



Counthouse and Carpenters' Shop Complexes, King Edward Mine, Troon, Cornwall Impact assessment



Historic Environment Projects

**Counthouse Complex and Carpenters' Shop
Complex,
King Edward Mine, Troon, Cornwall**

Impact Assessment Report

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The views and recommendations expressed in this report are those of Historic Environment Projects and those of the other authors and organisations whose reports are summarised here. They are presented in good faith on the basis of professional judgement and on currently available information.

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Freedom of Information Act

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Cover illustrations

Front cover image of the Counthouse Complex and Carpenters' Shop (c1925).
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Abbreviations

CC	Cornwall Council
CMP	Conservation Management Plan
CSM	Camborne School of Mines
EH	English Heritage
HAR	Heritage at Risk
HER	Cornwall and the Isles of Scilly Historic Environment Record
HE(P)	Historic Environment Projects, Cornwall Council
HLF	Heritage Lottery Fund
KEM	King Edward Mine
LB	Listed Building
NGR	National Grid Reference
OS	Ordnance Survey
OUV	Outstanding Universal Value
PRN	Primary Record Number in Cornwall HER
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WHS	World Heritage Site

1 Summary

Following the establishment of Camborne Mining School in the late 1880s, the eastern section of South Condurrow Mine (1864-1896) was leased from the Pendarves Estate and renamed King Edward Mine (KEM) in 1901. Three years later, after the mine was equipped with new surface machinery, buildings and a new Mill, it was successfully operating as a training facility (above and below ground) for students of Camborne School of Mines, the main practical mine training school in the country.

King Edward Mine is now the oldest complete mine site left in Cornwall. The entire site contains a number of buildings (see Figures 2-4), many grouped into larger complexes; for example the Count House and Carpenters' Shop complexes (all unoccupied and deteriorating), and the hugely significant Mill complex. All of the main buildings on the site are Grade II* Listed due to their individual or group value, with the exception of South Condurrow Stamps Engine House, which is Grade II. The entire site is within the Cornish Mining World Heritage Site (WHS). KEM has Outstanding Universal Value as the best preserved mine head complex within the WHS for the 1700 – 1914 period for which the WHS was inscribed by UNESCO.. The museum receives an annual grant from Cornwall Council.

In December 2010 Cornwall Council commissioned Purcell Miller Tritton and Parkin Heritage & Tourism to undertake a Condition Survey, Options Appraisal and Outline Business Plan to understand these buildings and how they could be utilised to develop the site to make it viable. This was subsequently extended to develop a Master Plan and Business Plan for the whole site, which was produced in December 2011. Grant applications are underway to fund the restoration and adaptive re-use of presently underused buildings in order to generate income to make the site's continued operation more sustainable, improve the condition of some of the Listed Buildings, and reinforce recognition of KEM's standing within the Cornish Mining World Heritage Site.

A detailed Conservation Management Plan (CMP) for King Edward Mine was produced by Cornwall Council (CC) Historic Environment Projects in early 2013. Architects and a Design Team have been appointed in 2012 to produce low impact proposals for adaptive re-use of the Count House and Carpenters' Shop complexes, closely following the conservation philosophy detailed in the CMP.

This Impact Assessment Report will accompany the Listed Building consent application for adaptive re-use of the Count House and Carpenters' Shop complexes. Archaeological impact mitigation recommendations include a programme of historic buildings consultancy before works start (to ensure the proposals have a minimal impact), a photographic record prior to and after works to ensure that there is a detailed record of the works, a Level 3 annotated survey of the sites affected by the scheme, and production of a detailed archaeological recording after works finish.

However, it should be noted that not all the impacts to the site are known at the present time, and cannot therefore be commented upon in detail nor mitigation discussed. For example, a mine shaft has been located beneath the Counthouse west wall (Mess Building – Site 1), the foundation blocks under the Carpenters' Shop have been tested and contain elements of 'mundic', and excavation trenches (and therefore impacts) for drains both inside and outside the buildings are not finalised. In addition, detailed specifications for internal floor, wall and ceiling works have also not been finalised. This report should therefore be viewed as a generic impact assessment for the project.

