PROPOSED DEVELOPMENT ON LAND AT PARTRIDGE GREEN, HORSHAM, WEST SUSSEX

MINERALS RESOURCE ASSESSMENT

BPP CONSULTING LLP
for
CROUDACE HOMES LTD

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1. Introduction

1.1 BPP Consulting LLP was commissioned by the applicant to undertake a Minerals Safeguarding Assessment to support its planning application for the development of up to 101 residential units and associated works at land on the south west edge of Partridge Green near Horsham.

1.2 This is in response to advice received during pre-application discussion with the Local Planning Authority which advised that the site is within a Minerals Safeguarding Area and Minerals Consultation Area for Brick Clay .

2. Minerals Safeguarding Policy

2.1 The development plan includes:

- West Sussex Joint Minerals Local Plan, July 2018 (Partial Review March 2021)
- The Horsham District Planning Framework, November 2015

West Sussex Joint Minerals Local Plan, July 2018 (Partial Review March 2021)

2.2 The West Sussex Joint Minerals Local Plan (JMLP) sets out the approach to be taken and policies for the safeguarding of minerals.

2.3 Strategic Objective 5 is '*to safeguard potential economically viable mineral reserves from sterilisation*.'

2.4 Paragraph 3.3.6 describes the long-established history of extraction of clay for brick and tile-making in West Sussex, particularly the north eastern parts of the County. It identifies that there are 5 active clay sites in the County which account for 20-25% of the total supply in the Country.

2.5 Paragraph 6.5.3 identifies a total permitted reserves of clay of 18.7 million tonnes (mt). Paragraph 6.5.5 states that 3 active brickworks have in excess of 25 years of clay reserves (in line with national policy requirements) and one has 24 years, with West Hoathly brickworks having less than 10 years' reserves (it is supplied by an adjacent quarry with consent until 2028).

2.6 Paragraph 6.5.6 and Policy M5 set out the strategy for clay, including the safeguarding of brick-making clay and to allocate an extension to the claypit at West Hoathly brickworks, and allow extensions or new sites if reserves are exhausted or a particular source of clay is required.

2.7 Paragraph 6.9.10 explains that the most important clay resources included in the brick clay Mineral Safeguarding Area (MSA) are the Weald and Wadhurst clay formations.

2.8 Policy M9 *Safeguarding Minerals* safeguards existing mineral extraction sites from non-mineral development that prejudices supply, and mineral resources including brick clay from sterilisation. Non-mineral development within the MSA will not be permitted unless:

(i) Mineral sterilisation will not occur; or

(ii) It is appropriate and practicable to extract the mineral prior to the development taking place, having regards to the other policies of this Plan; or

(iii) The overriding need for the development outweighs the safeguarding of the mineral and it has been demonstrated that prior extraction is not practicable or environmentally feasible.

The Horsham District Planning Framework, November 2015

2.9 Paragraph 4.5 advises that proposals should have regard to the MSA and Minerals Consultation Area (MCA) guidance and policy produced by West Sussex County Council, and ensure that minerals and waste interests are fully considered in planning development.

2.10 Paragraph 6.9.14 explains that where non-mineral development is proposed within an MSA/MCA, a Minerals Resource Assessment will be required to be submitted with applications which will identify whether economically viable mineral resources are present and whether prior extraction is practicable. For the Minerals Planning Authority to not raise an objection it needs to be satisfied that either minerals sterilisation will not occur (because the mineral resources are not economically viable or that prior extraction can take place) or because there is an overriding need for development.

West Sussex Joint Minerals Local Plan & West Sussex Waste Local Plan – Minerals and Waste Safeguarding Guidance, March 2020

2.11 Table 1 of the Guidance requires consultation with the Minerals Planning Authority (WSCC) for all applications for 10 dwellings or more within the Wadhurst Clay and Weald Clay MCA.

2.12 A Mineral Resource Assessment (MRA) is required to demonstrate whether there will be sterilisation and whether it is appropriate or practicable to extract the mineral prior to development, or whether the overriding need for the development outweighs the safeguarding of the minerals.

2.13 Paragraph 2.8 explains that:

'An MRA should be proportional to the size of the site and the scarcity of the mineral and may include:

- *An assessment of the geological information about the site including quarrying history, geological memoirs, mineral assessments, and market appraisals;*
- *Site investigations/borehole data;*

- *Consideration of other locations for the development that are outside of the MSA;*
- *Assessment of whether the proposal can be modified to avoid sterilisation;*
- *Assessment of the potential for the use of the mineral in the proposed development and whether it is feasible and viable to extract the mineral resource ahead of the development;*
- *an explanation of the viability of prior extraction and how it will be carried out (e.g. environmental impacts, timescales, availability of the market to deal with the increase in the mineral);*
- *discussions with potential 'users' of the mineral;*
- *an explanation of how any voids will be 'backfilled' in preparation for development and/or incorporated into the design and layout of the development;'*

2.14 Paragraph 2.10 explains that proposals for prior extraction must not cause unacceptable adverse impacts to the environment and communities including from flood risk, noise, dust, highways, historic environment and biodiversity.

