

Llanwern, Newport - Parcels 3C and 4A

Written Scheme of Investigation for Archaeological Works

edp6046_r003b

1. Introduction

1.1 This Written Scheme of Investigation (WSI) relates to Parcels 3C and 4A, Glan Llyn, Llanwern, Newport. It has been issued by the Environmental Dimension Partnership Ltd (EDP) on behalf of Lovell (hereafter 'The Client') for review and approval by the Archaeological Planning Officer of the Glamorgan-Gwent Archaeological Trust (GGAT) in their role as archaeological advisor to the Newport City Council Local Planning Authority (LPA).

1.2 An outline planning application (reference: 06/0471) for a wider site, *Land Formerly Part of Llanwern Steelworks, Queensway, Llanwern, Newport, South Wales*, that contains the two parcels 3C and 4A, was approved in April 2010. The permission included a condition related to archaeology (Condition 38). This states that:

"No development shall take place in relation to any development parcel as defined under Condition 04 until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation for that parcel which has first been submitted to and approved in writing by the Local Planning Authority."

Reason: To identify and record any features of archaeological interest discovered during the works in order to mitigate the impact of the works on the archaeological resource."

1.3 This WSI addresses the requirement in Condition 38 for the 3C and 4A parcels of the wider outline permission. The location of these parcels in relation to the wider site is illustrated on **Plan EDP 1** below.

1.4 Given the wider site's size and division into individual development parcels, following consultation with GGAT, an agreement was made to produce two overarching Archaeological Management Plans for its western and eastern parts. The parcels 3C and 4A, that are the subject of this WSI, are located within the eastern sub-area (illustrated on **Plan EDP 1**) and thus fall within the remit of the *Glan Llyn Eastern Sub Area Archaeological Management Plan* (AMP) (Atkins, 2020; **Appendix EDP 1**). This document sets out "a proposed approach to addressing archaeological issues in the Eastern Sub Area of Glan Llyn development site in Newport".

1.5 Due to limitations imposed by the site conditions (which are detailed in the sections below), consultation was undertaken with GGAT via email in June 2020 (see **Appendix EDP 2**).



This has established that an appropriate archaeological response in order to discharge Condition 38 would be to issue an Archaeology Statement rather than implement archaeological fieldwork.

1.6 The Archaeology Statement is reflected in the information provided within this current WSI, which outlines the practicalities of implementing the 'proposed approach' set out in the AMP for the 3C and 4A parcels. In order to do this, the WSI includes:

- Detail on the geological conditions at the site based on known geotechnical data;
- Detail on the archaeological potential of the two parcels, and
- Detail on the development proposals and their below ground impacts.

1.7 The WSI draws conclusions on the practical issues with implementing the AMP for the 3C and 4A parcels and the limitations to achieving positive archaeological data collection based on the evidence considered.

Geology and Archaeology

1.8 The AMP sets out the Eastern Sub Area's geology and topography. It highlights that the whole Eastern Sub Area is overlaid by a made ground deposit that is typically of an angular grey gravelly sand with an ashy texture and contains brick, slag and concrete inclusions. This represents the uppermost layer in the geological sequence and reflects the use of the site for the steelworks.

1.9 For the 4A parcel, Brownfield Solutions, (2020) have dug boreholes (relevant records CPB1, CPB4, CPB5, CPBR1, CPBR3, WS02 and WS05) within the eastern half of the 4A site, recording made ground from between 2.1 to 3.7m Below Ground Level (BGL). For the 3C parcel, Ian Farmer Associates (2008) dug two boreholes (relevant records BH211 and BH234) recording from between 2 to 3m of made ground BGL.

1.10 The made ground overlays alluvial Tidal Flat deposits, which in turn overlay mudstone of the Mercia Mudstone group (British Geological Survey, 2020). A borehole record (BGS) from 1956 located just to the west of Parcel 3C records the geological sequence prior to the construction of the steelworks. This is relayed in the AMP at Section 2.2. Its distinct horizons relate closely to the established Wentlooge Formation, which is commonly found (albeit with some local variation) across the tidal flats bordering the Severn Estuary. A summary of the Wentlooge Formation and the relative dates of its different typical components is set out in **Table EDP 1.1**.

Table EDP 1.1: Simplified Drift Geological Sequence Around the Severn Estuary (after Rippon 1997)

Unit	Description	Period
I	Topsoil	Post-medieval/Modern
II	Desiccated layer/brown alluvial clay	Roman reclamation – stable land surface c.1 st –5 th century AD – followed by marine transgression prior to medieval reclamation – c.5 th –12 th century AD.
III	Upper blue alluvial clay (upper part of Wentlooge Formation)	Iron Age marine transgression – c.1000 BC–c.1 st century AD.
IV	Peat/clay layer (middle part of Wentlooge formation)	Neolithic/Bronze Age – stable land surface – c.3600–c.1000 BC.
V	Lower blue alluvial clay (lower part of Wentlooge Formation)	Post-glacial marine transgression – c.4500–c.3600 BC.
VI	Basal sands/gravels/peats	Post-glacial – c.5000–c.4500 BC.
VII	Bedrock	-

- 1.11 The more recent borehole records (2008 and 2019), indicate that the construction of the steelworks resulted in reduction of the Tidal Flat deposits within the site, with the ground surface then built up with made ground.
- 1.12 In the 2019 borehole records, it is apparent that the upper Tidal Flat layers, comprising soils of Unit I and clays of Unit II, have been removed. In many of the records (e.g. CPB1, CPBR1 and CPB5), the made ground directly overlays peat deposits (located at c.2.2–3.4m BGL), which, when referred to the Wentlooge sequence, are probably representative of ground levels formed during the Roman period (i.e. the basal deposit of Unit II) when the Gwent levels were reclaimed and tidal inundation that characterised the Iron Age (as evidenced by clays of Unit III) ceased.
- 1.13 In some of the records (e.g. CPRB3 and the 2008 records BH211 and BH234), the evidence suggests that the Tidal Flat deposits were further reduced, and it appears that Unit II peats and some or all of the Unit III clays have been truncated, with the made ground overlaying either clays that are probably of Unit III (dating from the Iron Age) or peat deposits that are probably of Unit IV (at c.2.1m–4.8m BGL), which probably date to the Neolithic/Bronze Age, when the climate ameliorated and the wetlands dried. In the sequence, these peat deposits are quite substantial, suggesting that the locality was relatively dry for a long period over the Neolithic–Bronze Age.
- 1.14 The AMP also presents a review of the area's historic environment baseline as derived from previous assessment (RPS Consulting, 2002) and a Historic Environment Record search. Based upon this information, it assesses the area's potential for the survival of archaeological remains, and to what degree such remains may have been disturbed.
- 1.15 The AMP does not indicate any evidence for known archaeological remains within the two parcels (3C and 4A) that are the subject of this WSI, from any period. The buried peat deposits (which, as described above, are at a minimum encountered at 2.1m BGL),

however, are identified as having some potential to contain archaeological features and may provide anaerobic conditions that favour the survival of remains of paleoenvironmental interest.

2. Development impacts and archaeological response

- 2.1 Section 1.4 of the AMP sets out the nature of the groundwork associated with development. It describes how development will require, firstly, a phase involving the remediation of the ground surface, followed by development impacts comprising piling and the cutting of trenches for drainage and services.
- 2.2 The AMP then sets out a Scope of Archaeological Works for the Eastern Sub Area. It sets out two phases to this; mitigation field work and post-excavation reporting. Based on an assessment of the ground make-up of the Eastern Sub Area, the AMP concludes that: *“works required for reclamation and remediation of the site will not impact on deposits below the made ground.”*
- 2.3 And therefore, that archaeological works will only be required for: *“utilities installation and construction works (excluding piling) which will disturb deposits below the ground in areas which have not been previously disturbed by historic piling.”*
- 2.4 The fieldwork methodology as set out in the AMP provides for an Archaeological Watching Brief and a programme of environmental sampling. The methodology was agreed with GGAT following submission of the AMP.
- 2.5 Development proposals for the two parcels 3C and 4A will result in below ground impacts, the nature and extent of which are summarised in the paragraphs below.
- 2.6 Engineering plans (PHG 2019, Drawing Numbers 1969/100 (F) and 1969/200 (D), **Appendix EDP 3**) set out how the initial ground reduction will comprise the removal of 0.75m and will be carried out across the whole site (3C and 4A). Given that made ground is present at 2m to 3.7m BGL this reduction will only affect made ground deposits of zero heritage significance.
- 2.7 Following on from this initial reduction, the site (3C and 4A), will then be built back up to a level surface of 6.5m above Ordnance Datum (aOD) (close to the present ground level at the site) with clean cover and arisings. This reduction and rebuild reflects the reclamation and remediation works described in the AMP and will not disturb deposits below the made ground and thus, in accordance with the AMP, this activity will not require any archaeological monitoring or sampling.



