CARLISLE NORTHERN DEVELOPMENT, ROUTE, CUMBRIA

Archaeological Strip and Record Parcel 41 North Project Design 011 (rev 001)

June 2008

NGR: NY 338013 557873

1 BACKGROUND

1.1 INTRODUCTION

1.1.1 Cumbria County Council propose to construct a new road around the western edge of Carlisle referred to as the Carlisle Northern Development Route (CNDR); the route extends around the western and northern side of Carlisle from Greymoorhill North bridge in the north to Newby West in the south.

1.1.2 This document is the project design for a process of Strip and Record required in Parcel 41 North (NY 338013 557873) as identified on Drawing No 42605/05/49/AM4 and detailed in a brief produced by Cumbria County Council's Historic Environment Service (CCCHES). Parcel 41 North is located to the east of Powlees Lane immediately south of the FP120021.

1.2 GEOLOGY AND TOPOGRAPHY

1.2.1 The topography through which the road scheme passes, particularly to the south of the River Eden, consists of relatively uniform undulating terrain, predominantly in use as pasture and arable fields, which are bounded by tall and thick hedge-rows. The river bisects the route of the road; to the north of the river, the route crosses the Eden flood plain and river terraces, immediately west of Stainton, before rising steeply towards Kingsmoor House.

1.2.2 The underlying drift geology consists of Stanwix shales overlain by drift deposits of boulder clay and alluvium adjacent to the River Eden. The soils are attributed to the Wick Association, coarse well-drained brown earths, which extend westwards to Burgh-by-Sands and Kirkbampton.

1.3 CIRCUMSTANCES OF PROJECT

1.3.1 CCC propose to construct the CNDR around the western edge of Carlisle. The route extends for 8.5km around the western and northern sides of the city, from Greymoorhill North bridge (NY 3945 5990) on the north to Newby West (NY 3731 5365) in the south, and covers an area of approximately 30ha.

1.3.2 The proposed road runs in a west-south-westerly direction from Junction 44 of the M6 motorway, following the course of existing roads and passing close to Kingstown before turning south prior to crossing the main West Coast rail line. The line of the road, which from this point will comprise new build, continues south and then south-west, crossing the River Eden to the west of Stainton. On the south bank of the river the route intersects the line of Hadrian's Wall and an associated earthwork to the south, known as the Vallum, close to Knockupworth Cottage (NY 3710 5680), at the point where the Vallum is crossed by the now dismantled Carlisle and Silloth railway, which had itself been built on the line of the former Carlisle to Port Carlisle Canal (known as the Carlisle Navigation Canal). After crossing the C2042 Brough Road, the route then turns south near Cornhill, following a minor road for some of the distance to Bunkershill, where it turns south-east to join the existing A595.

1.3.3 Cumbria County Council propose to let the construction of the road as a PFI Design and Build-type contract. As there are significant archaeological remains along the proposed route, including the World Heritage Site of Hadrian's Wall, which is statutorily protected as a Scheduled Ancient Monument (SAM; Scheduled Ancient Monument no 26110), a brief has been prepared by Cumbria County Council's Historic Environment Service (CCCHES), acting in concert with English Heritage, setting out the archaeological requirements for the main contractor in advance and during construction works associated with building the road - the brief is contained within Annex 14 Part 2B of Schedule 4 of the Invitation to Negotiate (ITN) documentation associated with the scheme.

1.4 ARCHAEOLOGICAL BACKGROUND

1.4.1 A full Environmental Statement in support of the development was published in 2000. This clarified the significance of the sites along the development route.

1.4.2 The archaeological and historical background to the development including a survey of previous archaeological work is recorded as part of the *Outline Archaeological Strategy* (OA North 2007) and scheme-wide research questions and objectives are outlined in Project Design 001.

1.5 OXFORD ARCHAEOLOGY

1.5.1 Oxford Archaeology has over 30 years of experience in professional archaeology, and provides a professional and cost effective service. It is the largest employer of archaeologists in the country with more than 200 members of staff and can deploy considerable resources with extensive experience to deal with any archaeological obligations arising from the development. Our offices in Lancaster and Oxford, trading as Oxford Archaeology North (OA North), and Oxford Archaeology (OA) respectively, enable us to provide a truly nationwide service. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. OA is an Institute of Field Archaeologists Registered Organisation (No 17), is bound by the IFA's Code of Conduct and applies the IFA's quality standards.

1.5.2 Between our two offices our company has unrivalled experience of working on prehistoric, medieval and post-medieval sites, and is recognised as one of the leading archaeological units in the country.