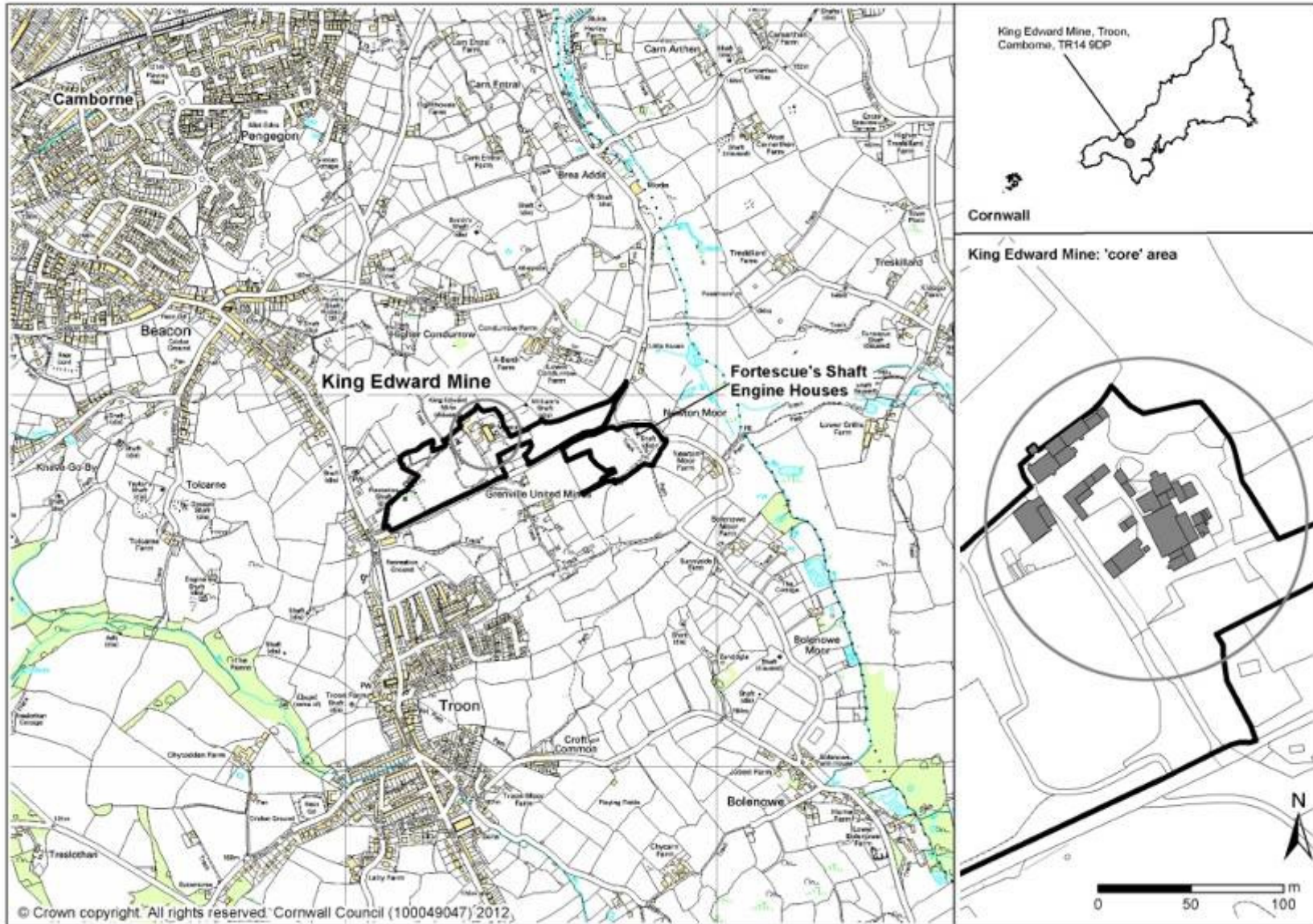


Figure 1 Location map of King Edward Mine and surrounding area

2 Introduction

2.1 Project background

King Edward Mine is sited at the western end of the Great Flat Lode, an area demonstrating key authentic aspects of the 19th and early 20th century Cornish mining industry. The overall complex has Outstanding Universal Value as the best preserved mine head complex within the WHS for the relevant 1700-1914 period, and as a prominent mine site in the best preserved mining landscape within the WHS.

