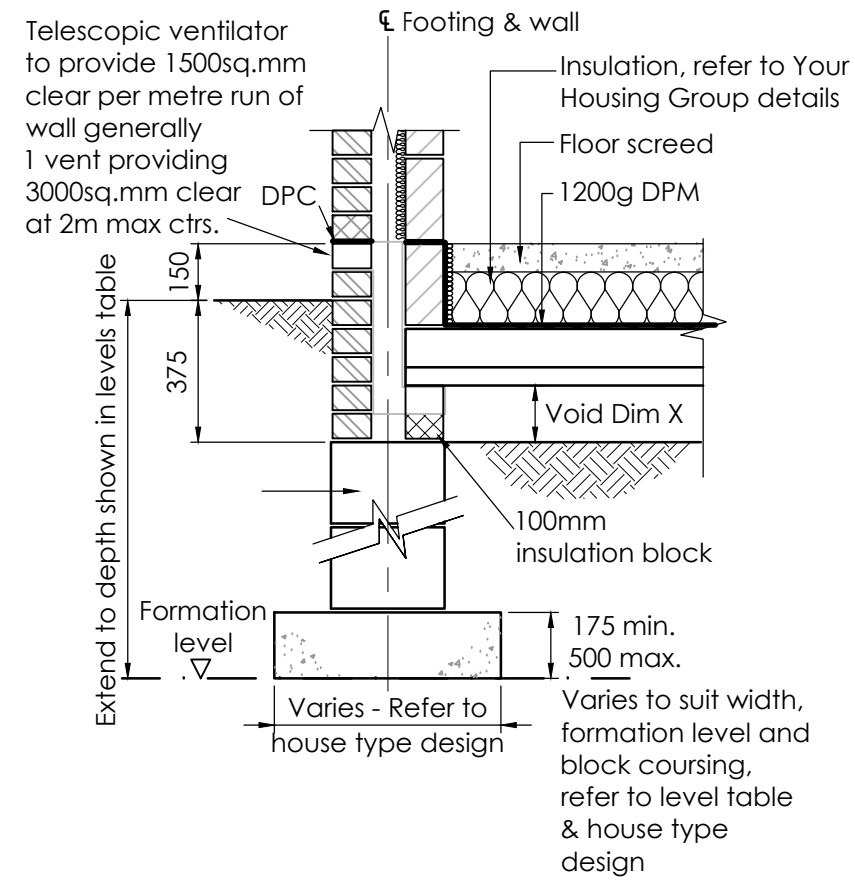
Foundation Key, Section Details and Notes

scale 1:20



Traditional Strip Foundations

- Formation depth circa. 0.90-1.325m BPGCL
- Bearing strata generally stiff clays
 - Allowable ground bearing pressure 125kN/m²
 - Minimum depth 0.90m below existing or proposed ground level (whichever is lower) where strata is suitable with no tree influence
 - Refer to Foundation Level Table ref: 19YHG001/2000 for plot specific anticipated foundation depths and formation levels taking account of strata and tree influence
 - Precast suspended beam & block floors, see 'void dim X' detail for sub-floor void requirements
 - Refer to Tree Heave Protection Requirements Key



