

SCHEDULE A: Applications with Recommendation

18/0742

Item No: 06

Date of Committee: 11/01/2019

Appn Ref No:
18/0742

Applicant:
Mr Wilding

Parish:
Wetheral

Agent:
Ian Cleasby Drafting &
Design

Ward:
Wetheral

Location: Land west of Longlands Head, The Stripes, Cocklakes, Cumwhinton

Proposal: Erection Of 2no. Detached Dwellings (Outline)

Date of Receipt:
23/08/2018

Statutory Expiry Date
18/10/2018

26 Week Determination

REPORT

Case Officer: Stephen Daniel

ADDENDUM

This application was deferred by Members of the Development Control Committee at the meeting on 12th October 2018 in order to commission an independent engineers report on previous mine workings in the area and any implications for the proposed development.

Bingham Yates Ltd (BYL) has been commissioned to consider the implications of previous mine workings on the proposed development. It has commissioned Arc Environmental Limited (ARC) to undertake a gypsum mining risk assessment for the application site. The findings of the report are summarised below:

- In accordance with published British Geological Survey (BGS) maps the site is shown to be initially overlain by drift deposits comprising Glacial Till. These deposits normally comprise firm and stiff, sandy, gravelly clays which contain occasional cobbles and boulders and are expected to be c.10m in thickness below this part of Cumwhinton. The underlying bedrock deposits consist of the St Bees Sandstone Formation of Triassic age. The Eden Shale Formation of Permian age lies below the St Bees Sandstone Formation within the geological succession. Gypsum / anhydrite deposits (B-Bed evaporite gypsum) are present within the Eden Shales Formation below this part of Cumwhinton.

- Gypsum / anhydrite deposits were extensively extracted together at Cocklakes Mine. In accordance with BGS maps, the B-Bed evaporite gypsum subcrops c.1km to the south and south-east of the site area, where it is present at or close to

rockhead level and due to its dip direction, this layer progressively becomes deeper to the north, away from the subcrop positioning. The B-Bed evaporite gypsum was historically extracted by quarrying activities close to its subcrop positioning, c.1km to the south of the site.

- To determine the extent of gypsum / anhydrite extraction below the site and nearby adjacent land, mine abandonment plans were obtained from the Minerals & Estates Manager at British Gypsum Saint-Gobain. The mine abandonment plans procured show partial workings below the southern portion of the site, and workings which encroach along the northern site boundary. The central parts of the site do not appear to have been undermined. It is believed that the extraction process below the site consisted of pillar-and-stall where large pillars were left behind in the ground for stability purposes. Based on contours relating to the floor of the workings, which are recorded on the mine abandonment plans and using a site level of 66m AOD, the base of the gypsum / anhydrite workings are in the order of between c.105m and c.99m below the eastern and western parts of the site, respectively.

- For completeness and to further verify the geological succession and depth to gypsum / anhydrite workings below the site, historical borehole data was obtained from the BGS. The borehole data refers to an exploratory borehole sunk within proximity to the site, to the south-west. At the borehole location, gypsum / anhydrite deposits with a maximum bed thickness of c.5.49m were recorded at a depth of c.89.46m which generally corroborates with the estimated depth based on the mine abandonment plan obtained.

- Whilst gypsum / anhydrite deposits have been partially extracted below the site area, given the depth to workings (c.100m depth), it is felt that the risk of future surface instability occurring at the surface as a direct result of this mining legacy is deemed to be negligible.

- In addition to the above, for completeness ARC would recommend that all new buildings proposed for this site are constructed on a suitably stiffened / reinforced raft foundation.

BYL has submitted a covering letter with the ARC report. This refers to the conclusions and recommendations in the report, which states that the risk of future instability due to mining extraction is deemed to be negligible. Therefore, BYL reaffirms that there should be no significant detrimental effects in relation to the proposed development. It should also be noted, however, that ARC does recommend that a stiffened/reinforced raft foundation is provided, and BYL reaffirms that this is sensible, if only to mitigate against any possible uncharted activities which could be present.

A condition has, therefore, been added which requires details of the proposed foundations to be submitted for approval in writing by the Local Planning Authority.

1. Recommendation

1.1 It is recommended that this application is approved with conditions.

2. Main Issues

- 2.1 Principle Of Development
- 2.2 Whether The Scale And Design Is Acceptable
- 2.3 Impact On The Living Conditions Of The Occupiers Of Neighbouring Properties
- 2.4 Highway Matters
- 2.5 Drainage Matters
- 2.6 Biodiversity
- 2.7 Subsidence

3. Application Details

The Site

- 3.1 The application site, which measures 0.44 hectares, is a paddock that lies to the rear (west) of the dwelling known as Longlands Head. A timber fence forms the boundary between the paddock and the garden of Longlands Head, with the other boundaries to the paddock consisting of hedgerows and some trees. Back Lane adjoins the western site boundary and this links The Stripes with Cumwhinton.
- 3.2 A dwelling (Oakwood) lies to the south of the application site. A dwelling is currently under construction on the land to the east of Oakwood and planning permission has been granted for the erection of dwelling on land to the west of Oakwood. A field lies directly to the north of the application site.

The Proposal

- 3.3 The application is seeking outline planning permission for the erection of two dwellings on the site. The application is seeking approval for the layout, scale and access, with the appearance of the dwellings and the landscaping being reserved for subsequent approval.
- 3.4 The site layout plan that has been submitted with the application shows two large detached five bedroom properties set within extensive plots. The application form makes reference to two-storey dwellings.
- 3.5 One of the dwellings would be located in the eastern corner of the paddock close to the boundary with Oakwood and would be set back 45m from Back Lane. The other dwelling would be located towards the eastern corner of the site and would be set back 25m from Back Lane and would be 25m from the boundary with Oakwood.
- 3.6 A single, shared access would be provided adjacent to Back Lane and this would serve two private driveways that would serve the dwellings. Large parking and turning areas are shown to the front of the dwellings.
- 3.7 Foul drainage would discharge to a package treatment plant, with surface water discharging to a soakaway. The site layout plan shows soakaway

mounds located towards the front of the site.

4. Summary of Representations

- 4.1 This application has been advertised by means of a site and notification letters sent to two neighbouring properties. No verbal or written representations have been received during the consultation period.

5. Summary of Consultation Responses

British Gypsum: - the depth of the mine workings is ~100 metres below surface, the height of the room and pillar workings is not clear similar mine workings at Kirkby Thore are up to 9 metres in height. British Gypsum holds no records of the condition of the mine workings in this area, though it anticipates that they would be flooded. The applicant/council would need to satisfy themselves that any subsidence would not damage the proposed dwellings, garden and access road (which are above worked areas). We would typically advise a draw angle from any underground subsidence to the surface of up to 30 degrees;

Local Environment - Environmental Protection: - no comments received;

Cumbria County Council - (Highways & Lead Local Flood Authority): - no objections subject to conditions;

Wetheral Parish Council: objects to the proposal. Members are seriously concerned regarding the site's proximity to the old gypsum works underground which is known to have caused subsidence in properties in the area. In addition, the access from the development is on to a narrow lane restricting movement from the site. Request a site visit of the Development Control Committee;

United Utilities: the scheme should be implemented in accordance with the surface water hierarchy. UU does not provide wastewater services in this area.