- 2.8 The foundations for the new buildings will be piled and thus it will not be possible to archaeologically monitor these works. Piling pads will be dug into made ground deposits and thus will not disturb any deposits of archaeological interest.
- 2.9 Trenches for drainage and sewerage will be excavated across the site (3C and 4A), which will require groundworks that will be to a maximum of 3.5m BGL at their greatest depth (see plans at **Appendix EDP 3**). The deepest extents would potentially disturb deposits located below made ground but only across a very limited extent of the works, where the trenches penetrate to below the made ground level at approximately 2m BGL.
- 2.10 The trenches will be between 1m and 3.5m deep and between 150mm and 450mm wide. As such, due to the narrowness and depth of the trenches, where these may extend to levels where Tidal Flat deposits are present, it would not be possible for archaeologists to either observe, record or sample possible archaeological deposits.
- 2.11 Even if deposits of potential interest are identified, there would be no possibility that a safe working environment could be provided, under the remit of a Watching Brief, such that it would be possible to effectively record archaeological features and deposits, or take environmental samples. Safe working depth is typically to no more than 1.2m, and even then, the narrow width of the trenches would restrict any ability to carry out archaeological recording or accurately identify individual contexts for sampling.
- 2.12 Furthermore, given that only the upper 1m of natural deposits would be disturbed by the trenches, it is possible (if not likely) that these deposits would have received some degree of contamination and/or disturbance from the reduction of ground levels and construction of the steelworks and its related infrastructure. As such, it is likely that samples taken from this material would be contaminated by modern materials and chemicals and thus the quality of paleoenvironmental data could be poor.

3. Conclusion

- 3.1 In conclusion, following consultation with GGAT and in consideration of below-ground site conditions and the nature of the development, as proposed for the 3C and 4A parcels, it was agreed that, in order to discharge Condition 38, an Archaeology Statement should be issued and that archaeological fieldwork as set out in the agreed AMP would not be required.
- 3.2 The Archaeology Statement is reflected in this WSI, which reviews the archaeological scope of works as set out in the Eastern Sub-Area AMP in relation to the proposed development site, taking into consideration site conditions and the practical implications of carrying out the works.

- 3.3 It is concluded that, of the proposed groundworks, only the deepest sections of narrow (150mm–450mm) drainage and sewerage trenches would penetrate to ground levels that are below late 20th century made ground and thus would potentially truncate Tidal Flat deposits that could be of archaeological or paleoenvironmental interest.
- 3.4 Although this truncation would occur, it is concluded that it would not be possible to archaeologically monitor these works, or sample the deposits that are truncated, on account on the inability to provide a safe and practical archaeological working environment within these narrow and deep excavations. Furthermore, given the limited depth of the Tidal Flat deposits below existing made ground, it is possible that deposits are contaminated by modern material and, at such limited depths, a clean sample of paleoenvironmental significance may not be achievable.
- 3.5 As such, in consideration of the development impacts as proposed, it is concluded that archaeological fieldwork in compliance with the AMP would be impractical and of little value within the 3C and 4A parcels that comprise the site, and should not need to be carried out.



Appendix EDP 1
Archaeological Management Plan
(Atkins, 2020, Glan Llyn Eastern Sub Area)

Glan Llyn Eastern Sub Area

Archaeological Management Plan

11 June 2020



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1. Introduction

1.1. Outline

This Archaeological Management Plan (AMP) sets out a proposed approach to addressing archaeological issues in the Eastern Sub Area of Glan Llyn development site in Newport. It provides details of the scheme ground works methodology, a summary of preliminary assessments and agreed scope of mitigation works and sets out communication protocols between all parties involved with the scheme; these being St Modwen and St Modwen's archaeological consultant, the Glamorgan Gwent Archaeological Planning Manager and the archaeological contractor.

A previous AMP was produced in 2014 for the Western Sub Area and subsequently amended in 2018 to reflect a minor change in the proposed development, and changes to archaeological guidance and policy since 2014.

1.2. Standards

All required archaeological works will be undertaken in accordance with industry standards and guidance, including the Chartered Institute for Archaeologists Standard and Guidance for an archaeological watching brief¹, Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives². Archaeological contractors will abide by the Chartered Institute for Archaeologists Code of Conduct³.

Each element of archaeological works will be subject to a Written Scheme of Investigation (WSI) approved by the Glamorgan Gwent Archaeological Planning Manager prior to the commencement of works. The agreed WSI will be subject to review based upon ongoing results.

1.3. Location

The Site is the Glan Llyn Eastern Sub Area at the former Llanwern Steel Works, Newport (centred on NGR 336337, 186845: Appendix B: Figure 1). The Site is bordered to the east by Monks Ditch and Celtic Business Park, to the west by Western Park and the Glan Llyn housing estate, to the south by Queens Way (A4810), and to the north by a surface water drainage ditch and the Tata steel railway line.

1.4. Proposed Development

Development for residential, educational and recreational purposes is proposed in the Eastern Sub Area. The development will require the turnover of made ground using mechanical excavators to remove obstructions relating to the former site use. Specific areas of the development will require piling works and the installation of drainage and other utilities. Proposals for works associated with preparation of the development phases include:

- the breakout of remnant concrete slabs and other areas of hardstanding, where present;
- the cutting down of relict piles and other obstructions to the surface of the natural geology;
- engineering of fill material from the surface of the natural geology to achieve the required formation levels;
- construction of new drainage features such as reens and lakes.

1.5. Previous Work

The following reports have been produced for the area of the site under discussion:

- Desk-Based Assessment (RPS Consulting 2002);
- Environmental Statement (Halcrow 2006);
- Written Scheme of Investigation (Halcrow 2011); and

¹ Chartered Institute for Archaeologists (CIfA), 2014, Standards and Guidance for an Archaeological Watching Brief, Reading

² Chartered Institute for Archaeologists (CIfA), 2014a, Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives, Reading

³ Chartered Institute for Archaeologists (CIfA), 2019, Code of Conduct, Reading

- Former Llanwern Steelworks, Newport, Archaeological Management Plan (Western Sub Area) (Atkins, 2014).

The Environmental Impact Assessment (EIA) established the archaeological and historical background for the scheme (Halcrow 2006). This drew on an earlier desk-based assessment undertaken by RPS consulting in 2002, along with renewed Historic Environment Record (HER) data.

A previous WSI for Phase 1 of the site provided a deposit model for the area, as well as detailing methods for an archaeological watching brief (Halcrow 2011).

2. Topography and Geology

2.1. Topography

The topography of the Site is broadly flat. Ground levels vary from c. 6.5m above Ordnance Datum (AOD) in the west of the Site rising to 6.75m in the east and up to 7.0m AOD in the south. In localised areas, ground levels are up to 7.5m AOD.

These ground levels appear broadly concurrent with the surrounding Gwent Levels, which are at approximately 7.0m OD. However, historically, the Site may have been within a depression or hollow in the natural topography, as a historical borehole recorded on the British Geological Survey (BGS; ref. ST38NE8) drilled in 1956 shows the borehole was advanced from an elevation of 5.07m AOD. This would indicate that the modern ground levels on the Site are entirely artificial, resulting from placement of extensive made ground (see below).

2.2. Geology

The British Geological Survey (BGS) digital data indicates the Site is located upon superficial Tidal Flat Deposits, comprising clays and silts⁴, overlying bedrock of the Mercia Mudstone Group.

The BGS borehole drilled in 1956 records the historical stratigraphy of the Site⁵. Underneath 0.1m of topsoil, a deposit of soft blue grey clay measuring 1.57m thick was recorded. This overlay c.0.8m of fibrous peat deposits (the top of which would have been at 3.4m OD) which was on top of a further 3.56m of blue grey clay. Beneath this was another deposit of fibrous peat measuring c.0.8m thick (the top of which would have been at -0.96m OD), which overlay c.1.9m thick clay deposit. Beneath this sequence was a firm reddish-brown clay.

The sequence identified in the borehole clearly shows deposition of alluvial deposits (blue grey clays) interspersed with historic periods of drying out indicated by peat deposits.