2.15 Key issues that therefore need to be addressed in an MRA in order to demonstrate compliance with plan policies and guidance, are:

- The underlying geology and whether sterilisation will occur;
- Whether the proposed development can be amended to avoid or reduce the amount of mineral sterilised;
- Whether prior extraction is viable, appropriate or practicable;
- Whether the need for the development outweighs the impact on and need for safeguarding of the mineral.

National Policy & Guidance

2.16 The National Planning Policy Framework (para 218) states that local planning authorities should not normally permit other development in Mineral Safeguarding Areas if it might constrain potential future use for mineral working.

2.17 Paragraph 220 (c) requires minerals planning authorities to plan for the steady and adequate supply of industrial minerals (including brick clay) maintain a stock of permitted reserves to support the level of actual and proposed investment required for new and existing plant. Footnote 78 specifies that reserves should be for at least 25 years for brick clay.

2.18 Planning Practice Guidance advises that when determining applications within a MSA, district councils should consult the mineral planning authority and take account of the minerals plan, ensuring determination is in accordance with development plan policy on minerals safeguarding and the views of the mineral planning authority.

3. The Proposed Development and Site

3.1 The proposed development is for up to 101 residential units and associated open space, vehicular and cycle access, parking and landscaping on 6.33 hectares of land on the south west edge of Partridge Green, to the west of the B2135 and south of Lock Lane.

3.2 The Site is generally level and is currently in agricultural use.

3.3 The proposed Site Location is provided in **Figure A1.1** in **Appendix 1**. The proposed Site layout (**Figure A1.2**) includes areas of open green space, landscaping and sustainable drainage schemes (SuDS).

4. Mineral Resource Assessment

4.1 This Mineral Resource Assessment seeks to address the requirements of the JMLP Policy M9 and the JMLP Minerals & Waste Safeguarding Guidance.

An assessment of the geological information about the site including quarrying history, geological memoirs, mineral assessments, and market appraisals

4.2 The Site lies within the area overlying the Weald Clay resource (**Figures A2.3 & A2.4**) and within the Brick Clay MSA and MCA (**Figures A2.1 & A2.2**). These plans illustrate the extensive area covered by the Weald Clay resource within West Sussex, and the small area and amount of clay that may be sterilised by the proposed development. **Figure A2.5** illustrates the wider extent of the Wealden Group strata (that includes the Wealden Clay formation) in Kent and East Sussex.

4.3 There is no quarrying activity on or near the Site currently. Historic maps indicate a brick and tile works at Partridge Green between c.1898 and 1952, although this is not recorded in 1961[1]. Clay extraction has occurred historically at Southwater. However, no recent geological information pertaining to the Site is readily available.

Site investigations/borehole data

4.4 Site investigations have not been undertaken specifically to assess the clay resource beneath the Site. The Phase 1 Contamination Assessment[2] accompanying the application includes a preliminary ground model identifying Weald clay to depth beneath c.1m of made ground.

4.5 The British Geological Survey GeoIndex Onshore[3] has been interrogated for borehole data. There are no BGS borehole records on the Site.

4.6 There are a number of boreholes for which data is available reasonably close to the Site which provide an indication of the underlying mineral resource.

4.7 A summary of each of the borehole records is provided in **Appendix 3** together with a map (**Figure A3.1**) showing their locations.

4.8 *Borehole TQ11NE1/A-B*: The borehole is located 1.1km south east of the Site boundary. It comprises 2 records (2b and1a). The boreholes extend to a depth of just over 4m. Borehole record 2b indicates Weald clay of various types/quality of at least c.4m depth (to the end of the borehole) beneath 0.2m

[1] Land and Science (August 2024) Phase 1 Contamination Assessment. LS7420. pp 113-135.
[2] *Ibid* Land & Science (August 2024)
[3] https://www.bgs.ac.uk/information-hub/borehole-records/

topsoil. Borehole record 1a similarly indicates clay of varying type/quality of at least c.4m depth (to the end of the borehole) beneath 0.36m topsoil.