King Edward Mine was developed within a part of the former South Condurrow sett which worked from 1864 to 1896. It was taken over by the Camborne School of Mines (CSM) in 1896 and reorganised as a training mine to enable its students to gain practical experience in all fields of their discipline. Part of the site, which included the mill complex and its associated buildings, became redundant in 1974 when CSM relocated from Camborne to Pool. A volunteer group was set up in 1987 to try to preserve these now redundant structures, to restore the mill and in time to open it as a museum. This was achieved and the museum opened in 2001. CSM finally terminated their lease for the whole KEM site in 2005, when responsibility for the operation and development of the museum passed to King Edward Mine Ltd. (a not for profit company). In 2009 Cornwall Council acquired the freehold of the site from the Pendarves Estate. The King Edward Mine site area is entirely in the ownership of CC, and in 2012 KEM Ltd obtained a 30 year lease from CC.

The complex of structures making up the core area of the King Edward Mine site are unique in that they were almost all constructed during a single development phase (1897 – 1907), each for a specific function. It is extremely rare that most of the original buildings have survived without significant modification. For this reason, many have been accorded designation as Grade II* Listed Buildings.

However, some elements of the site, in particular the Carpenters' Shop, Assay Office, and Count House complexes are not appropriately utilised, and in 2011, proposals were put forward for their adaptive re-use. A master plan and business plan for the site was prepared in 2011, and ERDF and HLF grant bids are currently being prepared by Cornwall Council to achieve these works and the possibility of other schemes to improve the visitor experience, their engagement with the heritage of the site and area, and to increase the number of visitors with the overall aim of making the site more financially sustainable.

A Conservation Management Plan was produced by Historic Environment (Projects) in early 2013 to set the framework, policies and conservation philosophy to inform and guide the management and future proposals that could impact upon the site's setting character and significance.

This report (commissioned by the Cornwall Culture Team), assesses the impact of the proposed adaptive re-use building works on the significant assets of the Counthouse complex and Carpenters' Shop complex. Poynton, Bradbury, Wynter, Cole Architects Ltd. (PBWC Ltd) have produced a detailed schedule of works and specifications, describing how the impact of the proposed works are minimised as part of a coherent mitigation strategy.

A summary statement of significance relating to structures likely to be affected by the proposed works has been produced (Section 3.2), followed by a summary table of each site's assets (Section 4.3). This report identifies the archaeological impacts resulting from the proposed adaptive re-use building scheme, and describes the mitigation of the works on the site's significant assets. In addition this report refers in detail to the Conservation Management Plan conservation philosophies and describes how these are integrated into the architect's proposals.

2.2 Aims

The purpose of this impact assessment is to:

1. Assess the impact of the proposed adaptive re-use building works to the Counthouse and Carpenters' Shop complexes on the significance and character of King Edward Mine. This report will be considered as part of the Listed Building Consent application, which will be sent to both the area Conservation Officer and English Heritage (Francis Kelly).
2. Indicate the steps that have already been taken by the historic buildings consultant (HBC) to avoid or minimise adverse impacts upon the site, its features and archaeology.
3. Ensure that the site methodologies and principles accord with the conservation philosophies as detailed in the Conservation Management Plan, and accord with general EH guidance on the Conservation/adaptation of Historic buildings.
4. Indicate that the proposed methods and techniques are appropriate to the history, character and outstanding universal value (OUV) of the site and accords with the Cornish Mining World Heritage Site revised management plan (2013 – 2018).
5. Make recommendations for an archaeological mitigation strategy.
6. Ensure the detailed site information presented by PBWC Ltd conform to the overall mitigation strategy for the site.

2.3 Conservation philosophy

General conservation philosophy

A site's importance may relate to its historic heritage, its ecological or mineralogical heritage, or more usually, to a combination of two or more of these factors. Statutory designations (Listed Buildings etc) and non-statutory designations (World Heritage Site), may well affect or constrain the scope of a proposed project and detailed consultation with relevant statutory agencies will need to take place both prior to and during a project, with a marked emphasis on a continual dialogue with consultants, focussing on the preservation of the historic character of the mining landscape and buildings.

Conservation work usually involves more than just the consolidation of a building or structure. The work carried out must respect its character and should take into account future access and interpretation, as well as the integrity of its surroundings. It is particularly important that all of these aspects are considered from the outset to avoid situations where consolidation or safety works compromise future plans for the site. Thus the process of professional dialogue and assessments needs to be co-ordinated, often by a conservation accredited architect, and broadly follow the pattern of Assessment (or Conservation Management Plan), Evaluation (excavation or in this case Impact Assessment), and Mitigation (the results of an agreed Mitigation Strategy). If the project manager is not a conservation accredited architect then the assistance and close liaison of a Historic Buildings Consultant is very important before, during and after works have finished to ensure communication protocol with the respective statutory agencies and to ensure that the works are undertaken to the required standard.