2 AIMS AND OBJECTIVES

2.1 The Strip and Record programme has been designed as an appropriate methodology to be employed in areas where archaeological potential has been confirmed but its nature remains indistinct. It will also allow the assessment of deposits within the development area to determine and, where necessary, record the presence, extent, nature, quality and significance of any archaeological deposits that may be threatened by the proposed development potentially leading to the production of a Further Archaeological Works Design (FAWD), following consultation with the County Archaeology Service.

2.2 The results will provide information as to whether further mitigation works are required prior to, or during, groundworks associated with the development.

3 METHOD STATEMENT

3.1 GENERAL

3.1.1 The following work programme is based on information available at this time and is submitted in line with the aims and objectives summarised above.

3.1.2 Oxford Archaeology fully endorses the Institute of Field Archaeologists':

- *Code of Conduct* (revised edition September 2002);
- *Standard and Guidance for Archaeological Field Evaluation* (1994);
- *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* (revised edition September 2000).

3.1.3 The management of the project will be in accordance with the methods and practice described in *Management of Archaeological Projects*, second edition (English Heritage, 1991).

3.2 STRIP AND RECORD METHODOLOGY

3.2.1 A process of Strip and Record will be required in Parcel 41 North (NY 338013 557873). This is located to the east of Powlees Lane immediately south of the FP120021. The area will be stripped under archaeological supervision using a mechanical excavator(s) fitted with a 2m wide toothless ditching bucket (or similar) for excavation of archaeologically sensitive deposits. The machine will be directed by a suitably qualified and competent archaeologist. Machining will cease when archaeologically significant deposits are encountered. If appropriate, further machine excavation will be carried out after hand excavation and recording of such deposits has been completed (such techniques are only appropriate for the removal of homogenous low-grade deposits, which may give a "window" into underlying levels. They should not be used on significant complex stratigraphy and the deposits to be mechanically removed must have been appropriately recorded first). The machine used will be safe, in good working order and powerful enough for the work and to be able to mound spoil and overburden neatly, at a minimum distance of 1.5m from the trench edges. Topsoil will be mounded separately. Care will be taken to ensure that machines used to remove spoil do not rut, compact or otherwise damage buried or exposed archaeological features and deposits.

3.2.2 ***Removal and storage of spoil during mechanical excavation***: topsoil and initial overburden will be removed from each excavation area by dumpers and taken to a designated spoil storage area along a haulage route specified by the construction team. Spoil resulting from further mechanical excavation and detailed hand excavation may be temporarily stockpiled at the side of each excavation area. A 1.5m wide area will be left clear of spoil heaps on all sides of each excavation. Topsoil, made ground deposits and the natural alluvium

and colluvium will be excavated, transported and stored separately, like-with-like, in order that it can be correctly replaced and to prevent cross-contamination. Potentially contaminated material will be placed in separate stockpiles. Topsoil heaps will be a maximum of 2m in height. Made Ground and subsoils, including alluvium and colluvium may be stacked to a maximum height of 5m. Spoil heaps will be shaped and levelled and capped with plant tracks. Gaps will be left between spoil heaps where necessary to promote site drainage.

3.2.3 ***Digital Mapping***: the OA survey team will follow behind the machines, generating a pre-excavation CAD base plan of the exposed archaeological features, as the stripping progresses. A GPS will be used for setting out, and to generate pre-excavation plans. Where greater levels of detail are required, such as the drawing of individual complex features, hand drawn plans will be made. Hand-drawn plans will normally be drawn at 1:50 but for complex features a scale of 1:20 or 1:10 will be used. Hand drawn plans will be digitised during the course of the fieldwork and added to the digital site plan.

3.2.4 ***Archaeological Recording:*** any excavation of archaeologically significant material will normally be by hand and will respect the stratigraphy of archaeological layers, features, deposits and structures. The stripping teams will pay close attention to achieving a clean stripped surface, using the mechanical plant under close archaeological supervision, to remove the need for extensive hand cleaning. Limited areas may still require hand cleaning, to clarify complex feature intersections. Each context will be excavated in sequence. No detailed excavation will take place at this stage of the site investigation; complex features will be cleaned to define their extent and small sondages may be excavated to investigate depths of deposits. The principal aim of the initial work is to produce a plan of the revealed features that can be used to formulate site-specific research questions that can be addressed by the second stage of formal excavation as defined in a FAWD.

3.3.5 ***On site meeting and FAWD:*** closely following the cleaning of the machined surface and plotting of visible features, so that these are still visible, and limited excavation of the archaeological features a monitoring meeting will be held with CCHES to discuss the significance of the exposed remains and agree the level of sampling for second stage excavation and recording of features revealed by the stripping process. Following on from this meeting a FAWD will be produced.