A ground investigation undertaken on the Site in 2019 to inform reclamation and remediation⁶ identified made ground deposits ranging from c.1.9m – 2.2m thick, with some areas between 2.9 and 3.7m thick. Made ground is described as an angular grey gravelly sand with an ashy texture and brick, slag and concrete inclusions. The underside of the made ground deposits range from c.4.5m OD to 3.5m OD, suggesting that the upper alluvial deposits identified in 1956 may have been removed.

Beneath the made ground the boreholes indicate a similar sequence of peats and alluvial deposits on top of bedrock of the Mercia Mudstone Group. Peat layers range between 1.5m and 2.6m in thickness.

⁴ British Geological Survey, <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

⁵ British Geological Survey, Borehole Ref. ST38NE8, http://scans.bgs.ac.uk/sobi_scans/boreholes/385030/images/10706169.html

⁶ Brownfield Solutions Ltd, 2019, Llanwern Coking Works: Factual Ground Investigation Report. Ref. AT/M4240/8841

3. Heritage Baseline

The following paragraphs summarise the archaeological and historical background for the site drawing on historic environment data obtained from the Gwent and Glamorgan Archaeological Trust Historic Environment Record (GGAT HER)⁷, and within a 1km study area of the Site boundary. Historic Environment Record Numbers are identified by their unique identifying number (prefixed “PRN”).

3.1. Heritage Assets

There are no Scheduled Monuments within 1km of the Site. The south-western extent of Llanwern Park is 800m north-east of the Site.

Three listed buildings have been recorded within 1km of the proposed development:

- **Barn at The Barn Farm** (19951219; Grade II listed), 280m north-east;
- **Parish Church of St Mary** (19630103; Grade II* listed); 720m north-east;
- **Tatton Farm** (19961031; Grade II listed), 960m south-west.

There are no non-designated assets within the Site. There are 26 non-designated assets within 1km of the Site:

- **PRN00171g** Roman Cremation cemetery;
- **PRN00174g** Site of a medieval manor house;
- **PRN00238g** Pwl Pan site of a medieval Manor House;
- **PRN00240g** Findspot, a brass of Vespasian found at Llanwern Golf Course
- **PRN00241g**. Monks Ditch drainage channel;
- **PRN 00242g** The possible location of a mill at Twyn y Melin, recorded in 17th century documentary sources;
- **PRN00256g** Llanwern Moat. A well-preserved medieval moat;
- **PRN00257g** Llanwern Churchyard Cross. Medieval churchyard cross;
- **PRN00262g** Milton Mill. Site of a medieval mill;
- **PRN01831g** a collection of medieval and post-medieval pot sherds;
- **PRN02493g** Earthworks suggesting a deserted medieval village at Llanwern;
- **PRN03716g**. A flint scatter found at Llanwern;
- **PRN03717g** Fragments of Roman tile found;
- **PRN04800g** Fragments of medieval to post-medieval pottery found during ditch clearing;
- **PRN05011g** Llanwern Church of St Mary's
- **PRN05248g** Tatton. Post medieval farm building;
- **PRN05814g** Roman inhumation cemetery at Llanwern Golf Course;
- **PRN08218g** Llanwern churchyard;
- **PRN08308g** Lann Guern Tiwac, first mentioned in the Llandaff charters, a church believed to be on the Llanwern levels;
- **PRN08321g** Pwll Pen. Site of a medieval grange;
- **PRN08322g** Chapel field, possible site of chapel and burials;
- **PRN09406g**, post medieval pottery sherds;
- **PRN10925g**, a pair of moated platforms identified from LiDAR survey;
- **PRN10926g**, a pair of sub-rectangular platforms identified from LiDAR survey;
- **PRN10927g**, a moated complex of five enclosures identified from LiDAR survey;
- **PRN10933g**, a ground of three north-east to south-west aligned rectilinear structures. Trenches revealed structural remains with 13th-14th century pottery; and
- **PRN10994g**, Barn at Tatton Farm shown on 1842 Tithe map

⁷ Gwent Glamorgan Archaeological Trust Historic Environment Record Reference 6215

The site is located on the Gwent Levels within the Archaeologically Sensitive Area (ASA) of Gwent Levels East (ASA-CE2). The site is within the Registered Historic Landscape of the Gwent Levels.

3.2. Archaeological and Historical Background

3.2.1. Prehistoric

There are no known remains dating to this period within the Site.

Significant archaeological sites and deposits have been recorded on the Gwent levels from the prehistoric period onwards, with peat and waterlogged deposits having both archaeological and palaeoenvironmental potential. A scatter of 16 worked flints have been recorded, 575m north-east of the Site (PRN03716g).

3.2.2. Romano-British

There are no known remains dating to this period within the Site.

The site is located c.5km to the south east of the Roman legionary fortress of Caerleon. Roman settlement in the vicinity of the site is indicated by six Roman inhumation burials 255m to the north of the site, and a Roman coin find 270m north of the Site (PRN 05814g; PRN 00240g) at Llanwern. To the west of the site cremations have been recorded along with a finds assemblage including personal items such as brooches a ring and a bead (PRN00171g).

A stone coffin also recorded in the vicinity has been suggested to indicate the presence of a cemetery with an extended period of use. Settlement structures are indicated by the presence of Roman roof tile 775m to the north of the site in the vicinity of Llanwern (PRN03717g).

3.2.3. Early-medieval

There are no known remains dating to this period within the Site.

It has been suggested that the ovoid graveyard at St Mary's Church, Llanwern, 720m north-east of the Site, indicates early medieval origins, the church is possibly mentioned in a charter of 970 (PRN08308g).

3.2.4. Medieval

There are no known remains dating to this period within the Site.

The medieval grange of Pwll Pen has been recorded from documentary sources dating from at least 1291 and is marked c.405m north-west of the Site (PRN 08321g). Historical records exist for the presence of 'extensive foundations' and an enclosure. The association with the place name Chapel field and a 'tradition of burial having been found' may be significant (PRN 08322g).

A deserted medieval village has been recorded in the vicinity of St Mary's Church, Llanwern, 805m north-east of the Site (PRN02493g; CADW MM202). The Church has medieval origins and medieval pottery has been recorded in the vicinity (PRN 01831g).

The location of a medieval manor house at Pwl Pan has been recorded, 405m north-west of the Site (PRN 00238g), dating from the 14th century with further documentary references from the 17th century. A mill at Milton is also recorded in documentary sources from the 14th century, 670m north of the Site (PRN 00262g).

The extensive system of drainage channels or 'Reens' evident on historic mapping may have origins in the later medieval period, including the Monk's Ditch, 65m south-east of the site (PRN 00241g). It has been suggested that the Monk's ditch may have been established by the monks of Goldcliff Priory between the 12th and 15th centuries.

A moated complex of five enclosures was identified through LiDAR analysis, 740m south-west of the Site (PRN10927g). The enclosures were identified fronting a broad trackway. A pair of moated platforms were also identified through LiDAR analysis 805m south-west of the Site (PRN10925g), on the bank of Julian's Reen. Two further moated platforms were similarly identified 885m south-west of the Site, on the adjacent bank of Julian's Reen (PRN10926g). A complex of three rectilinear platforms were identified through LiDAR survey, 935m south of the Site (PRN10933g).

3.2.5. Post-medieval

Until the 20th century the Site and its environs appear to have been predominantly rural in nature. Historic OS mapping (not reproduced owing to copyright) shows the location of Decoypool Farm and the duck decoy pool within the Site.

Documentary evidence exists for the site of a mill at Twyn y Melin, recorded in the 17th century, 840m west of the Site (PRN 00242g). Tatton Farmhouse has also been identified from historic mapping of 1831, 805m south-west of the site, along with the associated barn (PRN 05248g: PRN10994g).

The Llanwern steelworks opened in 1962 on the Site and was in operation until 2001, with demolition of aboveground structures largely complete by 2004.

3.3. Historic Landscape Character

The Site is located to the east of the River Usk and to the north of the Severn Estuary within the Registered Historic Landscape of the Gwent Levels.

The Site is located to the north of the Nash and Goldcliff Coastal Zone (HLCA01). Phases of land reclamation are considered to date from the 11th-12th centuries with low lying areas inland reclaimed by the 13th to 14th centuries with documentary evidence referring to systems of drainage.

Bordering the Site to the south is the area of Christchurch, Nash and Whitson Back Fen (HLCA 02). This area is considered to have been reclaimed by the 14th century and drainage reens may date from this period, although a number of field boundaries may be post medieval in date. The area is characterised by well-preserved drainage features with the Monks Ditch having been recorded with stone facing. The areas at the fen edge in the vicinity of the steelworks were characterised by common land.