6. Officer's Report

Assessment

- 6.1 Section 54a of the Town and Country Planning Act 1990/Section 38(6) of the Planning and Compulsory Purchase Act 2004, requires that an application for planning permission is determined in accordance with the provisions of the Development Plan unless material considerations indicate otherwise.
- 6.2 The relevant planning policies against which the application is required to be assessed are the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG) and Policies SP2, SP6, H02, GI3, GI6, IP3, IP4, IP6, CC5 and CM5 of the Carlisle District Local Plan (CDLP) 2015-2030. The Supplementary Planning Documents 'Achieving Well Designed Housing' is

also a material planning consideration.

6.3 The proposal raises the following planning issues.

1. Principle Of Development

6.4 In respect of dwellings outside villages in the rural area Paragraph 79 of the NPPF outlines that local planning authorities should avoid new isolated homes in the countryside unless there are special circumstances. The NPPF identifies five special circumstances as: the essential need for a rural worker to live permanently at or near their place of work in the countryside; or where such development would represent the optimal viable use of a heritage asset or would be appropriate enabling development to secure the future of heritage assets; or where the development would re-use redundant or disused buildings and enhance its immediate setting; or the development would involve the subdivision of an existing dwelling; or the design is of exceptional quality (truly outstanding or innovative).

6.5 Ordinarily, new residential development in this rural location would be unacceptable. A significant amount of material weight, however, has to be given to the fact that planning permission has been granted for residential development on other sites at The Stripes (application references 13/0899, 14/0967, 16/0140, 16/1014 and 17/0198), including at Oakwood in May 2017, which adjoins the application site to the south. On this basis, it is considered that the residential development on the application site would be acceptable in principle.

2. Whether The Scale And Design Is Acceptable

6.6 The proposal is in outline but approval is sought for the layout and scale of the proposed dwellings. The site layout plan shows two large detached five bedroom properties which would be a minimum of 20m apart. One of the dwellings would be set back 45m from Back Lane with the other being set back 25m. The dwellings have been positioned so that they are sited on un-mined ground. Whilst the dwellings would be large, they would be located within extensive plots. The proposed layout is, therefore, considered to be acceptable.

6.7 The application form makes reference to two-storey dwellings. Oakwood that lies to the south of the site and Longlands Head, that adjoins the site to the west, are two-storey dwellings. Two-storey dwellings on the site would, therefore, be acceptable.

6.8 In light of the above, the layout and scale of the proposed dwellings would be acceptable. The appearance of the dwellings will be determined through a subsequent Reserved Matters application.

3. Impact On The Living Conditions Of The Occupiers Of Neighbouring Properties

6.9 Policy SP6 (Securing Good Design) of the CDLP seeks to ensure that

development proposals should have no adverse effect on the residential amenity of existing areas or adjacent land uses, or result in unacceptable conditions for future users and occupiers of the development. Policy H02 (Windfall housing Developments) also confirms that proposals should be compatible with adjacent land users.

- 6.10 The City Council's Supplementary Planning Document on Achieving Well Designed Housing outlines in paragraph 5.40 that the respect for personal privacy is essential in determining the layout of new housing. Protection of privacy relates to views to and from the street, to outdoor space and views between rooms within separate dwellings. Consideration should be given to the relationship between existing neighbouring uses and any new development as well as within the development site.
- 6.11 Longlands Head is located approximately 40m from the eastern boundary of the application site, whilst Oakwood is located approximately 15m from the southern boundary. Given these separation distances, it is clear that the two dwellings could be accommodated on the site, in the locations proposed, without having an adverse impact on the occupiers of these neighbouring properties.
- 6.12 The detailed design of the dwellings will be determined through a subsequent Reserved Matters application. If it is deemed necessary, elevations can be designed so that they don't contain any primary windows.
- 6.13 In light of the above, the proposal would not have an adverse impact on the living conditions of the occupiers of any neighbouring properties through loss of light, loss or privacy or over-dominance.

4. Highway Matters

- 6.14 The Parish Council has raised concerns about the proposed access to the site, which is onto a narrow lane restricting movement from the site.
- 6.15 The Local Highway Authority has been consulted on the application and has raised no objections to the proposed development, which it considers would not have a material effect on existing highway conditions. It has suggested the imposition of a number of conditions one of which requires the provision of visibility splays (prior to development of the site commencing) which would provide clear visibility of 60m in both directions. Another condition requires the access and parking requirements to be substantially met before any building work commences on site so that construction traffic can park and turn clear of the highway. The imposition of these conditions will ensure that the proposal does not have an adverse effect on the local highway network.

5. Drainage Matters

- 6.16 Policies IP6 and CC5 of the CDLP seek to ensure that development proposals have adequate provision for the disposal of foul and surface water. The application form outlines that foul sewage would discharge to a package treatment plant and surface water would discharge to a soakaway. The

principle of these means of disposal is acceptable.

- 6.17 Building Control will assess the acceptability of the proposed foul and surface water drainage under their legislation.

6. Biodiversity

- 6.18 The site is currently a grass paddock, which is mown on a regular basis, and is of low ecological value. Hedgerows, which contain a number of trees, form three of the site boundaries. A 15m section of hedgerow on the western site boundary adjacent to Back Lane would need to be removed to provide the access, with additional hedgerow having to be removed to provide the required visibility splays. The removal of sections of this hedgerow will have an adverse impact on biodiversity.
- 6.19 To mitigate for the loss of this hedgerow, replacement hedgerow planting will need to be take place within the site, together with some tree planting. Other wildlife enhancement measures could also be incorporated into the dwellings.
- 6.20 In order to ensure that the proposal does not have an adverse impact on biodiversity, conditions have been added to the permission which prevent hedgerow removal in the bird breeding season and which require the submission of a landscaping scheme and wildlife enhancement measures for approval by the LPA.

7. Subsidence

- 6.21 The site falls within the safeguarding area associated with the British Gypsum mine known as Cocklakes. Paragraph 170 of the NPPF highlights that the planning system should contribute to and enhance the natural and local environment by, amongst other things, preventing new development from being put at unacceptable risk from land instability. Paragraph 178 states that planning decisions should ensure that a site is suitable for its proposed use taking account of ground conditions and any risks arising from land instability. This includes risks arising from natural hazards or former activities such as mining. Paragraph 179 states that where a site is affected by land stability issues, responsibility for securing a safe development rests with the -developer and/ or landowner.
- 6.22 The Parish Council has raised concerns about the site's proximity to the old gypsum works underground which is known to have caused subsidence in properties in the area. In response, the applicant, who has lived in the area for over 20 years, has stated that there are no known cases of subsidence in the area, and the only case of a house which suffered from movement turned out to be badly built foundations, and was nothing to do with mining subsidence.
- 6.23 British Gypsum has been consulted on the application. It has confirmed that the depth of the mine workings is approximately 100m below surface and whilst the height of the workings is not clear, similar mine workings at Kirby

There are up to 9m in height. Whilst British Gypsum has no records of the condition of the mine workings in this area it anticipates that they would be flooded. The applicant/ council would need to satisfy themselves that any subsidence would not damage the proposed dwellings, gardens and access road.