Therefore disturbance to a site should be kept to the minimum required to achieve the aims of the schedule of works and impact assessment mitigation strategy (all of which should have been designed in close consultation with appropriate statutory agencies i.e. EH, CC (HE Advice), etc. Thus the site should be (as far as possible) left in an enhanced or similar condition as when work started.

Building conservation/adaptive re-use

The conservation of a structure is likely to include a combination of one or more of the following approaches: Stabilisation, Partial or full Repair, Selective or full Demolition

and adaptive Re-use. Schedules of work should incorporate some flexibility of approach and be tailored to specific site conditions and problems. The particular options selected are likely to be influenced as much by immediate objectives (e.g. stopgap measures to prevent further deterioration), as long term aims intended to serve for many decades, but should always take into consideration the intended long-term use of both the structures and the sites within which they stand.

Wherever possible, conservation approaches should be based on carrying out repairs rather than rebuilding, other options being resorted to only where absolutely necessary. Other structural remediation works are likely to necessitate operations such as masonry removal and re-setting, masonry replacement, re-installation of lintels and other structural timber or stonework, pointing and weatherproofing of areas of exposed walls and perhaps reinstatement or replacement of roof structures and coverings.

The conservation philosophy should be based on principles of replication of existing specifications, perhaps adopting an appropriate period style (if large scale refurbishment is necessary), and following a basic principle of impact reversibility. For example when considering replacement window styles for the Counthouse complex, appropriate archive evidence needs to be provided to substantiate a general principle of replacement for a number of later windows, especially when the adjacent building (Carpenter's Shop) still has its original windows, all dating from the early 20th century when many new buildings were constructed across the site.

Specifications

- Traditional building materials (e.g.: brick, stone, or appropriate timber) can be used when consolidating historic buildings.
- Traditional lime mortar mixes should generally be used, using locally sourced aggregates to match the original mortar composition or locally sourced rab for the Counthouse Complex. Mortar test panels should be made to permit the selection of appropriate aggregate mixes/colour and finish before the pointing work is undertaken.
- Cement and modern materials should be used very rarely and only when the need for their use can be demonstrated.
- Where possible the original form and specification of windows, gutters, downpipes, timber weatherboarding etc should be researched by viewing archive information and reference on site, to replicate and compliment the existing style found at KEM, if replacement is warranted.

Whatever approach is taken, the need for flexibility, sensitivity, authenticity and above all, reversibility must be recognised from the outset, and, where possible incorporated into the design brief.

3 Statements of Significance

3.1 Definition of Outstanding Universal Value and Significance

The Outstanding Universal Value (OUV) of the Cornwall and West Devon Mining Landscape was described in the Nomination document for World Heritage Site Status *'The Cornwall and West Devon Mining Landscape was transformed during the period 1700 – 1914 by early industrial development that made a key contribution to the evolution of an industrialised economy and society in the United Kingdom, and throughout the world. Its outstanding survival, in a coherent series of distinctive cultural landscapes, is testimony to this achievement'*. The *'coherent series of distinctive cultural landscapes'* comprises ten areas of Cornwall, one of which is the Camborne and Redruth Mining District (Area A5i). There are seven main components identified in the Nomination Document through which the OUV is physically expressed: Mine sites, Mine transport, Ancillary industries, Mining settlements and social

infrastructure, miners smallholdings, Great Houses and estates, and Mineralogical and other sites of scientific importance. Individual aspects of the cultural heritage making up the Site have differing levels of significance; some may be of an international importance, whilst others will be of national, regional or local significance (OUV of the Cornwall and West Devon Mining Landscape, 2007, 2).

The **Outstanding Universal Value** statement for WHS Area A5i is: *'The mid-west Central Mining District, the richest non-ferrous metal mining district of the late C18th and first half of the C19th, the most populated, most urbanised, the most innovative in the Site, an internationally significant centre for safety-fuse and rock-drill manufacture and an epicentre of migration ... **King Edward Mine**, the former practical training base for students at the world-famous Camborne School of Mines, is one of Cornwall's two complete mine sites and contains a unique collection of restored historical machinery'.*

Once the overall relative significance of mine sites has become apparent, through statutory (Scheduling), non statutory (WHS areas) designation, and the process of compiling a conservation management plan, identifying and prioritising significant elements within the mine site can take place. These are usually graded in relative categories from High, Medium to Low.