4. Archaeological Potential

4.1.1. Survival Potential

Archaeological survival within the Site is expected to be mixed reflecting past development and use. The construction of the steelworks in the mid-20th century involved the raising of the existing landscape in the area of the Site with substantial quantities of made ground. The stratigraphic sequence beneath the made ground is characterised by peat horizons overlain by alluvial clays.

The ground investigation works carried out on the Site in 2019 suggests that the upper alluvial deposits have been removed prior to the deposition of made ground deposits, when compared to levels in historic boreholes. Any remains that would have been present within this layer (likely medieval and post-medieval) will have been removed.

Owing to the nature of the sub-surface geology, all former steel works buildings and infrastructure had piled foundations. The type of piles used is unknown but is considered likely to comprise driven cast *in situ* piles. This would have removed any remains from within the pile diameter as the casing is driven downwards, displacing deposits adjacent to the pile. Further modification of surrounding deposits may arise following the withdrawal of the casing as the grout mixture would seep into any adjacent voids⁸. Piled foundations may have also caused wider changes to the hydrological and chemical regime of the water table and surrounding deposits.

Remains within the footprints of the former steel works buildings and infrastructure are likely to be heavily truncated (Appendix B: Figure 1). Archaeological survival in these areas is expected to be low. Truncation to archaeological remains is likely lesser in areas of infrastructure only, where moderate survival is expected to be present.

Outside these areas, archaeological survival is expected to be generally high. The thick deposits of made ground across the Site will have likely protected earlier remains within the alluvial clays and peat deposits.

4.1.2. Archaeological Potential

There is a high potential for palaeoenvironmental remains to be contained in alluvial deposits and peat horizons beneath the made ground levels. Such waterlogged remains provide anaerobic conditions which are perfect for preserving organic remains such as micro and macro flora. These can be used to recreate past environments.

Although these waterlogged conditions would not have been attractive for human settlement and habitation, they would likely have been exploited for reliable wetland resources. The presence of thick peat deposits across the site (ranging from 0.8m – 2.5m thick) indicate periods of drying out of the wetland areas, which would have been more conducive to human activity. Alluvial deposits can also mask archaeological remains that may be present.

There is a moderate potential for the remains of Decoypool Farm and the associated decoy pool to be present in the Site. Remains of this feature are likely beneath extensive made ground levels but would be truncated by the presence of piles for the former steelworks.

⁸ Historic England, 2019, *Piling and Archaeology: Guidance and Good Practice*. Historic England, Swindon

5. Scope of Archaeological Works

The scope of archaeological works for the scheme is set out in Table 1 below and covers three key phases; further assessment, mitigation fieldwork and post-excavation reporting.

It is anticipated that the works required for reclamation and remediation of the site will not impact on deposits below the made ground. On this basis the phases of archaeological work set out in Table 1 will be applicable only to utilities installation and construction works (excluding piling) which will disturb deposits below the ground in areas which have not been previously disturbed by historic piling (Appendix B: Figure 1).

The party responsible for compliance with this management plan will be the developer responsible for each element of work, herein referred to as the 'responsible party'.

Table 1: Phases of archaeological works

Phase	Archaeological Works
Mitigation Works	Archaeological Watching Brief
	A programme of environmental sampling
Post-Excavation Reporting	Post-Excavation Assessment
	Post-Excavation Publication
	An abstract of the results of the archaeological work will be published in the journal <i>Archaeology in Wales</i> . Where significant remains are encountered further publication will follow in an appropriate national archaeological journal.

5.1. Fieldwork Methodology

5.1.1. Watching Brief

The proposals for an archaeological watching brief will be set out in detail by each responsible party in an approved Written Scheme of Investigation (WSI), which will be submitted to the Glamorgan Gwent Archaeological Planning Manager for approval. Each responsible party will appoint an Archaeological Contractor to ensure any required cover for relevant elements of work is resourced before start of works.

The principal aims of the watching brief will be:

- To preserve by record any archaeological remains (if present) that groundworks may remove or damage within the area of the Proposed Scheme. Focus should be given to remains of all periods, but particular attention to those periods that may already be visible or known from the Historic Environment Record (HER) and relate to research aims set out in the project design.
- To determine the nature, extent, condition, date, character, quality, significance and state of preservation of any archaeological features and deposits affected by the scheme works.
- To assess the ecofactual and palaeoenvironmental potential of archaeological deposits and features within the site and to take samples, where deemed appropriate.

Should significant archaeological remains be discovered for which current watching brief provision is insufficient to cover the necessary sampling and recording, the Glamorgan Gwent Archaeological Planning Manager will be consulted, and a mitigation strategy agreed prior to further work. The responsible party will be informed of the situation, and the area will be cordoned off and no construction work will be allowed to continue until such time as any mitigation is completed following consultation.

5.1.2. Environmental sampling

Provision shall be made by each responsible party for a programme of environmental sampling of underlying alluvial and peat deposits. The sampling strategy will be defined in advance with the Glamorgan Gwent Archaeological Planning Manager and will conform to the relevant Historic England guidance⁹.

A programme of palaeoenvironmental sampling will be undertaken by each responsible party, where required. Methods for palaeoenvironmental sampling will be defined in advance in agreement with the Glamorgan Gwent Archaeological Planning Manager.

5.1.3. Unexpected significant discoveries

If groundworks reveal important archaeological remains during the watching brief for which there are insufficient resources to adequately assess and record the remains, all excavation within an agreed area will be stopped and the area cordoned off. The Glamorgan Gwent Archaeological Planning Manager or their appointed representative will be consulted, and an appropriate mitigation strategy agreed and implemented. Further works in this area will not commence until a site specific WSI has been submitted for the mitigation works and approved and mitigation works completed.

5.1.4. Post-Excavation Reporting and Archiving

Following completion of all fieldwork elements and sign off from the Glamorgan Gwent Archaeological Planning Manager, a single technical report will be prepared by the Archaeological Contractor on behalf of each responsible party, within a period of four months, describing the methods employed and outlining the results. The report will combine the results of all elements of archaeological mitigation and will synthesise the results of previous assessments undertaken for this scheme. The report will be submitted to the responsible party for review and submission to statutory consultees for comment and approval.

The style and format of the technical report will include the following elements as a minimum:

- An executive non-technical summary of the work undertaken, and the results obtained
- Introductory statements
- The aims and objectives
- Methodology
- The nature, location, extent, date, significance and quality of any archaeological deposits and material uncovered
- The nature and location of the features and deposits encountered
- Appropriate illustrative material such as maps, plans, sections, drawings and photographs; including a site location plan at 1:2500, a site plan at 1:1250, and where appropriate, large-scale specific plans
- A summary of results and conclusion
- A description of the archive contents and details of its location for long-term storage.
- References and bibliography

A digital copy of the report will be provided to the Glamorgan Gwent Archaeological Planning Manager who will disseminate to the relevant consultees and stakeholders. The Archaeological Contractor will ensure that the report and deposition of the archive are in accordance with Guidance for the Submission of Data to the Welsh Historic Environment Record (2018)¹⁰ and include a bilingual summary. As per guidelines, it is the responsibility of the Developer to deposit the report in the GGAT Historic Environment Record.

The site archive, to include all project records and cultural material produced by the archaeological mitigation works, will be prepared in accordance with guidance issued by the Archaeological Archives Forum (AAF)¹¹. An accession code from the relevant museum will be obtained prior to the deposition of the archive.