- 6.24 Officers in Building Control have been consulted on the application. They have confirmed that the proximity of the mines, including any potential effects caused by subsidence, would be considered during the Building Control process.

Conclusion

- 6.25 In overall terms, the principle of the development is acceptable in this location. The layout and scale would be acceptable and the appearance of the dwellings would be determined through a future Reserved Matters application. It is clear that two dwellings could be accommodated on the site without having a detrimental impact on the occupiers of any neighbouring properties. The proposal access would be acceptable and conditions have been added to deal with surface water drainage and biodiversity. In all aspects the proposal is compliant with the relevant policies in the adopted Local Plan.

7. Planning History

- 7.1 There is no relevant planning history relating to this site.

8. Recommendation: Grant Permission

1. In case of any "Reserved Matter" application for approval shall be made not later than the expiration of 3 years beginning with the date of this permission, and the development shall be begun not later than whichever is the later of the following dates:
 - i) the expiration of 3 years from the date of the grant of this permission, or
 - ii) the expiration of 2 years from the final approval of the reserved matters, or, in the case of approval on different dates, the final approval of the last such matter to be approved.

Reason: In accordance with the provisions of Section 92 of the Town and Country Planning Act 1990 (as amended by The Planning and Compulsory Purchase Act 2004).

2. Before any work is commenced, details of the appearance and landscaping of the site (hereinafter called "reserved matters") shall be submitted to and approved by the local planning authority.

Reason: The application was submitted as an outline application in

accordance with the provisions of Article 3 of the Town and Country Planning (General Development Procedure) Order 1995.

3. The development shall be undertaken in strict accordance with the approved documents for this Outline Permission which comprise:

1. the submitted planning application form received 9th August 2018;
2. the Location Plan (scale 1:1250) received 9th August 2018;
3. the Block Plan (scale 1:500) received 9th August 2018;
4. the Site Layout Plan (drawing number 624-1) received 9th August 2018;
5. the Visibility Splay Plan (drawing number 624-2) received 9th August 2018;
6. the Mined Area Plan (drawing number 624-3) received 9th August 2018;
7. the Design and Access Statement received 9th August 2018;
8. the Desktop Study received 23rd August 2018;
9. the Notice of Decision; and
10. any such variation as may subsequently be approved in writing by the Local Planning Authority.

Reason: To define the permission.

4. Samples or full details of all materials to be used on the exterior shall be submitted to and approved in writing by the Local Planning Authority prior to their first use on site.

Reason: To ensure the works harmonise as closely as possible with dwellings in the vicinity and to ensure compliance with Policy SP6 of the Carlisle District Local Plan 2015-2030.

5. No development shall take place until full details of hard and soft landscape works, including a phased programme of works, have been submitted to and approved in writing by the Local Planning Authority and these works shall be carried out as approved prior to the occupation of any part of the development or in accordance with the programme agreed by the Local Planning Authority. Any trees or other plants which die or are removed within the first five years following the implementation of the landscaping scheme shall be replaced during the next planting season.

Reason: To ensure that a satisfactory landscaping scheme is prepared and to ensure compliance with Policy SP6 of the Carlisle District Local Plan 2015-2030.

6. The details of any walls, gates, fences and other means of permanent enclosure and/or boundary treatment to be erected shall be submitted to and approved, in writing, by the Local Planning Authority. The boundary treatment shall then be erected in strict accordance with these details.

Reason: To ensure the design and materials to be used are appropriate

and to ensure compliance with Policy SP6 of the Carlisle District Local Plan 2015-2030.

7. Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 1995 (or any Order revoking and re-enacting that Order) there shall be no enlargement or external alterations to the dwellings to be erected in accordance with this permission, within the meaning of Schedule 2 Part (1) of these Orders, without the written approval of the Local Planning Authority.

Reason: To ensure that the character and attractive appearance of the buildings is not harmed by inappropriate alterations and/or extensions and that any additions which may subsequently be proposed satisfy the objectives of Policy SP6 of the Carlisle District Local Plan 2015-2030.

8. Prior to the commencement of development, the applicant shall submit details of hedgerow protection fencing to be installed on the site for approval in writing by the Local Planning Authority. This fencing shall be erected prior to the commencement of development and shall remain in place until the works are completed.

Reason: To ensure that the existing hedgerow is protected in accordance with Policy GI6 of the Carlisle District Local Plan 2015-2030.

9. No development shall commence until full details of the wildlife enhancement measures to be undertaken at the site (together with the timing of these works) have been submitted to and approved in writing by the Local Planning Authority. The development shall then be carried out in strict accordance with the agreed details.

Reason: In order to enhance the habitat for wildlife in accordance with Policy GI3 of the Carlisle District Local Plan 2015-2030.

10. Prior to the occupation of the dwelling hereby permitted suitable receptacles shall be provided for the collection of waste and recycling in line with the schemes available in the Carlisle District.

Reason: In accordance with Policy SP6 of the Carlisle District Local Plan 2015-2030.

11. Adequate infrastructure shall be installed to enable telephone services, broadband, electricity services and television services to be connected to the premises within the application site and shall be completed prior to the occupation of the dwelling.

Reason: To ensure adequate provision of infrastructure and to accord with Policy IP4 of the Carlisle District Local Plan 2015-2030.

12. In the event that contamination is found at any time when carrying out the

approved development that was not previously identified it must be reported in writing immediately to the Local Planning Authority. An investigation and risk assessment must be undertaken and where remediation is necessary a remediation scheme must be prepared, which is subject to the approval in writing of the Local Planning Authority.

Site investigations should follow the guidance in BS10175.

Following completion of measures identified in the approved remediation scheme a verification report must be prepared, which is subject to the approval in writing of the Local Planning Authority.

Reason: To ensure that risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

13. No construction work associated with the development hereby approved shall be carried out before 07.30 hours or after 18.00 hours Monday to Friday, before 07.30 hours or after 16.00 hours on Saturdays, nor at any times on Sundays or Bank Holidays.

Reason: To prevent disturbance to nearby occupants in accordance with Policy SP6 of the Carlisle District Local Plan 2015-2030.

14. The development shall not commence until visibility splays providing clear visibility as shown on Drawing No 624-2 of 60m in both directions measured 2.4m down the centre of the access road and the nearside channel line of the major road have been provided at the junction of the access road with the county highway. Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) (England) Order 2015 (or any Order revoking and re-enacting that Order) relating to permitted development, no structure, vehicle or object of any kind shall be erected, parked or placed and no trees, bushes or other plants shall be planted or be permitted to grown within the visibility splay which obstruct the visibility splays. The visibility splays shall be constructed before general development of the site commences so that construction traffic is safeguarded.

Reason: In the interests of highway safety and to support Local Transport Plan Policies LD7 & LD8.

15. Any existing highway fence/wall boundary shall be reduced to a height not exceeding 1.0m above the carriageway level of the adjacent highway in accordance with details submitted to the Local Planning Authority and which have subsequently been approved (before development commences) (before the development is brought into use) and shall not be raised to a height exceeding 1.0m thereafter.