Traditional Strip Foundation

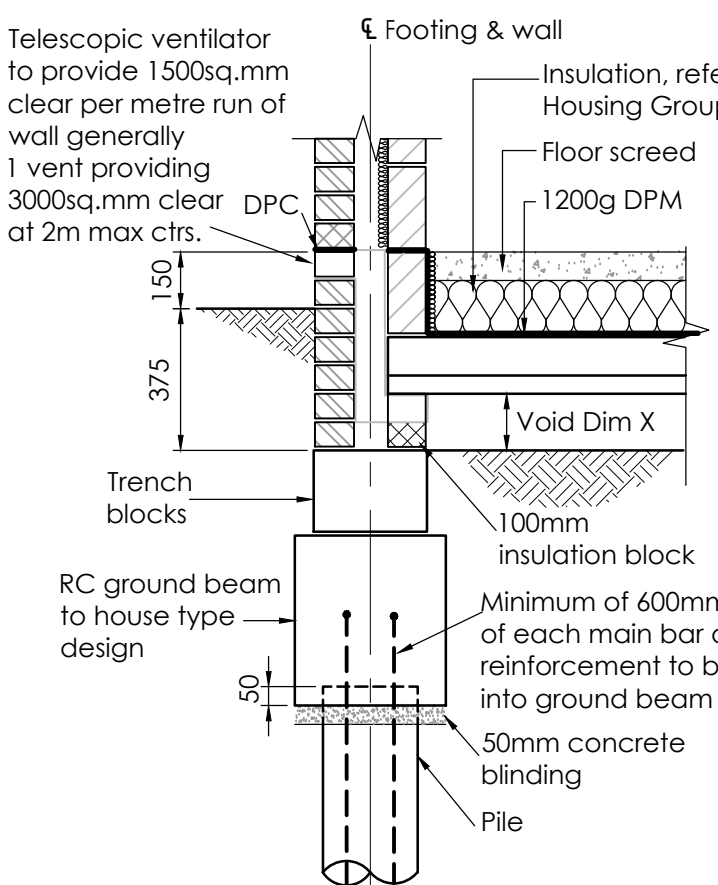
Typical section through external wall



Pile & Ground Beam Foundations

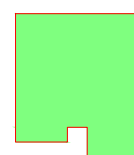
- Where anticipated depths to suitable strata are >4m
- Pile type & design by specialist
 - Piling contractor to be fully appraised of site conditions
 - Reinforced concrete ground beams to be designed in accordance with the Design Sulphate Class for the site
 - Refer to Foundation Level Table ref: 19YHG001/2000 for plot specific information
 - Precast suspended beam & block floors, see 'void dim X' for sub-floor void requirements
 - Refer to Tree Heave Protection Requirements Key

Piling Contractor to have full knowledge of site ground conditions



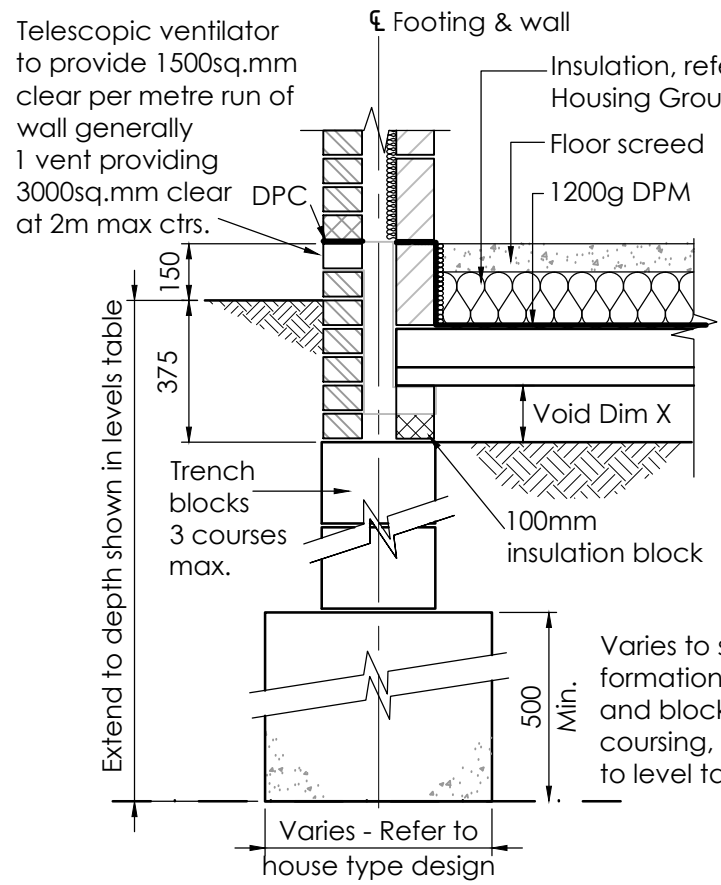
Pile & Ground Beam Foundation

Typical section through external wall



Trench Fill Foundations

- Formation depth circa. 1.325-2.00m BPGCL
- Bearing strata generally stiff clays
 - Allowable ground bearing pressure 125kN/m²
 - Minimum depth 0.90m below existing or proposed ground level (whichever is lower) where strata is suitable with no tree influence
 - Refer to Foundation Level Table ref: 19YHG001/2000 for plot specific anticipated foundation depths and formation levels taking account of strata and tree influence
 - Precast suspended beam & block floors, see 'void dim X' detail for sub-floor void requirements
 - Refer to Tree Heave Protection Requirements Key