4.9 *Borehole TQ11NE2/A-B*: The borehole is located 485m north of the Site boundary on the western edge of Partridge Green. It comprises 2 records (2b and1a). Borehole record 2b extends to a depth of 6.71m. It indicates clay of at least 5m depth beneath 1.64 made ground and gravel. Borehole 1a extends to a depth of 1.98m and indicates clay at least 1m depth beneath c.1m made ground (borehole ends at 1.98m).

4.10 There are a number of boreholes with accessible records along the A24, 3.2km to the west of the Site (boreholes TQ11NE7 – TQ11NE21). These are relatively shallow (to depth of c.2.4m) but indicate clay of varying quality (silt, sand and stone content) beneath 0.3m topsoil.

4.11 The borehole records indicate slay of varying quality likely to extend to at least 4m depth beneath 0.2-0.3m over-burden of topsoil or made ground.

4.12 The total Site area is 6.33ha (63,300m^2). Assuming clay of a depth of 4m beneath the Sie, this would equate to 253,200m^3 of clay, with an assumed tonnage (1.6t/m^3) of 405,120 tonnes.

Consideration of other locations for the development that are outside of the MSA

4.13 The clay resource and the MSA/MCA for brick clay is extensive, covering much of the County (**Figures A2.1 & A2.3**) and the majority of Horsham District (**Figure A2.2**). Much of the rest of Horsham District is covered by MCAs relating to other mineral resources (building stone, soft sand).

4.14 Environmental designations constrain development in other parts of the District including with the High Weald National Landscape covering areas to the north of the Site (east of Horsham) and the South Downs National Park to the South.

4.15 The location has been selected for the proposed development reflecting the absence of environmental designation and constraint, and the market demand and need for new housing in Horsham District.

Assessment of whether the proposal can be modified to avoid sterilisation

4.16 The Site layout includes areas of open space, landscaping and ponds (SuDS) with the developed area (residential properties and roads) comprising approximately 70% of the Site area. It is not considered feasible to modify the proposal to reduce the developed area further to reduce the amount of mineral sterilised.

Assessment of the potential for the use of the mineral in the proposed development and whether it is feasible and viable to extract the mineral resource ahead of the development

4.17 The Site is reasonably level and so there is unlikely to be a need for excavation or import of large quantities of material for landscaping and fill, and so there would be no use on-site for any clay excavated from the Site.

An explanation of the viability of prior extraction and how it will be carried out (e.g. environmental impacts, timescales, availability of the market to deal with the increase in the mineral)

4.18 Prior extraction and excavation of clay to any depth, assuming there is substantial depth (>4m) of clay beneath the site and limited (0.3m topsoil) overburden, would create a void that would require infilling with inert material and restoration of levels before development could proceed. The uncertainty over whether clay extraction and import of inert fill would be acceptable and permitted, and the period over which clay extraction and restoration would occur, would adversely affect the viability of the proposed development.

4.19 There are a number of residential properties proximate to the Site along and off the B2135 (Bines Road) which runs along the eastern boundary of the Site and Lock Lane that runs along its northern boundary. These would be vulnerable to impacts that would be likely to arise from extraction and subsequent infilling over an extended period, including noise, dust and traffic.

4.20 The West Sussex Joint Minerals Local Plan Monitoring Report 2022/23 sets out the current context of clay extraction and reserves. Permitted reserves are estimated as 12.8mt with sales of 0.28mtpa (indicating around 45 years' worth of supply in total) with 4 active brickworks, 2 of which have at least 25 years of permitted reserves.

4.21 The two closest brickworks and clay pits are at Warnham north of Horsham (c.19km from the Site) and Laybrook near Pulborough (c.13km west of the Site) which have adequate reserves of clay.

4.22 A recent refusal of planning permission for a clay pit at Loxwood (Application ref. WSCC/030/21) cited the lack of evidence of a need for a new clay extraction operation in the countryside, new clay reserves given that the brickworks have adequate reserves of clay, the lack of identified link between the site and existing brickworks, and the insignificance of the contribution (375,000 tonnes) to maintenance of supply given the amount of reserves. Thus the proposed development did not accord with Policy M5 of the JMLP. The same reasoning would apply to any proposal for extraction of clay at the application Site.

Discussions with potential 'users' of the mineral

4.23 Given the strength of argument and reasoning against extraction of clay at the Site, as described above, and the adequacy of permitted reserves of clay, discussions with potential users (Wienerberger at Warnham or Ibstock at Laybrook) have not been pursued.

An explanation of how any voids will be 'backfilled' in preparation for development and/or incorporated into the design and layout of the development

4.24 As prior extraction is not considered necessary or viable, it is not necessary to give consideration to filling of any void.