Reason: In the interests of highway safety and to support Local Transport Plan Policies LD7 & LD8.

16. The access drive shall be surfaced in bituminous or cement bound materials, or otherwise bound and shall be constructed and completed before the development is brought into use. This surfacing shall extend for a distance of at least 11 metres inside the site, as measured from the carriageway edge of the adjacent highway.

Reason: In the interests of highway safety and to support Local Transport Plan Policies LD5, LD7 & LD8.

17. The dwelling shall not be occupied until the vehicular access and turning requirements have been constructed in accordance with the approved plan and has been brought into use. The vehicular access turning provisions shall be retained and capable of use at all times thereafter and shall not be removed or altered without the prior consent of the Local Planning Authority.

Reason: To ensure a minimum standard of access provision when the development is brought into use and to support Local Transport Plan Policies LD5, LD7 and LD8.

18. The access and parking/turning requirements shall be substantially met before any building work commences on site so that constructional traffic can park and turn clear of the highway.

Reason: The carrying out of this development without the provision of these facilities during the construction work is likely to lead to inconvenience and danger to road users and to support Local Transport Policy LD8.

19. Details of all measures to be taken by the applicant/developer to prevent surface water discharging onto or off the Highway shall be submitted to the Local Planning Authority for approval prior to development being commenced. Any approved works shall be implemented prior to the development being completed and shall be maintained operational thereafter.

Reason: In the interests of highway safety and environmental management and to support Local Transport Plan Policies LD7 & LD8.

20. Prior to the commencement of development, the applicant shall submit details of the proposed foundations (stiffened/reinforced raft foundation) for approval in writing by the Local Planning Authority. The development shall then be undertaken in strict accordance with these details.

Reason: To reduce the risk posed by subsidence to public safety and the built environment.



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0m 20m 40m 60m 80m 100m

Scale: 1:1250, paper size: A4



plans ahead by emapsite™

Prepared by: Ian Cleasby, 28-06-2018



Site Layout
Scale: 1:500

Revision: P	6-8-2018
<div>Ian Cleasby</div> <div>Drafting & Design</div> <div>7 Brookside, Tirril, Penrith, Cumbria CA10 2JG Mobile: 07866775858 Phone: 01768 892027 Email: ian@cleasby.co Web: www.cleasby.co</div>	
Drawing Title: Site Layout	
Project Name: Longlands Head	
Drawing Number: 624- 1	
Scale: As shown on A3	Date: 18-7-2018
Drawn by: ian@cleasby.co	



Do not scale this drawing, use dimensioned sizes only



North

Visibility Splay
Scale: 1:1000

Revision: P	6-8-2018
Ian Cleasby Drafting & Design	
7 Brookside, Tirril, Penrith, Cumbria CA10 2JG Mobile: 0786675858 Phone: 01768 892027 Email: ian@cleasby.co Web: www.cleasby.co	
Drawing Title: Visibility Splay	
Project Name: Longlands Head	
Drawing Number: 624- 2	
Scale: As shown on A3	Date: 18-7-2018
Drawn by: ian@cleasby.co	





Houses Positioned on
un-mined ground

Dark red Shaded Area - Mined

Mined Area
Scale: 1:1000

Revision: P	6-8-2018
Ian Cleasby Drafting & Design	
7 Brookside, Tirril, Penrith, Cumbria CA10 2JG Mobile: 07866775858 Phone: 01768 892027 Email: ian@cleasby.co Web: www.cleasby.co	
Drawing Title: Mined Area	
Project Name: Longlands Head	
Drawing Number: 624- 3	
Scale: As shown on A3	Date: 18-7-2018
Drawn by: ian@cleasby.co	

Bingham Yates Limited

Consulting Engineers

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Tel : (01228) 521436 Fax : (01228) 515579
e.mail : info@binghamyates.co.uk



Your ref. 18/0742
Our ref. D1050/CJW/MAB
Date 5 December 2018

For the attention of S Daniel Esq

Principal Planning Officer
Planning Services
Carlisle City Council
Civic Centre
Carlisle
CA3 8QG

Dear Sirs

LAND AT THE STRIPES, CUMWHINTON

We have pleasure in attaching a copy of ARC's gypsum mining risk assessment for the area of land above, and we are pleased to summarise the situation as follows.

Please refer to Section 4.0 – Conclusions & Recommendations, in that they state that the risk of future instability due to mining extraction is deemed to be negligible. Therefore, we reaffirm that there should be no significant detrimental effects in relation to the proposed development.

It should also be noted, however, that they do recommend that a stiffened/reinforced raft foundation is provided, and we also reaffirm that this is sensible, if only to mitigate against any possible unchartered activities which could be present.

/Contd...

If you have any queries or concerns do not hesitate to contact us.

Yours faithfully

C. J. WALTERS B.Sc. (Hons), C.Eng., M.I.C.E., F.Cons.E.
for
BINGHAM YATES LIMITED

Our ref: 18-998.01L

Chris Walters
Bingham Yates Limited
38 Victoria Place
Carlisle
CA1 1EX

5th December 2018

Dear Chris,



Arc Environmental Ltd
Solum House
Unit 1 Elliott Court
St Johns Road
Meadowfield
Durham
DH7 8PN

Re: The Stripes, Cumwhinton, Cumbria

1.0 Introduction:-

At the request of Bingham Yates Limited, of Carlisle, Arc Environmental Limited (ARC) were requested to undertake a gypsum mining risk assessment for a parcel of undeveloped land located to the immediate north-west of Oakwood (residential dwelling) and situated on the outskirts of Cumwhinton, near Carlisle in Cumbria. The National Grid Reference (NGR) for the central part of the site is 345550, 551900. The following documents have been reviewed as part of this risk assessment;

- BGS Sheet 18, Brampton, Drift Edition, 1: 50,000 scale, dated 1980
- BGS Sheet 18, Brampton, Solid Edition, 1: 50,000 scale, dated 1976
- Cocklakes Mine Abandonment Plan – extract attached
- BGS borehole record sheet, reference; NY45SE25 – copy attached
- Landmark Information Group, OS Maps dating from 1881 to 2018 – copies attached

2.0 Geological Setting:-

In accordance with published British Geological Survey (BGS) maps the site is shown to be initially overlain by drift deposits comprising Glacial Till. These deposits normally comprise firm and stiff, sandy, gravelly clays which contain occasional cobbles and boulders and are expected to be c.10m in thickness below this part of Cumwhinton. The underlying bedrock deposits consist of the St Bees Sandstone Formation of Triassic age. The Eden Shale Formation of Permian age lies below the St Bees Sandstone Formation within the geological succession.

Gypsum / anhydrite deposits (B-Bed evaporite gypsum) is present within the Eden Shales Formation below this part of Cumwhinton. Gypsum / anhydrite deposits were extensively extracted together at Cocklakes Mine. In accordance with BGS maps, the B-Bed evaporite gypsum subcrops c.1km to the south and south-east of the site area, where it is present at or close to rockhead level and due to its dip direction, this layer progressively becomes deeper to the north, away from the subcrop positioning. The B-Bed evaporite gypsum was historically extracted by quarrying activities close to its subcrop positioning, c.1km to the south of the site.