Trench Fill Foundation

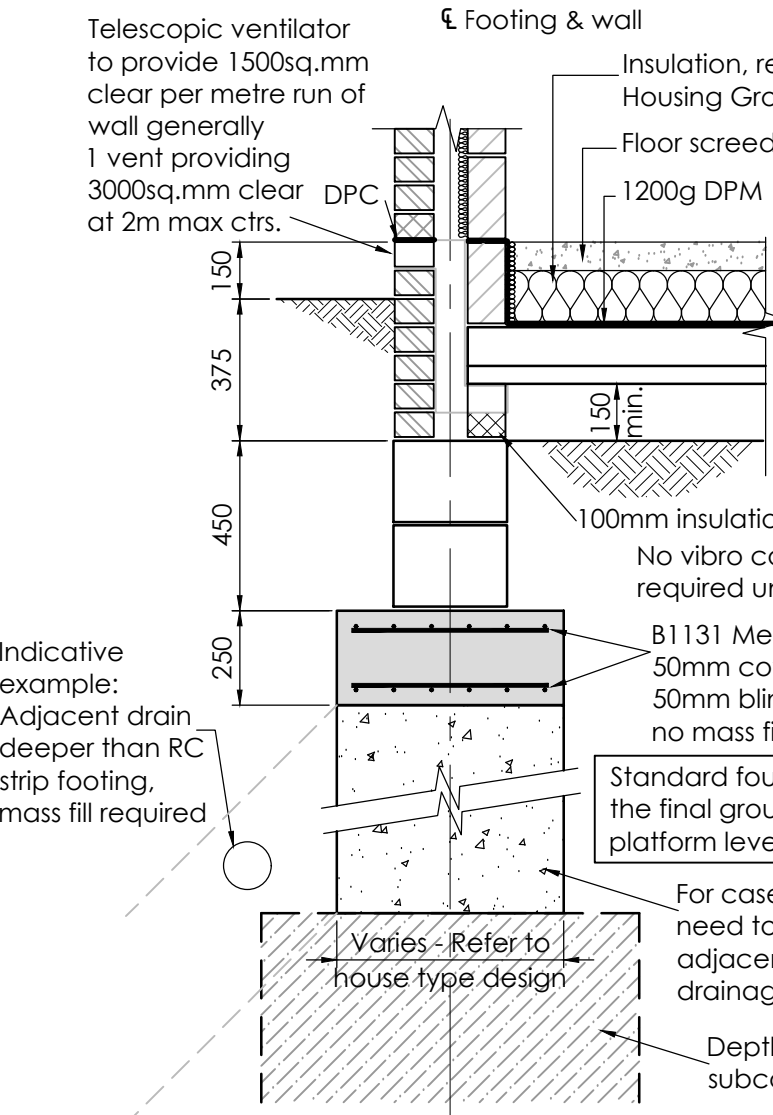
Typical section through external wall



RC Strip Foundations over Vibro Improved Ground

- Where anticipated depths to suitable strata are >2m
- Treatment type, design and depth by specialist
 - Vibro contractor to be fully appraised of site conditions
 - Refer to Foundation Level Table ref: 19YHG001/2000 for plot specific information
 - Precast suspended beam & block floors, 150mm sub-floor void
 - Maximum spacing of compaction points must not exceed 2m centres
 - Minimum improvement after treatment shall be capable of providing a safe ground bearing capacity of at least 125kN/m² at the footing formation level
 - Where the foundation formation depths need to be extended, due to adjacent drainage runs, the foundation shall be constructed in two parts i.e. Upper section: 250mm RC Strip footing. Lower section: Mass fill taken down to an approved depth and finished at the underside of the 250mm reinforced strip footing.

Subject to confirmation of Specialist Vibro Ground Improvement Contractor Vibro Contractor to have full knowledge of site ground conditions