3.2 Statements of Significance for King Edward Mine

International significance

Significance of the Site to the World Heritage Site

King Edward Mine is a central pillar within the Cornish Mining World Heritage Site (WHS). The overall complex has Outstanding Universal Value as the best preserved mine head complex within the WHS for the 1700 – 1914 period for which the WHS was inscribed by UNESCO. Outstanding Universal Value is a central theme of the World Heritage Convention, and it means exceptional international significance. It is only used for heritage which meets the World Heritage Convention relevant criteria and conditions of integrity, authenticity and management for the particular WHS.

King Edward Mine, sited at the western end of the Great Flat Lode is the oldest complete 19th/early 20th century mine site and the most significant example left in Cornwall, demonstrating key authentic aspects of the Cornish mining industry. In addition, it is virtually a complete example of a late 19th and early 20th century mine training school (by Camborne School of Mines to learn practical mining, mineral processing and surveying). As such it was of international importance for training mining professionals. Camborne graduates are known and respected throughout the international mining industry maintaining the influence that Cornwall has had on the mining world over the past two centuries.

Of special significance is the nature and extent of working examples of 19th and 20th century tin dressing equipment and mine machinery at KEM, many of which are unique or rare survivals in the world. Stored within the site is an extensive collection of Trevithick Society artefacts, many of which are internationally rare examples.

There are only five mine sites in the World Heritage Site that are left with substantial elements of their original equipment; there will not be any more. Three are in close proximity in the former Camborne/Redruth Mining District, where tin mining continued through much of the twentieth century. They collectively and predominantly represent exceptional survivals from the first quarter of the twentieth century and all contribute to the best preserved mining landscape in the Cornish Mining WHS.

KEM lies within the Camborne and Redruth Mining District (WHS Area A5i), amidst one of the densest concentrations of significant industrial sites anywhere within the WHS. It lies within the south-western sector of the Area and at the western end of the Great Flat Lode; a landscape renowned particularly, for its tin mining and dressing (mineral processing) archaeology.

National significance

King Edward Mine individual buildings

The entire KEM site contains over thirty nationally significant buildings, many part of larger complexes; namely the Counthouse complex, the Carpenters' Shop complex, the Assay Office complex and the Mill complex – all of which are Grade II* Listed, with the exception of the nearby South Condurrow Stamps Engine House which is Grade II. Within the CMP area to the east, the Fortescue pumping and winding engine houses are also Scheduled Monuments of National importance.

Significance of individual buildings to group value

All the major buildings on the site are Grade II* Listed because of their group value, with the exception of South Condurrow Stamps Engine House. The KEM complex is of the highest integrity with exceptional group value that represents key authentic aspects of the Cornish mining industry and a training school site (Camborne School of Mines) of international significance. The significant sites within the core complex includes the Counthouse and Carpenters' Shop complexes (See Figure 4: Sites 1-7, and 11-14); both are highly significant, and retain high degrees of originality and character (although this may be masked externally). Other significant sites are either rebuilt or lack degrees of originality etc.

Significance to Cornwall

King Edward Mine Museum now performs a role as a visitor and educational gateway centre to provide interpretation and orientation for the Camborne and Redruth Mining District of the WHS. It also features relevant WHS interpretation strategy themes for Mining the Resource: the Great Flat Lode; Cornish tin dressing (with steam stamping); Camborne: Engineering Town of the West, including in particular Holman's and the 'Widow Maker' Holmans rock drills, including the Mineral Tramways multi-use trails that have been created within the past decade.

Other local and popular mining heritage attractions in this WHS Mining District include Heartlands and East Pool Mine. KEM will further develop joint co-operation and help to promote their combined industrial heritage relationship, which will be of great potential significance in the future.

4 Counthouse and Carpenters' Shop complexes

4.1 Site history (summary)

Following the establishment of Camborne School of Mines in 1896, the eastern section of South Condurrow Mine (1864-1896) was leased from the Pendarves Estate and renamed King Edward Mine (KEM) in 1901. Three years later after the mine was equipped with new surface machinery, buildings and a new Mill, it was successfully operating as a training facility (above and below ground) for students of Camborne School of Mines, the main practical mine training school in the country.