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Registered in England No. 05539784



Re: The Stripes, Cumwhinton, Cumbria (Cont'd)

2.0 Geological Setting (Cont'd):-

To determine the extent of gypsum / anhydrite extraction below the site and nearby adjacent land, mine abandonment plans were obtained from the Minerals & Estates Manager at British Gypsum Saint-Gobain.

The mine abandonment plans procured show partial workings below the southern portion of the site, and workings which encroach along the northern site boundary. The central parts of the site do not appear to have been undermined. It is believed that the extraction process below the site consisted of pillar-and-stall where large pillars were left behind in the ground for stability purposes. Based on contours relating to the floor of the workings, which are recorded on the mine abandonment plans and using a site level of 66m AOD, the base of the gypsum / anhydrite workings are in the order of between c.105m and c.99m below the eastern and western parts of the site, respectively.

For completeness and to further verify the geological succession and depth to gypsum / anhydrite workings below the site, historical borehole data was obtained from the BGS. The borehole data refers to an exploratory borehole sunk within proximity to the site, to the south-west. At the borehole location, gypsum / anhydrite deposits with a maximum bed thickness of c.5.49m were recorded at a depth of c.89.46m which generally corroborates with the estimated depth based on the mine abandonment plan obtained.

3.0 Site History:-

Copies of Ordnance Survey (OS) maps covering the site and adjacent land are attached to this report and a summary of the site history based on these maps is provided in Table 1 below.

Table 1

<u>Date</u>	<u>Site</u>	<u>Adjacent Land</u>
1881 – 1925	The site is shown to be undeveloped.	The site is bounded to the west by a road leading to Cumwhinton to the north. The nearby adjacent land is shown to be undeveloped. The Stripes (residential properties) with adjacent well are located c.180m to the south-east.
1967 – 1968	Generally, as c.1881 – c.1925.	Longlands Head (residential property) is now recorded to the east of the site. Oakwood (residential property) is also now recorded to the immediate south-east. Additional residential properties are recorded to the south-east, as well as a Motor Body Builders.
1990 – 2018	Generally, as c.1967 – c.1968.	An Engineering Works is now recorded c.180m to the south-east.

Re: The Stripes, Cumwhinton, Cumbria (Cont'd)

3.0 Site History (Cont'd):-

In accordance with available published OS map, quarrying activities (surface extraction of gypsum / anhydrite) has not taken place on site or on nearby land.

4.0 Conclusions & Recommendations:-

Whilst gypsum / anhydrite deposits have been partially extracted below the site area, given the depth to workings (c.100m depth), it is felt that the risk of future surface instability occurring at the surface as a direct result of this mining legacy is deemed to be negligible.

In addition to the above, for completeness we would recommend that all new buildings proposed for this site are constructed on a suitably stiffened / reinforced raft foundation.

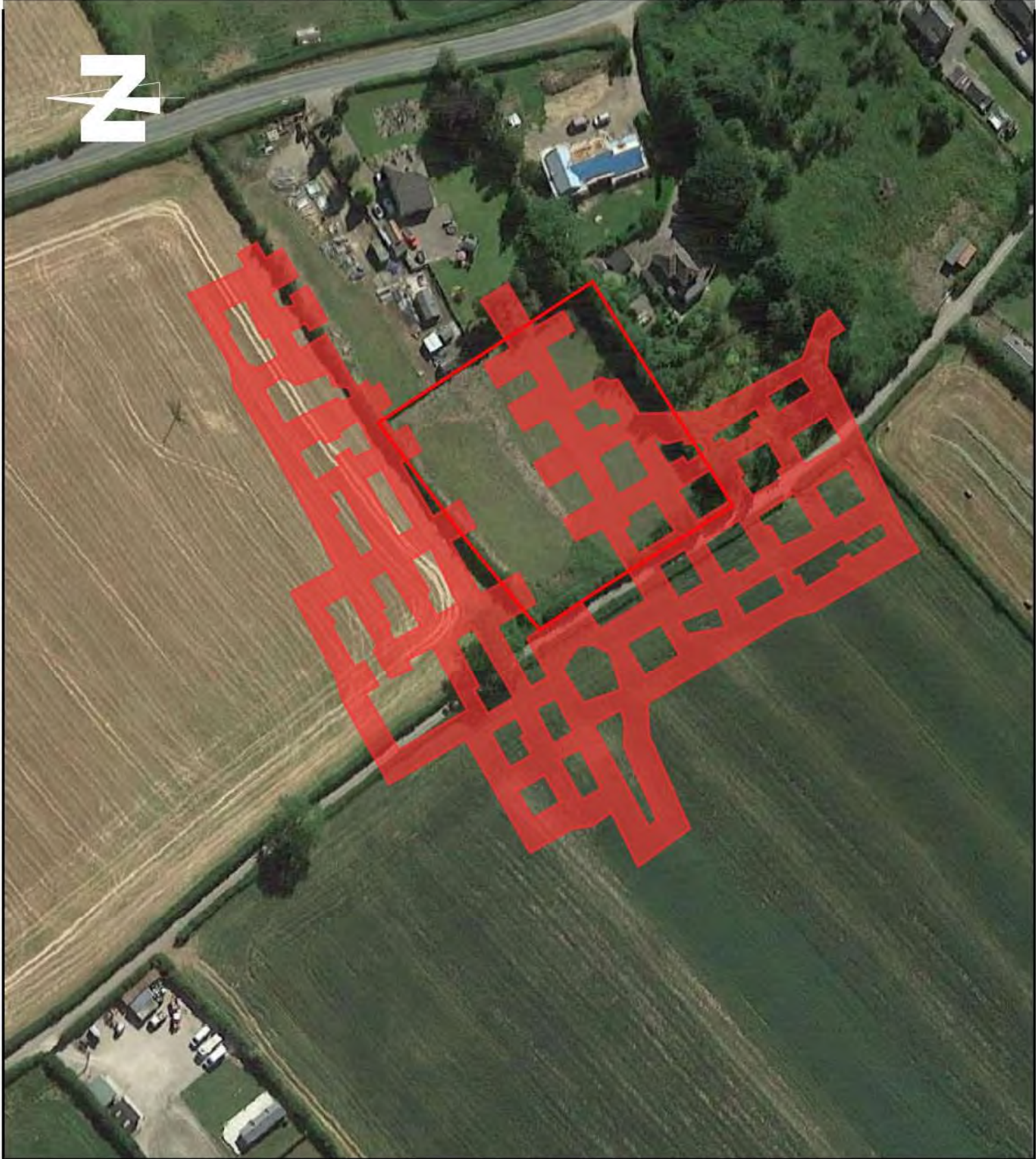
We trust this information is to your satisfaction and if you require any further information or clarification please do not hesitate to contact us.

Yours sincerely.

.....
For and on behalf of Arc Environmental Limited
Terry M^cMenam BSc (Hons) CSci CEnv FGS MEnvSc FCMI MIOd
Chartered Scientist & Chartered Environmentalist
Director

Mine Abandonement Plan

BGS Borehole Record Sheet (NY45SE25)





ARC ENVIRONMENTAL LTD

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Fax: (0191) 378 0494
e-mail: admin@arc-environmental.com
web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.