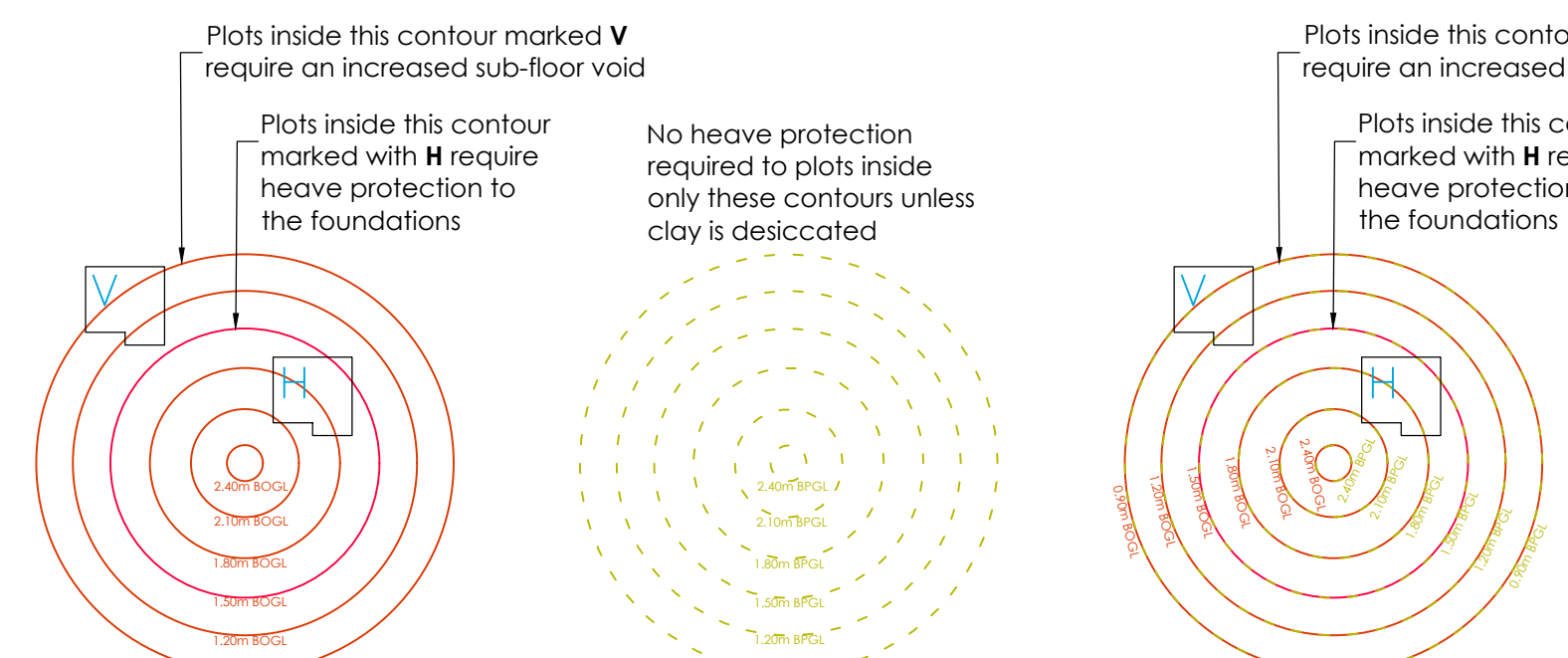


RC Strip Foundations over Vibro Improved Ground

Typical section through external wall

Heave Precaution Requirements Key

Heave protection to be provided in accordance with the tree heave protection requirements table and NHBC Standards Chapter 4.2

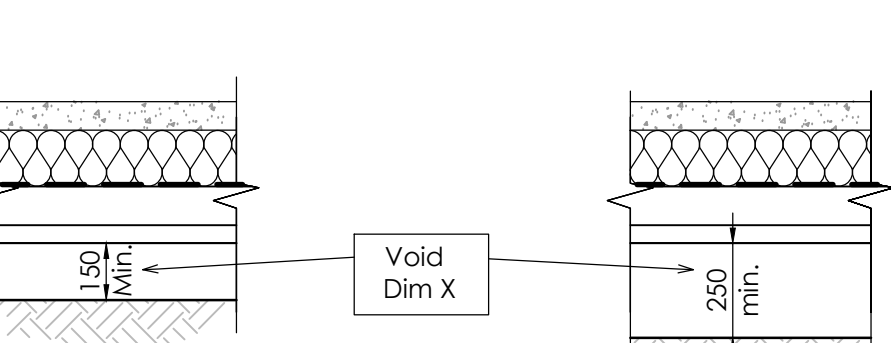


- Tree depth contours to be read from Original Ground Level (OGL) based on topo survey levels
- Tree depth contours to be read from Proposed Ground Level (PGL) based on topo survey levels
- Tree depth contours to be read from either Original or Proposed Ground Level whichever gives the deepest level based on topo survey levels

Tree contours are drawn using the appropriate height in accordance with NHBC Ch4.2 at the time of removal or assessment. Should tree heights be greater at the time of construction than those shown in the survey foundation depths may need recalculation. Refer to the site foundation levels table for plot specific foundation depths and heave protection requirements which consider site conditions, level adjustments and are derived using the rules within Ch4.2. Plot specific drawings for plots requiring deeper foundations and heave protection due to the effects of trees can be provided at clients request.