⁹ Historic England. 2011. Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation

¹⁰ The Welsh Archaeological Trusts, 2018, Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs), Welsh Archaeological Trusts

¹¹ Brown, 2007, *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation*

5.2. Key Responsibilities

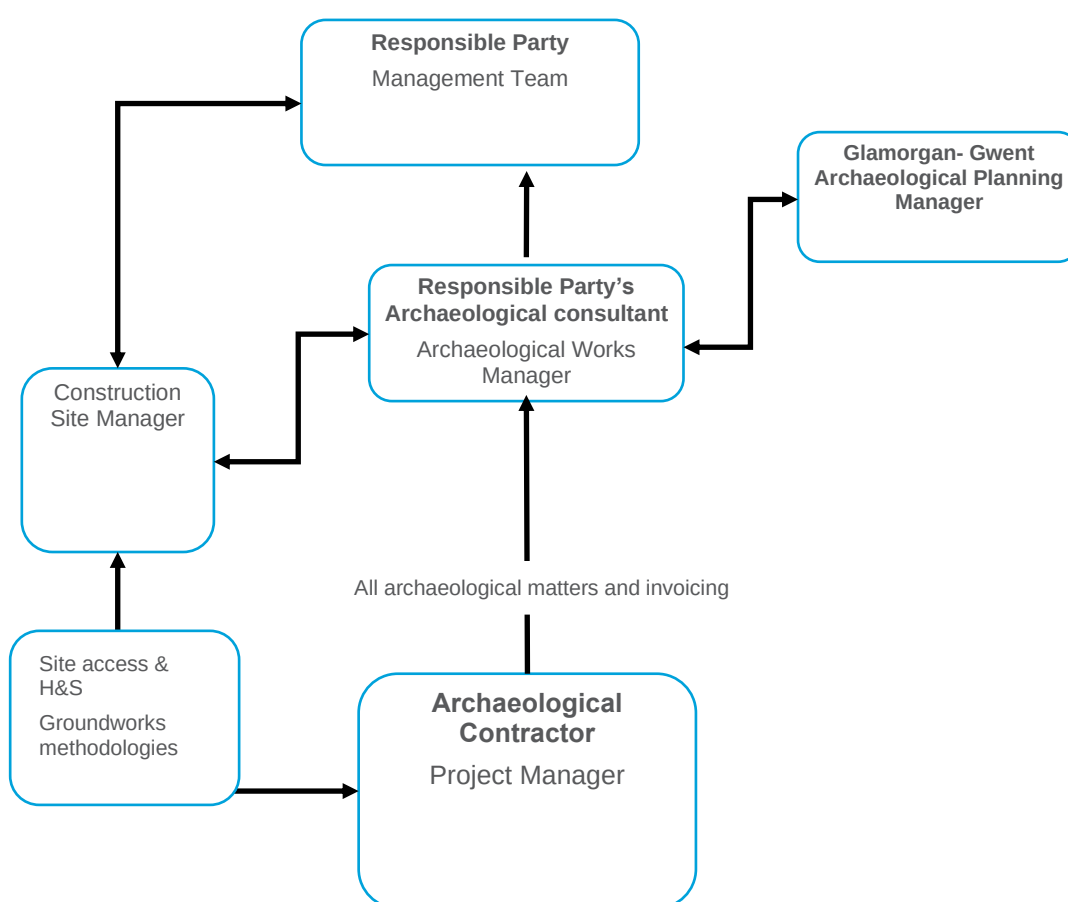
The responsible party for each element of development work will be required to implement the processes detailed in this management plan, for relevant work which will impact upon deposits below made ground and which have not been previously disturbed by historic piling (Appendix B: Figure 1).

Each responsible party will manage archaeological works and ensure that archaeological mitigation and reporting meets the requirements as set out in this document.

The Archaeological Contractor will undertake archaeological mitigation works and produce reports on behalf of each responsible party, in accordance with a WSI agreed with the Glamorgan Gwent Archaeological Planning Manager.

The Archaeological Contractor will meet all requirements specified in advance by the Glamorgan Gwent Archaeological Planning Manager, in order to fulfil the archaeological requirements.

The responsible party's archaeological consultant will liaise with all parties in accordance with communication protocols set out below.



Prior to the start of the works, the Archaeological Contractor will provide toolbox talks (TBTs) for site staff in order to brief them on identification and communicating of unexpected archaeological features and finds during the course of site works.

5.3. Health and Safety

Health and safety considerations are of paramount importance. Archaeological fieldwork will be covered under CDM Regulations. However, each responsible party will be CDM Coordinator for the various scheme areas and the Archaeological Contractor will be required to follow their Health and Safety Plan and provide relevant risk assessments, COSHH and Manual Handling Assessments as appropriate prior to the commencement of work on site. The Archaeological Contractor will not be permitted to enter sites without a site-specific risk assessment that is approved by each responsible party.

Prior to the commencement of any fieldwork the Archaeological Contractor will be provided with appropriate site safety induction training by each responsible party with regard to working on site in close proximity to their plant and excavations.

Each responsible party will ensure appropriate temporary fencing will be deployed to protect the work areas of the archaeological contractor where risk assessments highlight the need and particularly where plant and machinery is expected to be active adjacent to archaeological sites. Archaeologically sensitive areas not requiring mitigation, but in proximity to mitigation and construction works will be fenced off to ensure protective perimeters are maintained throughout the works programme. Plans defining these areas will be issued to the archaeological contractor following appointment. Fencing and maintenance will be the responsibility of each responsible party for their works area.

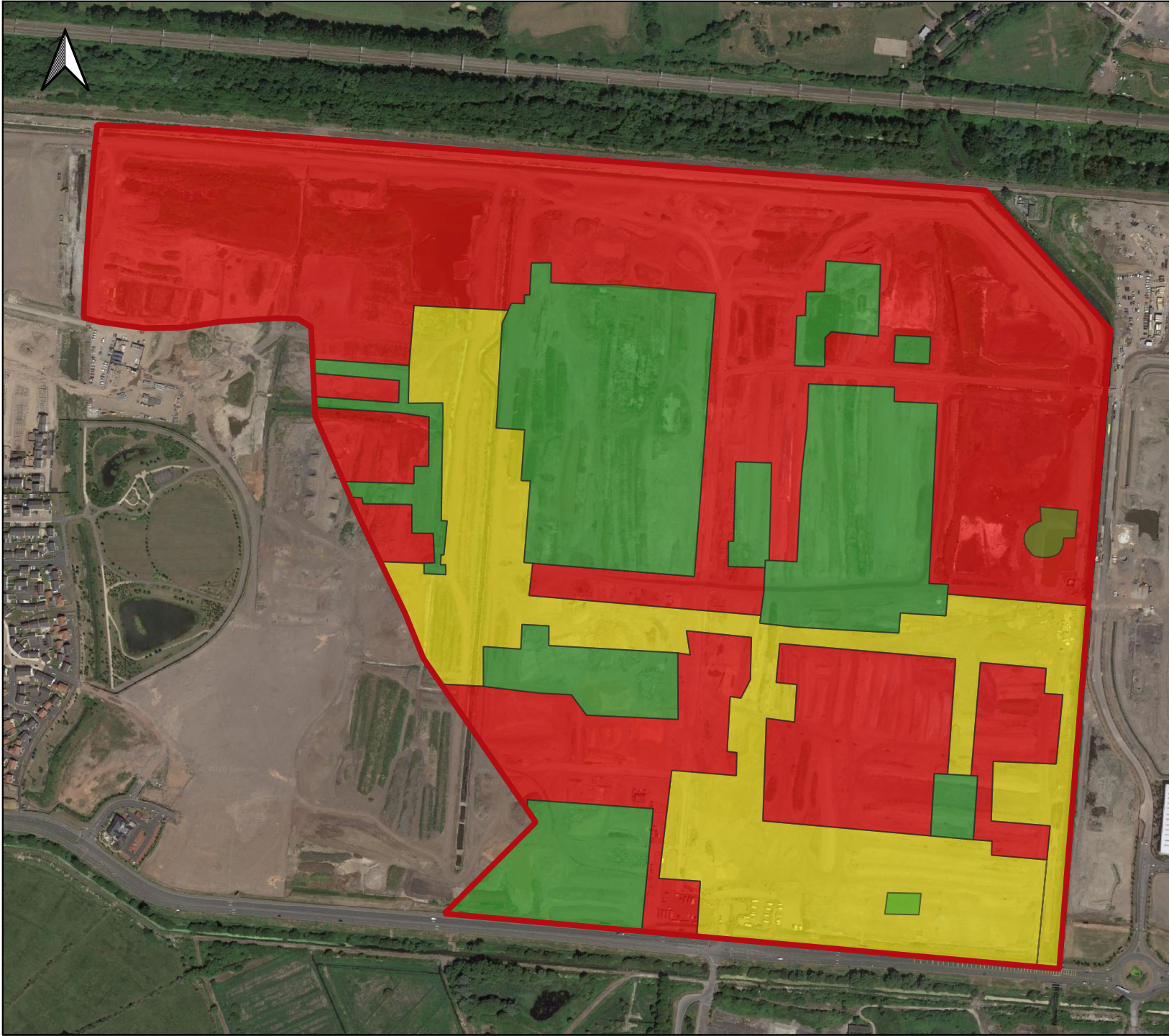
Appendices



Appendix A. Bibliography

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Appendix B. Figures



LEGEND

-  Site boundary
-  Areas of low archaeological survival
-  Areas of high archaeological survival
-  Areas of moderate archaeological survival

ATKINS

Member of the SNC-Lavalin Group

Client		St Modwen Developments		
Project Title		Glan Llyn		
Drawing Title		Potential for Archaeological Survival		
Scale	Designed	Drawn	Checked	Authorised
NTS	GR	GR	JH	CS
Original Size	Date	Date	Date	Date
A4	13/03/2020	13/03/2020	25/03/2020	25/03/2020
Drawing Number				Revision
Figure 1				01

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Appendix EDP 2
Email Exchange with GGAT June/July 2020

From: [Judith Doyle](#)
To: [Rob Skinner](#)
Subject: RE: edp6046 - Llanwern Phase 3C and 4A
Date: 24 June 2020 11:01:18
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Hi Rob,

Thanks for this, yes, as long as we have a document that makes it clear that the evidence has been appropriately considered and conclusions given.