3.3.6 ***Second stage work:*** further archaeological investigations, as defined in the FAWD, will be designed to recover further data to address the research aims of the project with regard to establishing the extent, date and character of the archaeological remains. The primary aims will be:

- To characterise the overall nature of the archaeological resource and to understand the process of its formation;
- To create a detailed plan of all archaeological features;

- To establish the character of those features in terms of cuts, soil matrices and interfaces;

- To recover, where appropriate, across the archaeological site representative ecofactual and palaeoenvironmental samples to provide evidence of function and past landuse;

- To establish in outline a dated sequence of structures and/or deposits and thus to define changes in site organisation over time.

3.3.7 The research aims of the project will inform the excavation sampling strategies. The exact sampling levels will be determined by the nature of the remains and their significance with regard to the aims and objectives of the project. The resources available for the investigation of the site will be allocated so as to most effectively answer research questions. Information feedback will be used to assess the success of the sampling strategy as excavation proceeds, with resources being reallocated as required. As a guide the sampling of features is likely to include 100% sampling by area and volume of all small discrete negative features (eg postholes), with larger discrete negative features (eg pits in excess of 1m in diameter) sampled at 50% by area and volume. All linear negative features will be sampled at 20% by area, any variations to which will be agreed with the County Archaeology Service. Graves and 'structural' features (e.g. hearths, ovens and kilns) will always be fully excavated. All identified archaeological features within the cleared areas will be archaeologically excavated by hand. Archaeological excavation will continue to the depth of natural deposits and a detailed record will be made of the stratigraphic sequence of the site, in accordance with Institute of Field Archaeologists and English Heritage guidelines. All other aspects of feature recording and treatment of artefacts and ecofactual data will be as per that defined for excavation.

3.3.8 Once the second stage field work is under way, application will be targeted towards those aspects of the archaeological data that have the potential to contribute significantly to interpretations of the history of inhabitation of the site or to wider questions at a local, regional or national scale. Typically, this may involve:

- the further investigation of features and deposits already partly investigated;

- the concentration of resources into the investigation of specific phases of occupation, areas of the site or type-classes of deposit;

- the collection of data for targeted scientific investigation into date, function and formation.

3.3.9 Significant discrete archaeological features that extend beyond the areas agreed for excavation may need to be investigated beyond these areas in order to fully characterise the archaeology, the decision to do so residing with the

County Archaeology Service. Procedures for liaison and definition of Further Archaeological Works are outlined below in *Section 3.8.4-6* of the *Outline Archaeological Strategy* (OA North 2007).

3.3 HEALTH AND SAFETY

3.3.1 OA North provides a Health and Safety Statement for all projects and maintains a Safety Policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (3rd Edition, 1997). OA North will liaise with the Birse Civils, who will be the principal contractor under CDM regulations, to ensure all current and relevant health and safety regulations are met. Excavation of the trenches will not take place until a Permit to Work has been issued by Birse Civils.

3.3.2 A risk assessment will be completed in advance of any on-site works. OA North staff will be equipped with the appropriate PPE; Birse Civils have agreed to provide welfare facilities on-site.

3.3.3 OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.

3.4 OTHER MATTERS

3.4.1 Access to the site will be arranged *via* Birse Civils.

3.4.2 Prior to work starting, Birse Civils will scan the locations of the proposed trenches for the location of any services, as part of the granting of a Permit to Work.

3.5 POST-EXCAVATION AND REPORT PRODUCTION

3.5.1 ***Post-excavation:*** following completion of the fieldwork relating to the construction of the CNDR, a scheme-wide post-excavation assessment will be produced including the results of programme of Strip and Record. The site archive will be completed in accordance with English Heritage's guideline document *MAP 2*, Appendix 3. The assessment will be deposited with the County Historic Environment Record and English Heritage in due course.

3.5.2 ***Archive:*** the results from the programme of Strip and Record will form part of the project archive, produced to professional standards, in accordance with current English Heritage guidelines (*MAP 2*), the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC 1990) and *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation* (Brown 2007). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The IFA's Code of Conduct makes it clear that the deposition of a properly ordered and indexed project archive in an appropriate repository is an

essential and integral element of all archaeological projects.

3.5.3 Any finds recovered during the Strip and Record programme will be deposited with Tullie House Museum and Art Gallery, Carlisle.

4 STAFFING PROPOSALS

4.1 The project will be under the overall charge of **Fraser Brown BA** (OA North Senior Project Manager) to whom all correspondence should be addressed.

4.2 The programme of Strip and Record will be directed by either an OA North Project Officer or an OA North Project Supervisor, assisted by up to three archaeological technicians.

4.3 Assessment of any finds from the excavation will be undertaken by OA North's in-house finds specialist **Christine Howard-Davis BA** (OA North Finds Manager).