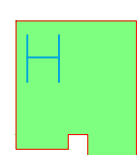
Sub-floor Void Requirements

Void Dim X



- Typical Sub-floor Void No Tree Influence
- Typical Sub-floor Void With Tree Influence

- Plots marked V on plan require an increased sub-floor void only
- Plots marked H on plan require heave protection to foundations and an increased sub-floor void

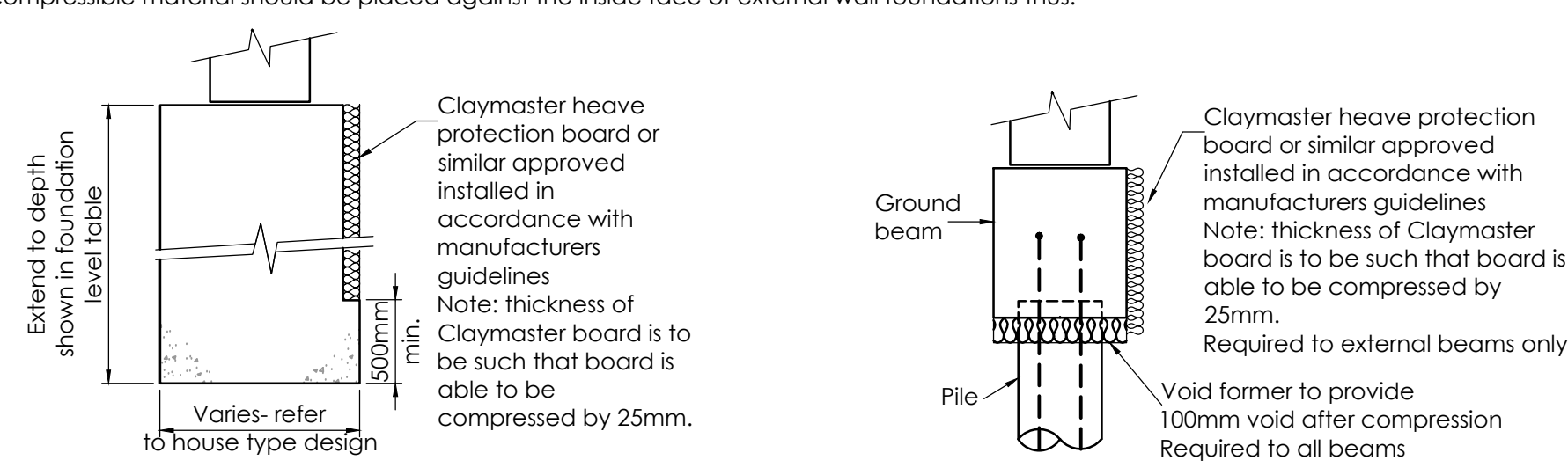


Trench Fill Foundation with Heave Protection

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Foundation Heave Protection Requirements

Where the plot has calculated tree influence to depths greater than 1.5m BOGL (based on the appropriate tree height in accordance with NHBC Standards Ch4.2) compressible material should be placed against the inside face of external wall foundations thus.



Pile & Ground Beam Foundation

scale 1:20

General

- G1 This drawing is to be read in conjunction with the following information:
Ground Investigation: Betts Geo-Environmental ref. YHG001/GI dated March 2020
Planning Layout: ref. 0723-EA-A-P002 Rev. C dated 29 June 2020
Topographical survey - AS Built Survey ref. 10012_005_01_001-07 dated 04 Sep 2020 & Bose of Dig Survey ref. 10012_004_01-07 04 Sep 2020
External Works Drawing: ELLUC ref. ELL-19045-YH-B-140-144 dated Jan 2020 (Note levels are not to the current planning layout)
Arboricultural Report: Amenity Tree Care ref: 8382-Tree Consultants Report - Edge Lane dated 29 Oct 2019
- G2 The foundation types indicated are based upon observations & field tests during the site investigation. Third party information, accepted in good faith, may also have been used in this assessment.
It should be recognised that strata may vary considerably between sampling points and that groundwater regime may be influenced by seasonal or other factors.
The foundation types, and depths where applicable, are therefore 'For Guidance Purposes Only', and should be continually reviewed in light of actual site conditions encountered during construction work and/or ongoing investigations.
- G3 With reference to Landscape proposals, it has been assumed that any new planting will be of a species, and so stated, as to not affect the proposed substructure construction.
- G4 Foundation depths and precautions to foundations and floor slabs have been assessed in accordance with NHBC Standards Chapter 4.2 'Building Near Trees'.
These have been assessed using known existing and proposed ground levels.
If proposed ground levels are amended after issue of this drawing refer to Betts Associates for further advice.
- G5 All construction work in close proximity to trees is to be in accordance with BS 5837: 2005 'Trees in relation to Construction'
- G6 Where necessary foundations may be stepped in accordance with NHBC standards and Part A of the Building Regulations.
- G7 All foundation design is based on shallow plot drainage - circa 1m deep BPGCL.
Any drainage by others that poses a risk of undermining should immediately be brought to the attention of Betts Associates and the affected plot foundation not continued.
- G8 Any deviation from schedule formation depth to be reported to Your Housing Group and Betts Associates.