Kind regards
Judith

From: Rob Skinner <robs@edp-uk.co.uk>
Sent: 23 June 2020 14:28
To: Judith Doyle <Judith@ggat.org.uk>
Subject: RE: edp6046 - Llanwern Phase 3C and 4A

Hi Judith,

Thanks for getting back to me. Evidently you understand the problems that we have with implementing the works referred to in the AMP for these parcels, this is much appreciated. I acknowledge your request for a WSI setting out the impracticalities of these works however I suggest below a slightly different approach. In order to accord with the wording of the condition and the process of discharge we submit the following:

- Issue a brief note as the WSI which sets out a requirement for an Archaeology Statement (or similar) in order to discharge the condition - something along the lines of '....due to the site conditions and limitations of development, following consultation with GGAT, discharge of condition will require an Archaeology Statement that will set out the practicalities of implementing the works in the AMP for the site etc....'
- Then, we issue an Archaeology Statement that sets out in detail the proposals, geological conditions etc and outlines the practical issues and problems with negative results etc... (ie. As per the WSI in your email below)

This way we avoid having to write a WSI that isn't really a WSI, and you end up with a clear report that follows on from the management plan and draws a line under archaeological matters for these parcels.

Please let me know what you think of this suggestion,

Kind regards

Rob

Rob Skinner

Principal Archaeology and Heritage Consultant

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dd N/A
m 07557 021709
w www.edp-uk.co.uk

From: Judith Doyle <Judith@ggat.org.uk>
Sent: 22 June 2020 16:23
To: Rob Skinner <robs@edp-uk.co.uk>
Subject: RE: edp6046 - Llanwern Phase 3C and 4A

Hi Rob

Thanks for the query, and for sending the extra plans.

The Archaeological Management Plan came out of the original, which related to the one of the early outline planning applications about 20 years ago. This one is the updated version for the eastern part of the western sector.

Clearly, there have been significant changes to the topography and landscape since the works closed. There have been some further cases of archaeological mitigation where geophysical survey and intrusive fieldwork have shown the survival of some deep features. Of course in this case, this approach would not give any useful information, as the area has been significantly altered and the high metals levels would not, in my consideration, give any useful data. Creation of deposit modelling for the depths and bands of peats and made ground may give a clearer picture, however, given your information on the levels of the made ground, and the levels to which this will be altered and raised after remediation, it is unlikely that there would be a need for an archaeological watching brief in these areas.

As I understand from your email, the deep services are already in place and the connections are unlikely to reach any significantly undisturbed ground. Therefore, regarding the environmental sampling, if the ground remediation, connections to services, foundations or any other of the deeper works are not going to penetrate to the depths where there would be any undisturbed deposits that could be sampled, then it would be difficult to retrieve a clean sample for analysis.

If the detailed information relating to the depths and nature of the remediation and its make up, could be compiled and formed into the WSI for submission, we would then make a formal response. Regarding the considerations for sampling and watching brief from the AMP, the WSI would state why these would be impractical and likely to result in negative results, with the benefits of any data being outweighed by the retrieval methodology, and lack of likelihood of clean samples.

Hope this helps,
Kind regards

Judith

From: Rob Skinner <robs@edp-uk.co.uk>

Sent: 22 June 2020 10:15

To: Judith Doyle <Judith@ggat.org.uk>

Subject: RE: edp6046 - Llanwern Phase 3C and 4A

Hi Judith,

I'm fine thank you and I hope you are surviving well in these tough times!

Certainly, not a problem. Please see attached two plans showing the areas in question, one in relation to the whole site the other overlaid onto the plan that accompanies the AMP.

Kind regards

Rob

Rob Skinner

Principal Archaeology and Heritage Consultant

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m 07557 021709

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From: Judith Doyle <Judith@ggat.org.uk>

Sent: 22 June 2020 10:04

To: Rob Skinner <robs@edp-uk.co.uk>

Subject: RE: edp6046 - Llanwern Phase 3C and 4A

Hi Rob

Do you have a redline plan for Parcels 3C and 4A that you could send us? that would be helpful and we can take a look then.

Hope all is well with you

Kind regards

Judith

Judith Doyle BA MBA MCifA

Archaeological Planning Officer (Senior) / Swyddog Cynllunio Archeolegol (Uwch)

Dirpwy Brif Swyddog Gweithredol (Rôl Atodol)/ Deputy Chief Executive Officer (Supplementary)

Glamorgan-Gwent Archaeological Trust Ltd / Ymddiriedolaeth Archeolegol Morgannwg Gwent

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Mudiad Archaeolegol Cofrestredig, Sefydliad yr Archaeolegwyr (IFA), Rhif 15.

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Os nad chi oedd fod derbyn y neges hon, neu os ydych yn weithiwr cyflogedig neu'n asiant yn gyfrifol am anfon y neges, nid yw ei datgelu, ei chopïo, ei dosbarthu na chymryd unrhyw gamau yn ddibynol ar y neges yn cael eu hawdurdodi, a gall gwneud hyn fod yn anghyfreithlon. Os byddwch yn derbyn y neges hon trwy gamgymeriad, cysylltwch â ni drwy anfon y neges yn ôl atom gan ddileu unrhyw negeseuon neu atodiadau.



From: Rob Skinner <robs@edp-uk.co.uk>
Sent: 17 June 2020 17:06
To: Rob Dunning <Rob@ggat.org.uk>
Cc: GGAT Planning <planning@ggat.org.uk>
Subject: edp6046 - Llanwern Phase 3C and 4A

Hi Rob,

Not sure if this is your one, if not please could you pass to the appropriate officer?

I've been asked to write a WSI for two of the parcels (3C and 4A) at the Llanwern steelworks site. I've been given the attached AMP which I believe has been agreed with yourselves as a guide to archaeological works required to discharge Condition 38 of the outline planning application (reference: 06/0471).

The AMP sets out a Scope of Archaeological Works for the Eastern Sub Area. It sets out two phases to this; mitigation field work and post-excavation reporting. The fieldwork

methodology as set out in the AMP comprises an Archaeological Watching Brief and a programme of environmental sampling. Based on an assessment of the ground make-up of the Eastern Sub Area, which comprises a layer of 1.9 – 3.7m of made ground (related to the steelworks) overlying alluvial and peat deposits, the AMP concludes that:

‘works required for reclamation and remediation of the site will not impact on deposits below the made ground’

And therefore, that archaeological works will only be required for:

‘utilities installation and construction works (excluding piling) which will disturb deposits below the ground in areas which have not been previously disturbed by historic piling.’

Having appraised the engineering plans, development proposals for the two parcels will comprise the following impacts:

Initial ground reduction of 750mm across the whole site which will then be built back up to 6.5m aOD (close to the present level at the site) with clean cover and arisings. This reduction reflects the reclamation and remediation works noted above and will not disturb deposits below the made ground and thus in accordance with the AMP is exempt from the watching brief.

Foundations for buildings will be piled and it is only trenches for drainage and sewerage that require groundwork which will be to such depth that it might disturb deposits located below made ground. In this respect, given that the average depth of made ground would be c. 2m, and the finished ground surface level of 6.5m aOD, it is only services located below 4.5m aOD that would be subject to the requirement for an archaeological watching brief and environmental sampling.

Herein the problem lies, as narrow trenches of such depths would be impossible to archaeologically monitor safely, as any features worthy of recording would be located at 2m+ depths. Many of the proposed service trenches are much deeper than that, up to 3-4m below the ground level. The archaeologists simply would not be able to work in narrow trenches at that depth, and being a watching brief, we are not obliged to do anything other than monitor construction works.

I have suggested to the client that we could archaeological assess and monitor borehole samples, however all of the GI work for the site was completed years ago as the client have received the parcels fully serviced and they do not need to carry out any further work of this nature.

Given the site's constraints, a watching brief on the development as proposed does not seem feasible, please let me know if you have any comments or suggestions in relation to this aspect?