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LEGEND	
	APPROXIMATE SITE BOUNDARY
	EXTENT OF FORMER COAL WORKINGS AS TRANSPOSED FROM MINE ABANDONMENT PLAN (ACCURACY UNKNOWN)

rev.	date	amendments	drawn checked
------	------	------------	---------------

Client:

BINGHAM YATES LIMITED

Project Title:

The Stripes
Cumwhinton
Near Carlisle

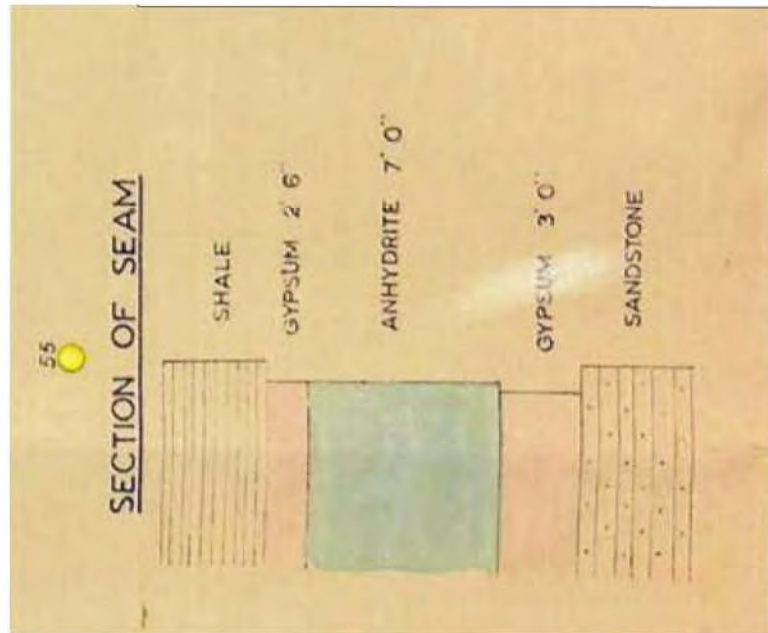
Drawing Title:

Site Location Showing Mine Abandonment Detail

Scale at A3:	Date:	Drawn by:	Approved by:
NTS @ A3	03.12.18	P.D	T.M

Job Ref:	Dwg no:	Rev:
18-998	-	-

18-998



(11982) W.L. 50870/0870 10,000 **NY 45 SE 25**

RECORD OF SHAFT OR BORE FOR MINERALS

County Cumberland

6" Quarter Sheet 24 SW

1" O.S. Geol. Map 18

Whether Confidential 245 W. 10

Name and Number of Shaft or Bore given by Geological Survey:
No. 1 Diamond B.H. at Cocklakes Gypsum Mine

Name and Number given by owner (if different from above):

Town or Village _____ Date of sinking Mar-April 1933

Exact site 500 yds. W. 30 N. of Acrehead, 4 miles S.E. of Carlisle

Purpose for which made _____

Level at which bore commenced relative to O.D. _____ If not down bore, state if horizontal or up _____

Made by J.S. Davidson & Son, St. Bees for Messrs. Carlisle Plaster & Cement Co.

Information from ditto. Date received _____

Specimens Rh. 499-500. Dip of strata _____

GEOLOGICAL CLASSIFICATION	DESCRIPTION	THICKNESS		DEPTH		
	Sandy pinnel & boulders	40	-	40	-	12.19 m
[St. Bees Sst. & Shale]	Red sandstone & marls	253	6	293	6	89.46 m
[Including Anhydrite]	Gypsum*	18	-	311	6	94.95 m
	Red and grey marl	8	6	320	-	97.54 m
	* A later record gives Gypsum 2-9					
	Cobble 11-3					
	Gypsum 4-0					
	Red and grey marl					
	soft 0-6					
	Marl with ast (red) 8-0					
	A brief examination of the cores showed that the Red Sandstone & marls could be divided into two principal groups, sandstone and marl with a passage between them:-					
	[Red sandstone with one grey bed & occasional thin shaly partings $\frac{1}{2}$ in. or less			80	-	
St. Bees Sandstone	Red sst. with thin shaly partings & pellet layers getting more shaly below			50		
	Red sst. and marl micaceous interbedded closely			50	-	
St. Bees Shales	Marl with abundant subordinate thin micaceous sst. bands			70	-	
	The first of gypsum came in some 30 ft. above the main bed (information from Borer)					
	The beds below the gypsum give a definitely darker coloured shaly marl with a chocolate tint. They include micaceous sandy layers greenish, cream centred lenticles or concretions of dolomitic marl. In this as in other cores, the marls & marls & sandstone below the main beds of St. Bees Sst. are much broken by contemporaneous dessication cracks.					

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

G.S.M. Office File No. _____ Site marked on 6" Map by _____ Site marked on 1" Map by _____

Base of Borehole
97.54 m

Ordnance Survey Maps

T: 0191 378 6380
F: 0191 378 0494
E: admin@arc-environmental.com
W: www.arc-environmental.com
Registered in England No. 05539784



Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

Large-Scale National Grid Data 1:2,500 and 1:1,250

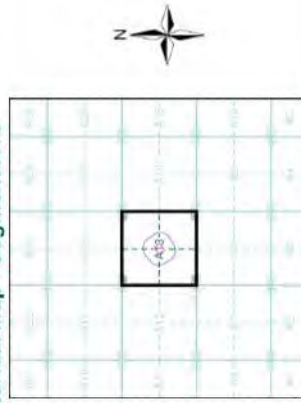
Cliff	Top	Rock	Boulders	Positioned Boulder	Non-Confiferous Tree (surveyed)	Non-Confiferous Trees (not surveyed)	Orchard Tree	Coppice, Osier	Rough Grassland	Direction of water flow	Electricity Transmission Line	Electricity Pylon	Barracks	Battery	Cemetary	Chimney	Cistern	Disused Railway	Electricity Generating Station	Signal Box or Bridge	Signal Post or Light	Tank or Track	Trough	Wind Pump	Water Point, Water Tap	Works (building or area)	Well																		
		Rock (scattered)	Boulders (scattered)	Scree	Confiferous Tree (surveyed)	Confiferous Trees (not surveyed)	Bracken	Marsh, Saltings	Culvert	Antiquity (site of)	Electricity Pylon	Buildings with Building Seed	Roofed Building	Bench Mark	Glazed Roof Building	Civil parish/community boundary	District boundary	County boundary	Boundary post/stone	Boundary merging symbol (note: these always appear in opposed pairs or groups of three)	Pillar, Pole or Post	Post Office	Public Convenience	Pump	Pumping Station	Place of Worship	Sewage Pump Sta.	Sewage Pumping Station	SB, S Br	Signal Box or Bridge	SP, SL	Signal Post or Light	Spring	Tk	Tank or Track	Tr	Trough	Wd Pp	Wind Pump	Wt Pt, Wt	Water Point, Water Tap	Wks	Works (building or area)	W	Well