Foundation Assessment Plan

Not to scale



The following summarises the main issues highlighted by the Site Investigation report, but must not be considered exhaustive.

Summary of ground conditions at shallow depth	Made ground encountered in almost all locations across site to varying depths, overlying stiff clay with occasional bands of sand.
Tree Influence?	Yes - Refer to Assessment Plan
Clay Plasticity	N/A in Sands - Medium in Clays
Groundwater and Shallow excavation instability?	Shallow groundwater was encountered within made ground and sand bands as slight to moderate seepages during site investigation. Ground water within sands likely to become running sands. Care should be taken to avoid excessive excavation into ground water within sands. Shuttering & pumping should be allowed for within tender. This may vary with seasonal / abnormal weather conditions.
Contamination	A number of contaminants discovered, to be remediated in accordance with the remediation strategy report ref: 19YHG001/RS May 2020
Obstructions	Former buried structures ie foundations and air raid shelters may remain on site and must be removed before commencement a vibro and piling works.
Mining	The site lies within an area affected by historical coal mining however into suggests no workings beneath site.
Ground Gas Protection Measures	CS1 / Green for all plots except for plots 82-87 & 201-204 which requires CS2
Radon Protection Measures	Not required
Design Sulphate Class	DS-3
ACEC Class	AC-2s
Special Requirements for concrete?	Designed mix to C28/35 strength required for reinforced foundations
Special Requirements for sub-structure masonry?	Sub-structure masonry to be suitable for the Design Sulphate class
Special requirements for sub-structure mortar?	Sub-structure mortar to be suitable for the Design Sulphate class
Flood Risk	Unknown - Further advice to be sought from specialist
Environmental Constraints	Existing trees that are to remain, local housing development
Bearing Capacity	125kN/m ² in stiff clay.
Further investigation needed	Further intensive investigation to be carried out as noted on plan Gas regime to be confirmed

Risk Items

- Potential for shallow ground water within made ground and within any sand bands
- Further ground investigation required
- Potential for ground gases local to area of contamination, which should be remediated
- Former air raid shelters (deep excavations)
- Buried structures including existing piles must be removed before commencement of vibro and piling works.
- Stockpile of Asbestos Containing Materials to be buried on site - refer to Remediation Strategy Report

Plot Specific Foundation Depths - Refer to 19YHG001/2000

The foundation solutions recommended on this drawing are based on the calculated foundation depths shown within Betts Associates Foundation Level Table Ref: 19YHG001/2000.

The levels table takes account of current site levels, proposed site levels, existing trees (retaining or removed), ground conditions.

The table must be read in order to determine plot specific foundation depths.

P4	22/09/21	Plot requiring gas protection clarified on plan	RC
P3	07/07/21	Plot 82-87 & 201-204 require CS2 gas protection	WR
P2	04/04/21	Updated following receipt of revised P3's and	RC
P1	23/07/20	Geotechnical review	RC
Sheet 1	04/04/21	Preliminary Issue	RC
Sheet 1	04/04/21	Details	RC

Drawing originator:

BETTS HYDRO
BETTS ASSOCIATES
BETTS GEO

Client:

your
HOUSING GROUP

Project title:

Edge Lane
Droydsden

Drawing title:

Foundation Assessment Plan

Scale: As Indicated for the original size of A0

Drawn by: RC
Checked by: MJF
Issued by: Date: Sep 2020

Drawing status:

Preliminary

Job No: 19YHG001
Project: BET XX 00 | DR | S | 1000

Do not scale this drawing

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