The AMP also outlines a requirement for a programme of environmental sampling, with strategy and method to be agreed with yourselves. Please could you suggest a methodology for the environmental sampling aspect as detailed in the AMP?

Kind regards,

Rob

Rob Skinner BA (Hons), MA, ACIfA
Principal Archaeology and Heritage Consultant



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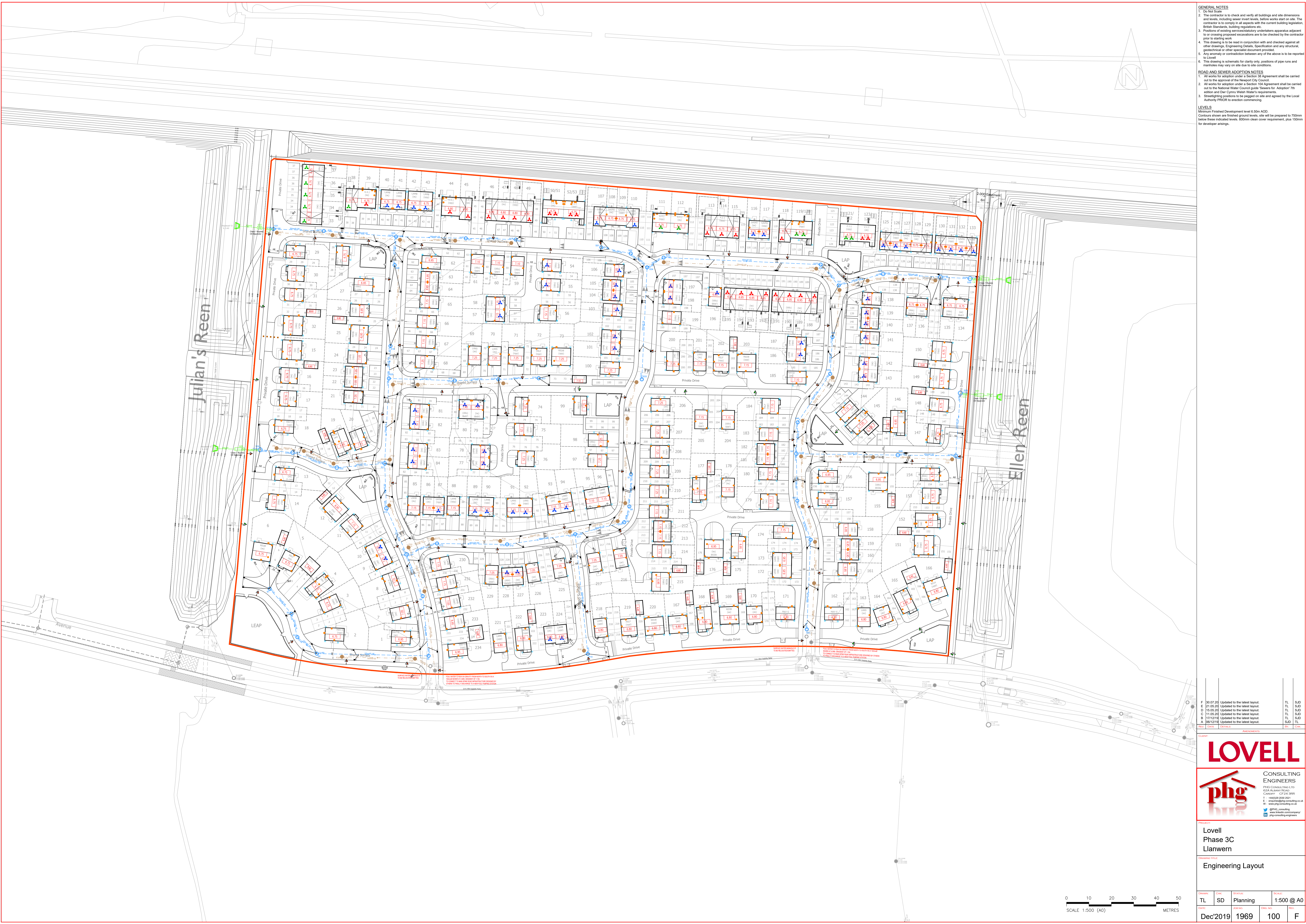
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Appendix EDP 3
PHG 2019, Drawing Numbers 1969/100 (F) and 1969/200 (D)



GENERAL NOTES

1. Do Not Scale
2. The contractor is to check and verify all buildings and site dimensions and levels, including sewer invert levels, before works start on site. The contractor is to comply in all aspects with the current building legislation, British Standards, building regulations etc.
3. Positions of existing services/statutory undertakers apparatus adjacent to or crossing proposed excavations are to be checked by the contractor prior to starting work.
4. This drawing is to be read in conjunction with and checked against all other drawings, Engineering Details, Specification and any structural, geotechnical or other specialist document provided.
5. Any anomaly or contradiction between any of the above is to be reported to Lovell
6. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.

ROAD AND SEWER ADOPTION NOTES

1. All works for adoption under a Section 58 Agreement shall be carried out to the approval of the Newport City Council.
2. All works for adoption under a Section 106 Agreement shall be carried out to the National Water Council guide Sewers for Adoption 7th edition and Der Cymru Welsh Water's requirements.
3. Streetlighting positions to be agreed on site and agreed by the Local Authority PRIOR to erection commencing.

LEVELS

Minimum Finished Development level 6.50m AOD

Contours shown are finished ground levels, site will be prepared to 750mm below these indicated levels. 600mm clean cover requirement, plus 150mm for developer arisings.

REV	DATE	DETAILS	AMENDMENTS	BY	CHK
F	30.07.20	Updated to the latest layout.		TL	SJD
E	27.05.20	Updated to the latest layout.		TL	SJD
D	15.05.20	Updated to the latest layout.		TL	SJD
C	11.05.20	Updated to the latest layout.		TL	SJD
B	17.12.19	Updated to the latest layout.		TL	SJD
A	06.12.19	Updated to the latest layout.		SJD	TL

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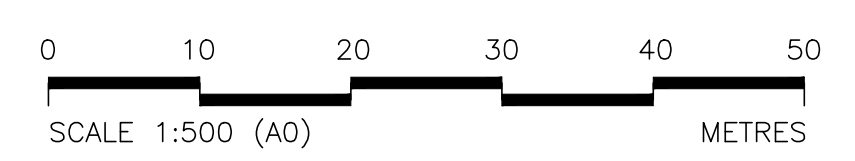
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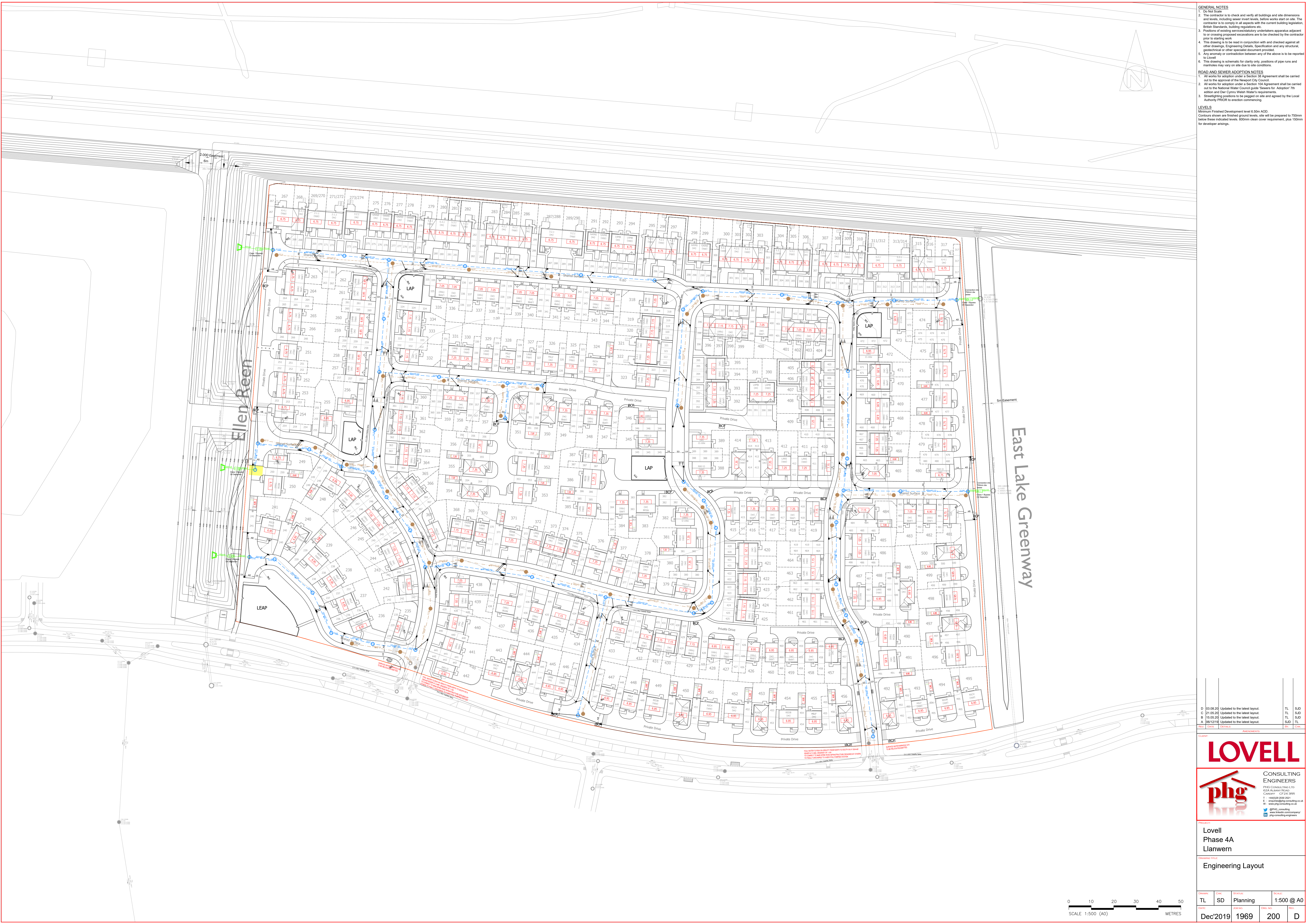
Lovell
Phase 3C
Llanwern