Compliance with JMLP Policy M9 - Safeguarding Minerals

4.25 Having applied the approach recommended in the Guidance (above) it has been demonstrated that there is likely to be Weald clay resource underlying the Site (based on proximate borehole data) which would be sterilised by the proposed development. Thus clause (i) of Policy M9 is not met.

4.26 However, the amount of mineral that would be effectively sterilised by the proposed development would be extremely small (based on the Site area, developed area, and assumed workable depth of clay), and insignificant in the context of the overall resource (and permitted reserves) in the County, and the amount covered by the MSA and MCA. The approach taken in this MSA is therefore considered to be proportionate/proportional, reflecting the size of the proposed development site and scarcity of the mineral.

4.27 Prior extraction is not considered to be appropriate or practicable, given the small amount of mineral involved, the lack of need for the material, the effect on the viability of the proposed development, and the potential adverse effects of extraction and subsequent restoration on proximate residential properties, which include a number of Grade II listed buildings. Thus clause (ii) is met.

4.28 The need for the development is set out fully in the planning application and associated Planning Statement and Design & Access Statement. This includes the lack of a demonstrable 5 year supply of housing land, and the Site meeting the criteria in the Horsham DC *Facilitating Appropriate Development* document.

4.29 Given the small amount of clay that would be sterilised, its insignificance in the context of the overall resource in the County and District, and the lack of need for additional clay reserves in this area and at this location, it is considered that the overriding need for the development outweighs the safeguarding of the mineral. Thus clause (iii) of the policy is satisfied.

5. Conclusion

5.1 The proposed development Site is within part of the West Sussex Brick Clay MSA and MCA.

5.2 This Minerals Resource Assessment follows the approach set out in the Minerals and Waste Safeguarding Guidance and considers compliance with the criteria in JMLP Policy M9.

5.3 The proposed development would lead to sterilisation of a small amount of Weald Clay. In the context of the wider extent of the Weald Clay resource in Horsham District, West Sussex, and also in Kent and East Sussex, the amount of clay that would be sterilised is very small and not significant.

5.4 Extraction of clay prior to the proposed development proceeding at the Site is not considered to be appropriate or practicable given the likely adverse impacts and unacceptability of extraction and subsequent infilling, the effect on the viability of the proposed development, and the lack of need for the clay.

5.5 The need for the proposed development is considered to outweigh the safeguarding of a limited amount of clay, as demonstrated in the application documents.