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Cumberland	1:2,500	1881	2
Cumberland	1:2,500	1901	3
Cumberland	1:2,500	1925	4
Ordnance Survey Plan	1:2,500	1967 - 1968	5
Additional SIMs	1:2,500	1990	6
Large Scale National Grid Data	1:2,500	1994	7
Historical Aerial Photography	1:2,500	2001	8

Historical Map - Segment A13



Order Details

Order Number: 188209799_1_1
 Customer Ref: 18-998
 National Grid Reference: 345550, 551900
 Slice: A
 Site Area (Ha): 0.45
 Search Buffer (m): 100

Site Details

The Stripes, Cumbwhinton, Cumbria



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 Fax: 0944 844 9351
 Web: www.landmark.co.uk



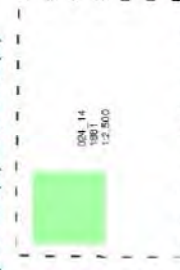
Cumberland

Published 1881

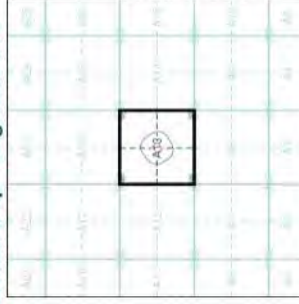
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's, in 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1907 it covered the whole of what were considered to be the cultivated parts of Great Britain. It is important to note that the 'Great Britain' map was not a true map of Great Britain, it was a map of the Great Britain Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 188209799_1_1
Customer Ref: 18-998
National Grid Reference: 345550, 551900
Slice: A
Site Area (Ha): 0.45
Search Buffer (m): 100

Site Details

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Map Name(s) and Date(s)



The Stripes, Cumwhinton, Cumbria

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirotech.co.uk

A Landmark Information Group Service v50.0 05-Dec-2018 Page 3 of 8





Cumberland

Published 1925

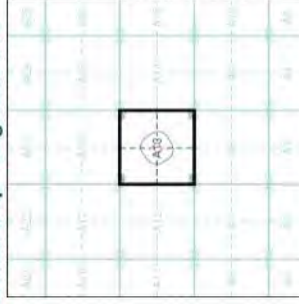
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's, in 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1907 it Great Britain. The maps were considered to be the standard for the Great Britain. The maps were published by the Ordnance Survey, which used the British Standard Map Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 188209799_1_1
Customer Ref: 18-998
National Grid Reference: 345550, 551900
Slice: A
Site Area (Ha): 0.45
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1967 - 1968

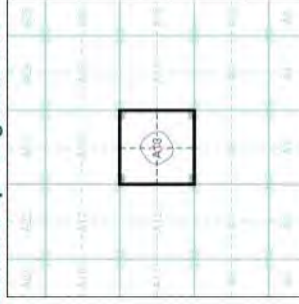
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's, in 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1967 it Great covered the whole of Great Britain. The grid was then projected onto the British datum. Before 1938 the OS grid was often some years ahead of the actual ground. The OS grid is now based on the datum of 1936, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

NY4552
1968
1:2,500
NY4551
1967
1:2,500

Historical Map - Segment A13



Order Details

Order Number: 188209799_1_1
Customer Ref: 18-998
National Grid Reference: 345550, 551900
Site: A
Site Area (Ha): 0.45
Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1990

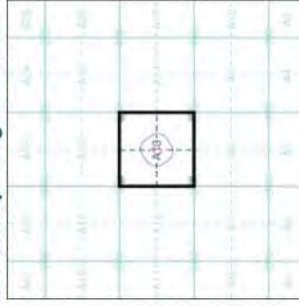
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads, and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NY4552	1990	1:2,500
NY4551	1990	1:2,500

Historical Map - Segment A13



Order Details

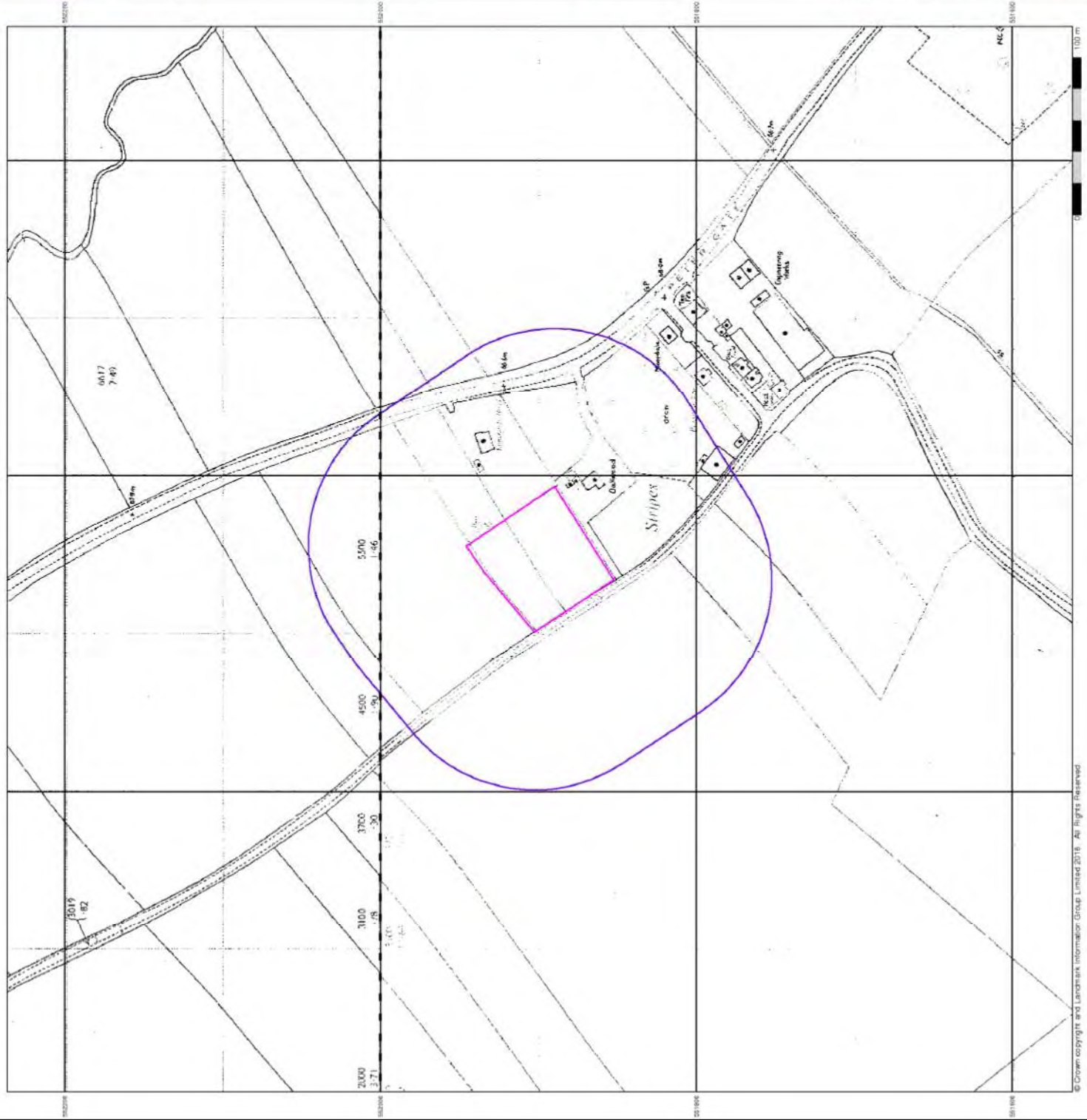
Order Number: 188209799_1_1
Customer Ref: 18-998
National Grid Reference: 345550, 551900
Slice: A
Site Area (Ha): 0.45
Search Buffer (m): 100