DRAWING TITLE

Engineering Layout

DRAWN	CHK	STATUS	SCALE
TL	SD	Planning	1:500 @ A0
DATE	JOB NO	TRNG NO	REV
Dec'2019	1969	100	F





GENERAL NOTES

1. Do Not Scale
2. The contractor is to check and verify all buildings and site dimensions and levels, including sewer invert levels, before works start on site. The contractor is to comply in all aspects with the current building legislation, British Standards, Building Regulations etc.
3. Positions of existing services/utility undertakers apparatus adjacent to or crossing proposed excavations are to be checked by the contractor prior to starting work.
4. This drawing is to be read in conjunction with and checked against all other drawings, Engineering Details, Specification and any structural, geotechnical or other specialist documents provided.
5. Any anomaly or contradiction between any of the above is to be reported to Lovell.
6. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.

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1. All works for adoption under a Section 58 Agreement shall be carried out to the approval of the Newport City Council.
2. All works for adoption under a Section 106 Agreement shall be carried out to the National Water Council guide Sewers for Adoption 7th edition and Der Cymru Welsh Water's requirements.
3. Streetlighting positions to be agreed on site and agreed by the Local Authority PRIOR to erection commencing.

LEVELS

Minimum Finished Development level 6.50m AOD

Contours shown are finished ground levels, site will be prepared to 750mm below these indicated levels. 600mm clean cover requirement, plus 150mm for developer arisings.

D	03.08.20	Updated to the latest layout.	TL	SJD
C	21.05.20	Updated to the latest layout.	TL	SJD
B	15.05.20	Updated to the latest layout.	TL	SJD
A	06/12/19	Updated to the latest layout.	SJD	TL

REV	DATE	DETAILS	AMENDMENTS	BY	CHK
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CLIENT:

LOVELL

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PROJECT:

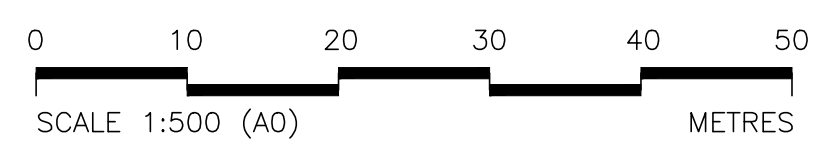
Lovell
Phase 4A
Llanwern

DRAWING TITLE:

Engineering Layout

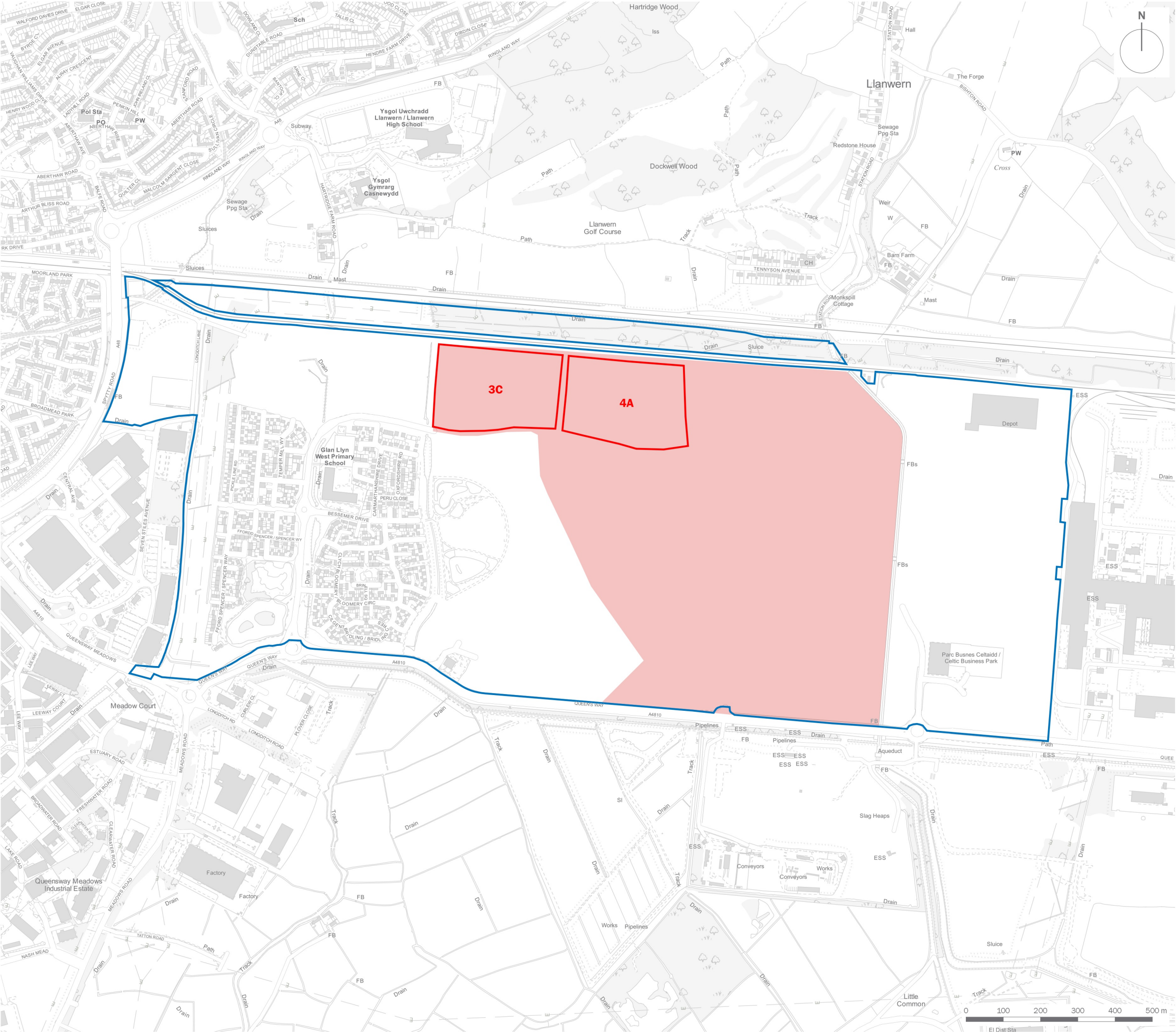
DRAWN	CHK	STATUS	SCALE
TL	SD	Planning	1:500 @ A0

DATE	JOB NO	ENCL NO	REV
Dec'2019	1969	200	D





Plan EDP 1
Site Location Plan
(edp6046_d004a 06 August 2020 GY/RS)



Site Boundary

Full Site Area

Eastern Sub Area

client	Lovell		
project title	Written Scheme of Investigation for Archaeological Works		
drawing title	Plan EDP 1: Site Location Plan		
date	06 AUGUST 2020	drawn by	GY
drawing number	edp6046_d004a	checked	RS
scale	1:10,000 @ A3	QA	JTF

edp

the environmental dimension partnership

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