5.6 Thus, overall the proposed development would accord with Policy M9 of the Joint Minerals Local Plan.

Appendix 1 Site Plans

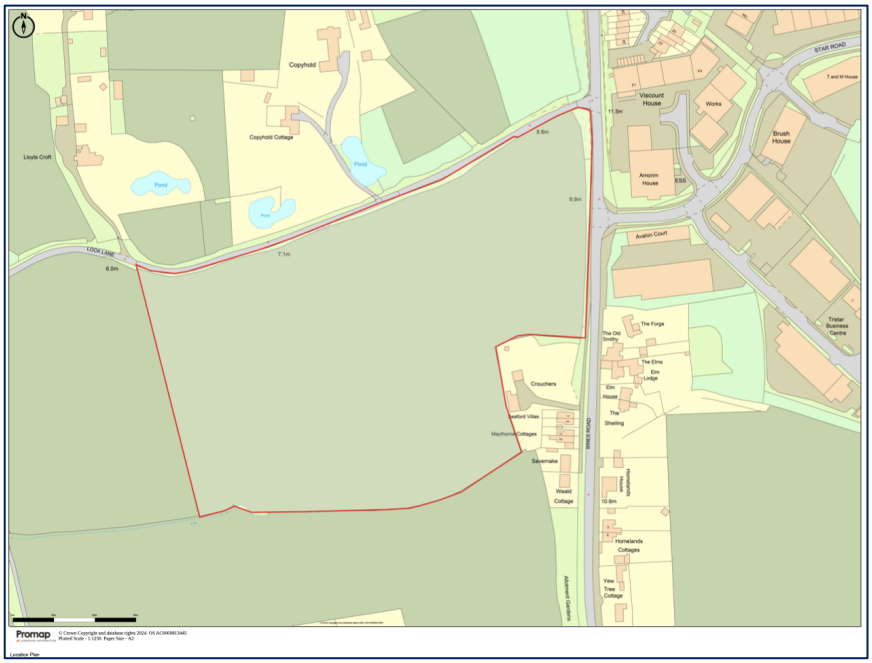

Figure A1.1 Site Location

Figure A1.2 Proposed Site Layout

Appendix 2 Mineral Safeguarding and Mineral Resources

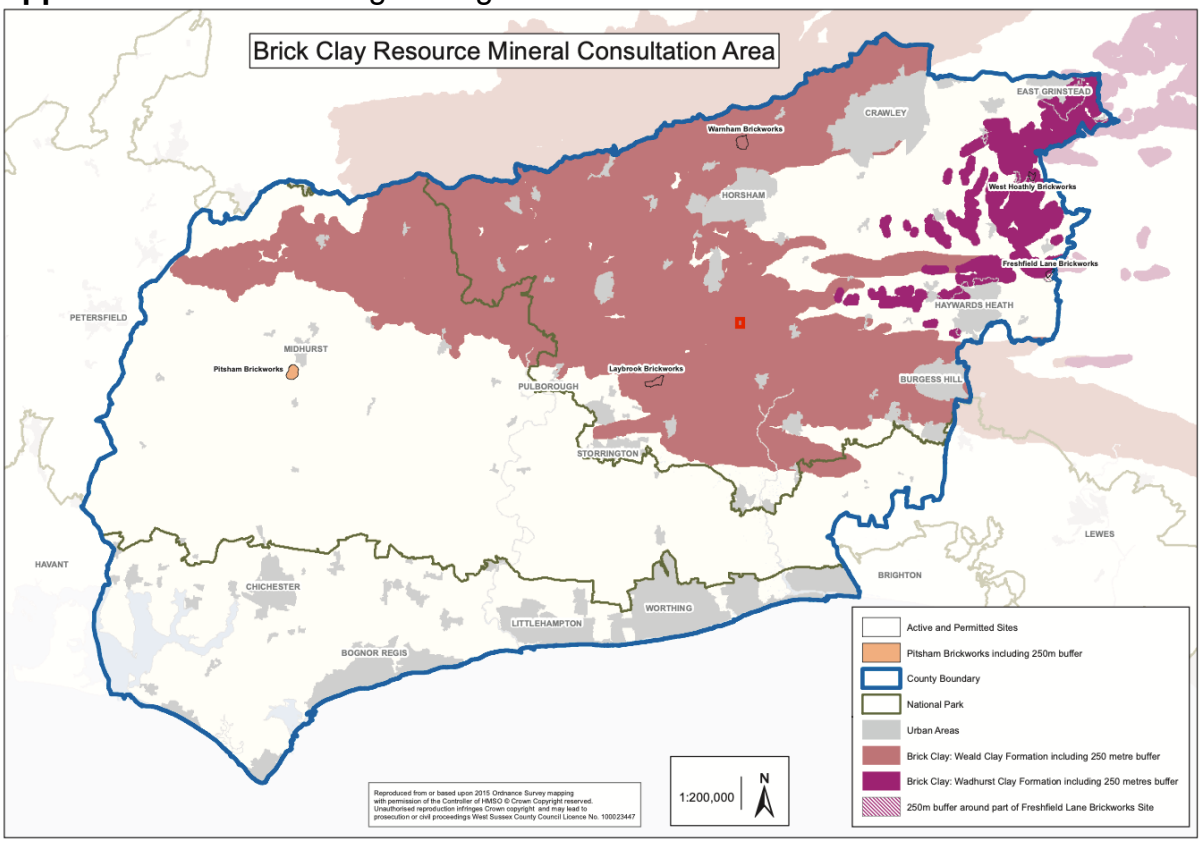

Figure A2.1 Mineral Consultation Area (MCA) for Brick Clay (Appendix E of the *West Sussex Joint Minerals Local Plan*). Site location illustrated (red box)