Site Details

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Large-Scale National Grid Data

Published 1994

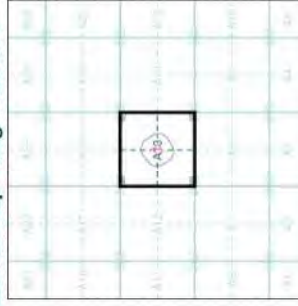
Source map scale - 1:2,500

"Large Scale National Grid Data" super-seeded SIM cards (Ordnance Survey's Survey of Information on Microfilm) in 1992, and continued to be produced until 1999. These maps were the forerunners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

NY4552	1994	1:2,500
NY4551	1994	1:2,500

Historical Map - Segment A13



Order Details

Order Number: 188209799_1_1
Customer Ref: 18-998
National Grid Reference: 345550, 551900
Slice: A
Site Area (Ha): 0.45
Search Buffer (m): 100

Site Details

The Stripes, Cumwhinton, Cumbria



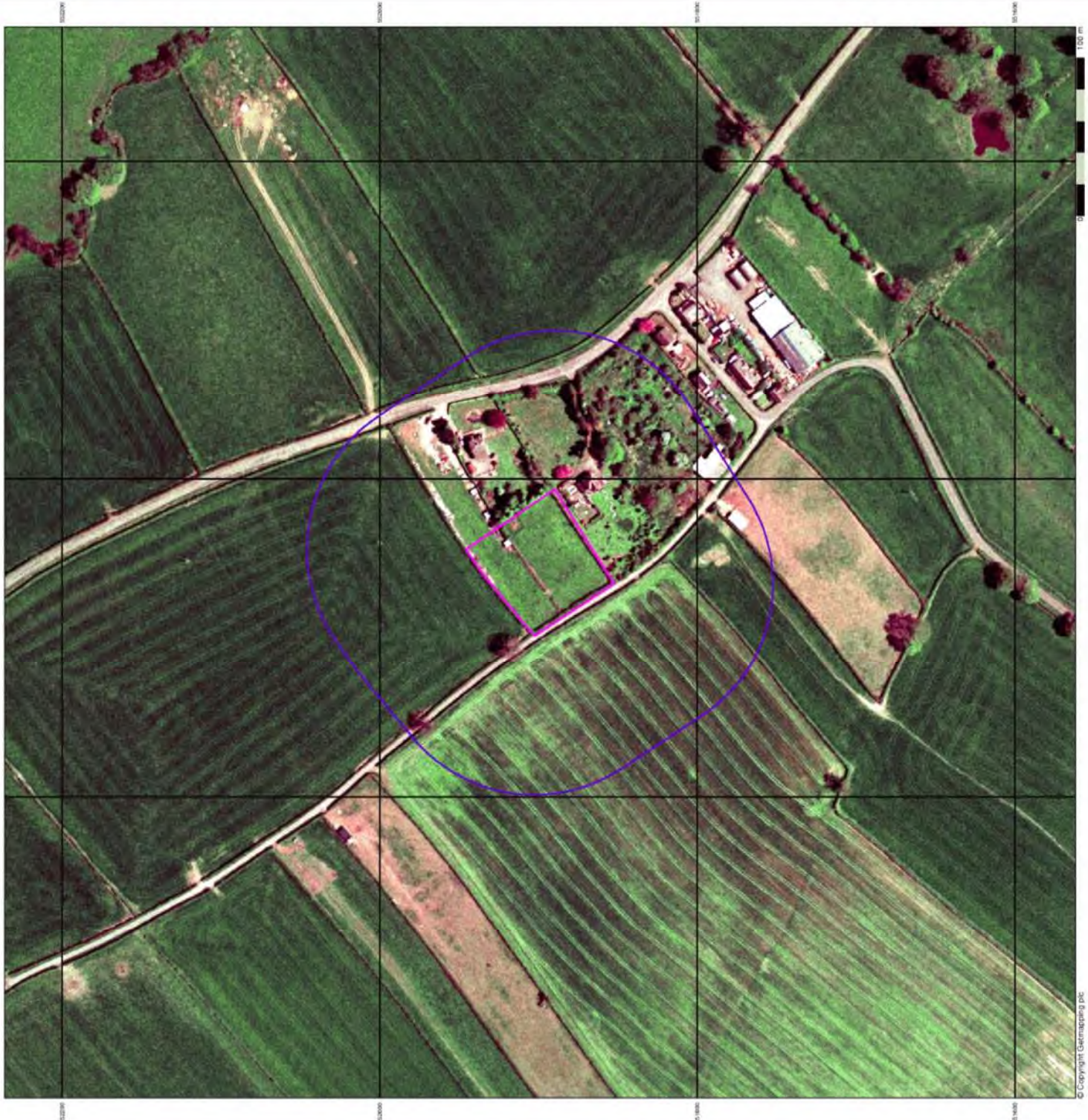
Tel: 0944 844 9952
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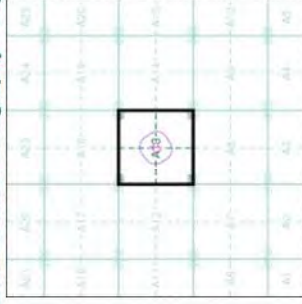
Historical Aerial Photography

Published 2001

This aerial photography was produced by Geomapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain



Historical Aerial Photography - Segment A13



Order Details

Order Number: 188209799_1_1
Customer Ref: 18-998
National Grid Reference: 345550, 551900
Slice: A
Site Area (Ha): 0.45
Search Buffer (m): 100

Site Details

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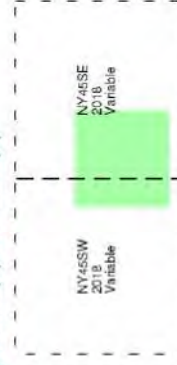
VectorMap Local

Published 2018

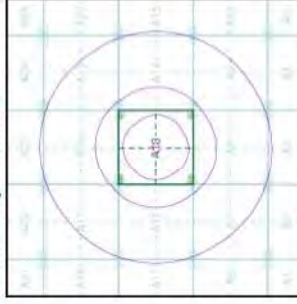
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'background' mapping product. These maps are produced from OS's VectorMap Local, a single vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for detailed graphical mapping at 1:250 scale. VectorMap Local is produced from a combination of aerial photography and other data sources, including Ordnance Survey's 1:250 scale (contour, spot height and other) and 1:10,000 scale (contour, spot height and other) data, and 1:10,000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 188209799_1_1
Customer Ref: 18-998
National Grid Reference: 345550, 551900
Slice: A
Site Area (Ha): 0.45
Search Buffer (m): 1000

Site Details

The Stripes, Cumwhinton, Cumbria



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