5 MONITORING

5.1 OA North will ensure that any significant results are brought to the attention of, Birse Civils, CCCHES and English Heritage as soon as is practically possible. The aim will be, where possible and where necessary, to move quickly from the programme of Strip and Record of any site to any Further Archaeological Works mitigation that is agreed following an on-site meeting between all relevant parties.

REFERENCES

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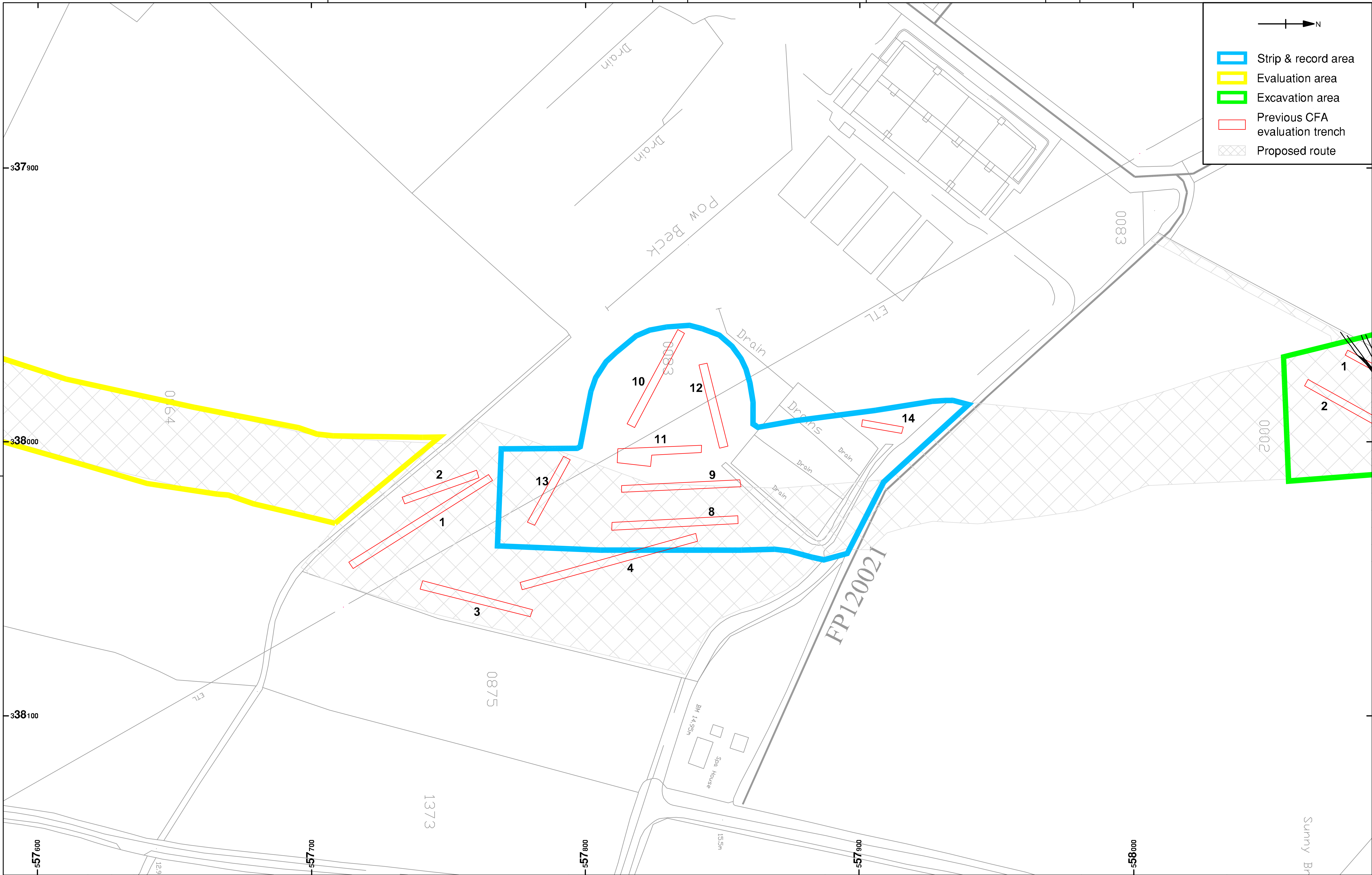

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Job Title
CARLISLE NORTERN DEVELOPMENT ROUTE

Drawing Title
Parcel 41 north strip and record area

Scale at A1 1:1250@A3			
Drawn OAN/AMS		Approved APPROVED	
Stage 1 check STG1CHK	Stage 2 check STG2CHK	Originated ORIG	Date 09-05-08
Drawing Status			

Drawing Number 014
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