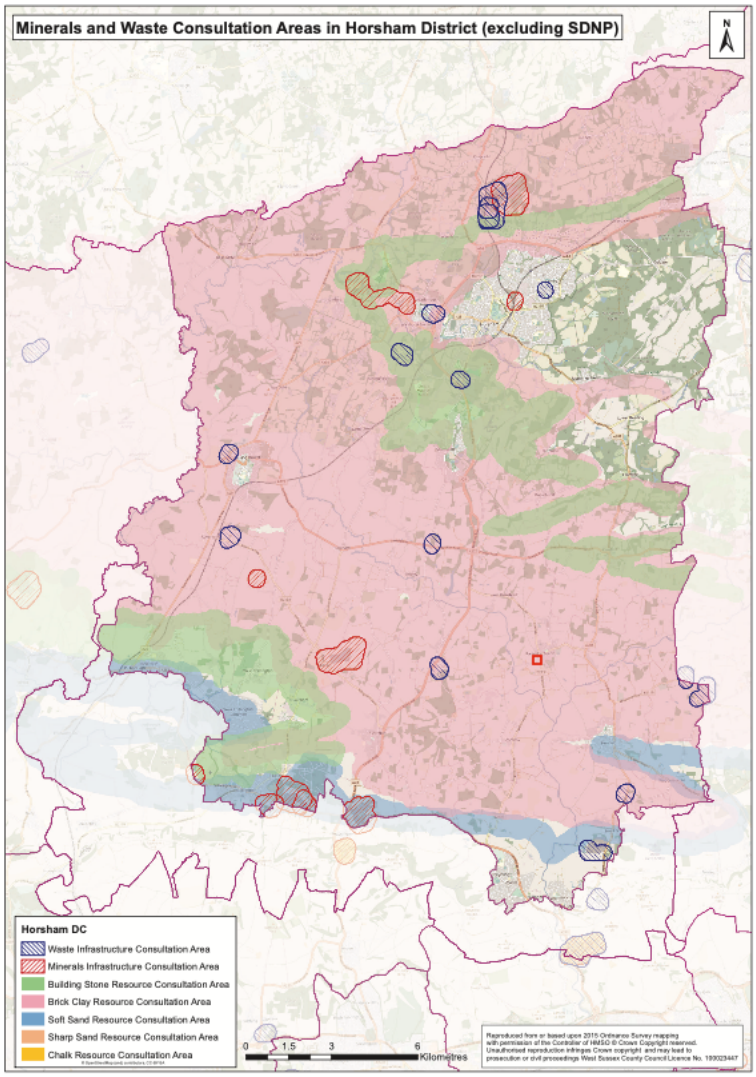

Figure A2.2 Mineral Consultation Area in Horsham District (from WSCC *Minerals & Waste Safeguarding Guidance).* Site location illustrated (red box)

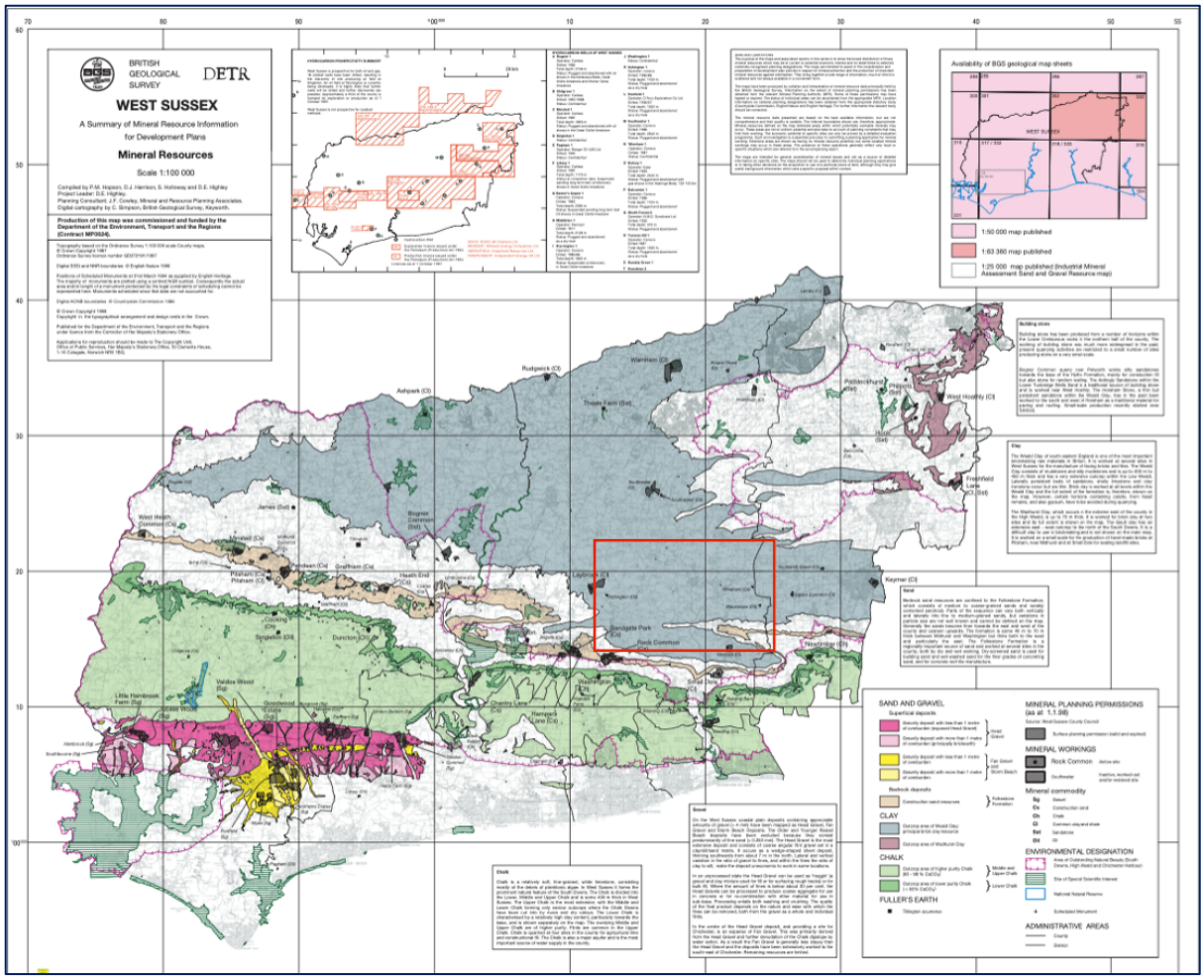

Figure A2.3 Mineral Resource Map with inset map area (Figure A2.4) identified (in red)

Figure A2.4 Inset map and location of the application Site (red box)

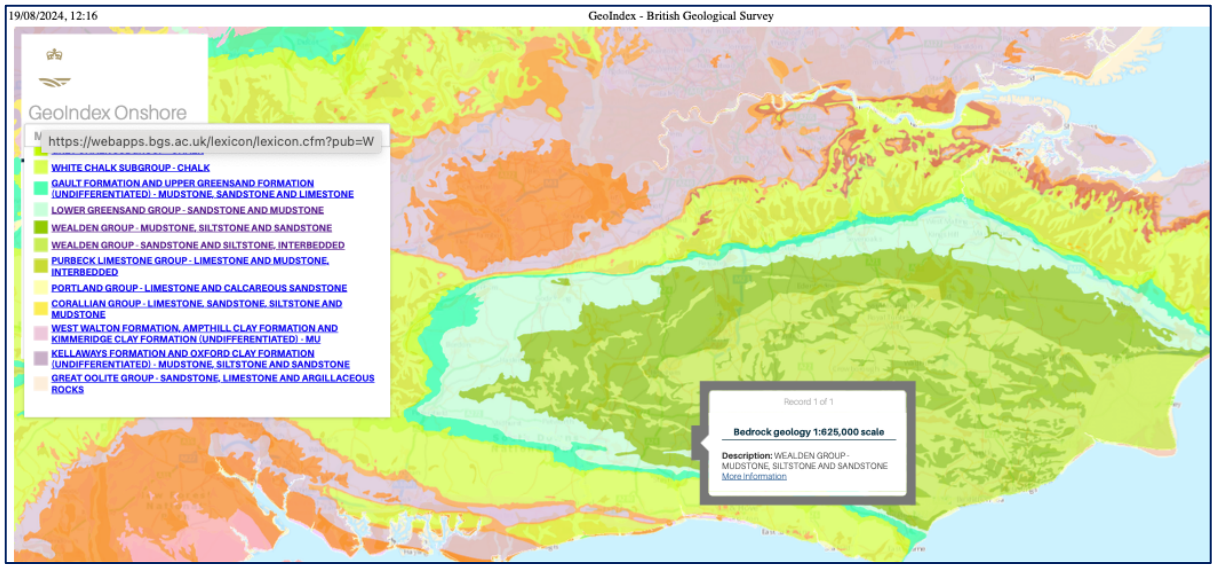

Figure A2.5 Extent of Wealden Group geology (which includes the Weald Clay Formation)

APPENDIX 3 BGS GeoIndex Borehole Records

Table A3.1 Summary of Borehole Data

Borehole	Summary	Comments
Partridge Green		
TQ11NE1/A-B (1960) Borehole no.2b	0.2m TOPSOIL, over 0.3m Firm brown CLAY with rootlets, over 0.4m Firm brown-grey mottled CLAY with rootlets, over 1m Firm/stiff brown-grey mottled silty CLAY, over 1.9m Stiff brown-grey laminated fissured silty CLAY, over 1.5m Stiff blue-grey CLAY Borehole ends at 4.32m	Clay of various types/quality of at least c.4m depth beneath 0.2m topsoil
TQ11NE1/A-B (1960) Borehole no.1a	0.36m TOPSOIL, over 0.4m Firm to stiff light brown-grey CLAY with yellow silt and rootlets, over 0.3m Firm reddish brown CLAY with yellow silt, over 0.56 Stiff to firm light brown silty CLAY, over 0.25m Soft to firm grey-brown CLAY, over 0.9m Firm brown fissured CLAY with grey softened fissures, over 0.84m Stiff brown fissured silty CLAY, over 0.58m Stiff blue-grey silty clay Borehole ends at 4.39m	Clay of varying type/quality of at least c.4m depth beneath 0.36m topsoil
TQ11NE2/A-B (1964) Borehole no.2b	0.84m Made Ground, over 0.84m Loose fine medium GRAVEL with sand, over 5.03m Firm brown & grey mottled CLAY with fine decaying roots – soft with some silt, becoming firmer at 4.6m and firm to stiff CLAY at 5.5m Borehole ends at 6.71m	Clay of varying quality at least 5m depth beneath 1.64 made ground and gravel
TQ11NE2/A-B Borehole no.1a	0.91m MADE GROUND, over 0.61m Soft grey organic silty clay, over 0.46m Firm light brown & grey mottled CLAY Borehole ends at 1.98m	Clay at least 1m depth beneath c.1m made ground

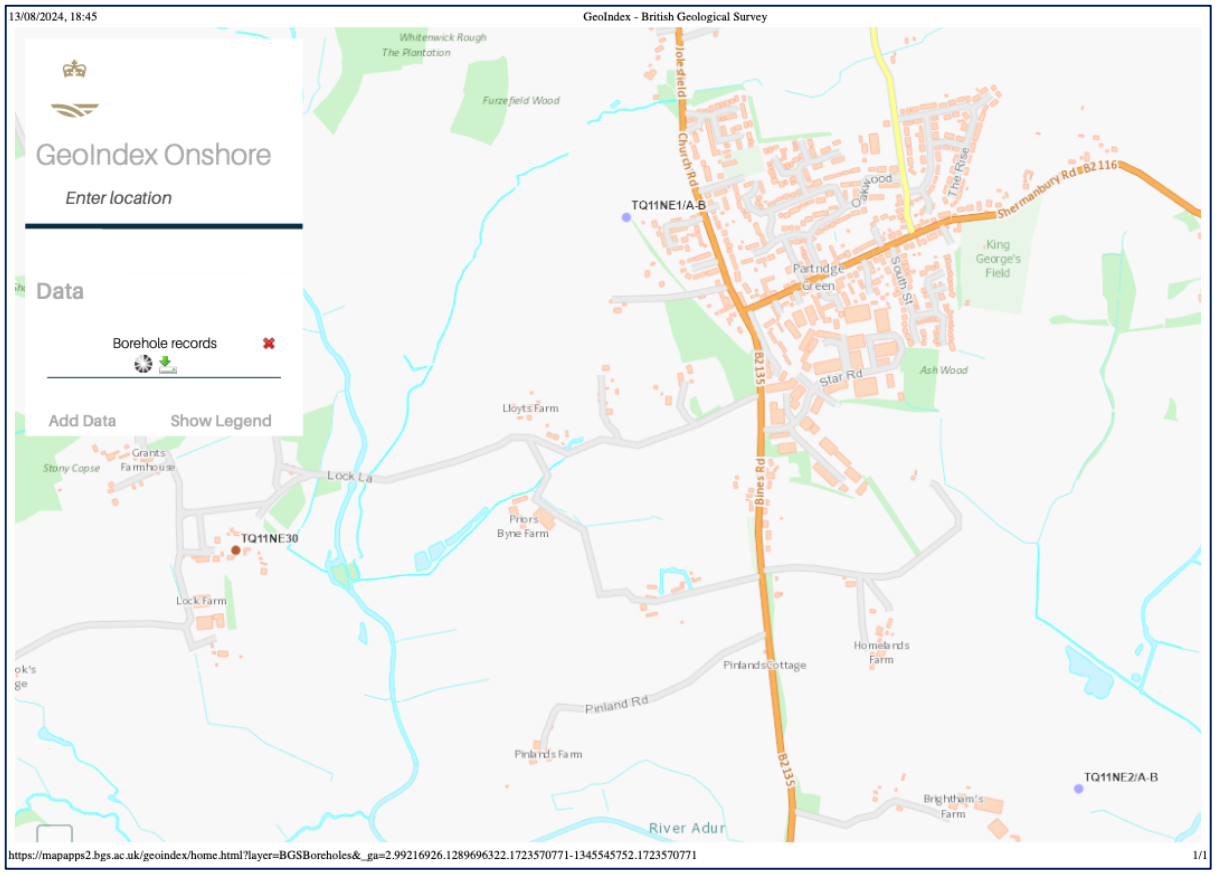

Figure A3.1 Borehole locations at Partridge Green (TQ11NE1/A-B & TQ11NE2/A-B)