The new Stamps and Mill building were built first, followed by the Carpenters' Complex in c1903. King Edward Mine had no building for a Counthouse (administrative offices), a Carpenters' Shop, an Assay office or Machine Shop, as South Condurrow Mine still retained ownership of these original sites (Sites 1 – 6). It does seem therefore that soon after the new timber shiplap construction of the Carpenters' Shop (Sites 11 – 14), South Condurrow Mine folded (in 1903) and gave up the lease of the (earlier) Counthouse and Assay Complexes (Sites 1 – 10). All of which was subsequently purchased by KEM in the same year. An aerial view of the site is shown in Figure 2.

Figure 4 is a site inventory map of all the King Edward Mine buildings. Construction of buildings from the early 20th century continued after the Carpenters' Shop (Sites 11-16), a Calciner (Site 21), a new Mill (Site 26), and a new Winding engine boiler house

(Site 25 - after 35 years of use a more modern efficient boiler was necessary!). Also at this time a new (Californian) Stamps (Site 27), and a new steam Mill engine (Site 28), were installed. In 1907, when it was plain that the cost of renewing the existing winding engine was prohibitive (and the new boiler that had been installed had not really helped proceedings), a decision was taken to site a new building for the installation of a new twin drum horizontal steam winder (Site 30). This stayed in-situ until the 1940s when it was sold to Castle an Dinas wolfram mine.

This mine complex retained the same building footprint for approximately 60 years until the mid 1960s when a few relatively un-noteworthy buildings were added – mostly of galvanised steel and timber frame construction. Happily, it appears all of the timber buildings that had been erected during the early 1900s have been regularly maintained – no doubt resulting in their excellent general condition in the 21st century. The build quality of reconstruction of the steam engine and compressor houses in 2009, after they had been burnt down in 1957, is perhaps testament to the conservation philosophy of the King Edward Mine volunteers, reflecting the site's significance, character and closely following EH guidance for its conservation philosophy (Section 2.3).

Part of the site, which included the mill complex and associated buildings became redundant in 1974 when CSM relocated from Camborne to Pool. A volunteer group was set up in 1987 to try to preserve these now redundant structures, to restore the mill and in time to open it as a museum. This was achieved and the museum opened in 2001. CSM finally terminated their lease for the whole KEM site in 2005, when responsibility for the operation and development of the museum passed to King Edward Mine Ltd. (a not for profit company). In 2009 Cornwall Council acquired the freehold of the site from the Pendarves Estate.

A more detailed history of the site is produced in the King Edward Mine Conservation Management Plan (Buck 2013).

4.2 Project background information

In December 2010 Cornwall Council commissioned Purcell Miller Tritton and Parkin Heritage & Tourism to undertake a Condition Survey, Options Appraisal and Outline Business Plan to understand these buildings and how they could be utilised to develop the site and make it viable. This was subsequently extended to develop a Master Plan and Business Plan for the whole site, which was produced in December 2011. Grant applications under the EU Convergence Programme are underway to fund the restoration and adaptive re-use to rentable workspaces of presently underused buildings (the Carpenters' Shop and Count House complexes) in order to generate income to make the site's continued operation more sustainable, improve the condition of some of the Listed Buildings, and reinforce recognition of KEM's standing within the Cornish Mining World Heritage Site.

The site inventory map for the core King Edward Mine buildings is reproduced in Figure 4. This shows site numbering for every building and a cross reference to the appropriate detail record sheet given in the two sections below. The history of the phased development of each site or complex is described in each specific detail record sheet however a general summary is also given. Figure 3 is an aerial photograph of KEM with building functions labelled.

In order to promote the sustainability of King Edward Mine in the future, it is important to understand the site's significant assets, particularly as the site has such high statutory designations and is such a significant part of the World Heritage Site; by analysing in detail all significant buildings, features, fittings etc and in particular those sites that may be impacted by future projects, for example adaptive re-use. This information can then be given to the relevant officers and architects to enable them to mitigate negative impacts, and promote positive specifications.



Figure 2 A HES aerial photograph (2009) of King Edward Mine with building functions labelled (before the horizontal steam engine winder and compressor house was rebuilt).



Figure 3 A plan showing existing views of King Edward Mine transposed onto a phase map of site development. Only the Counthouse and Carpenters' Shop sites are relevant to this report.

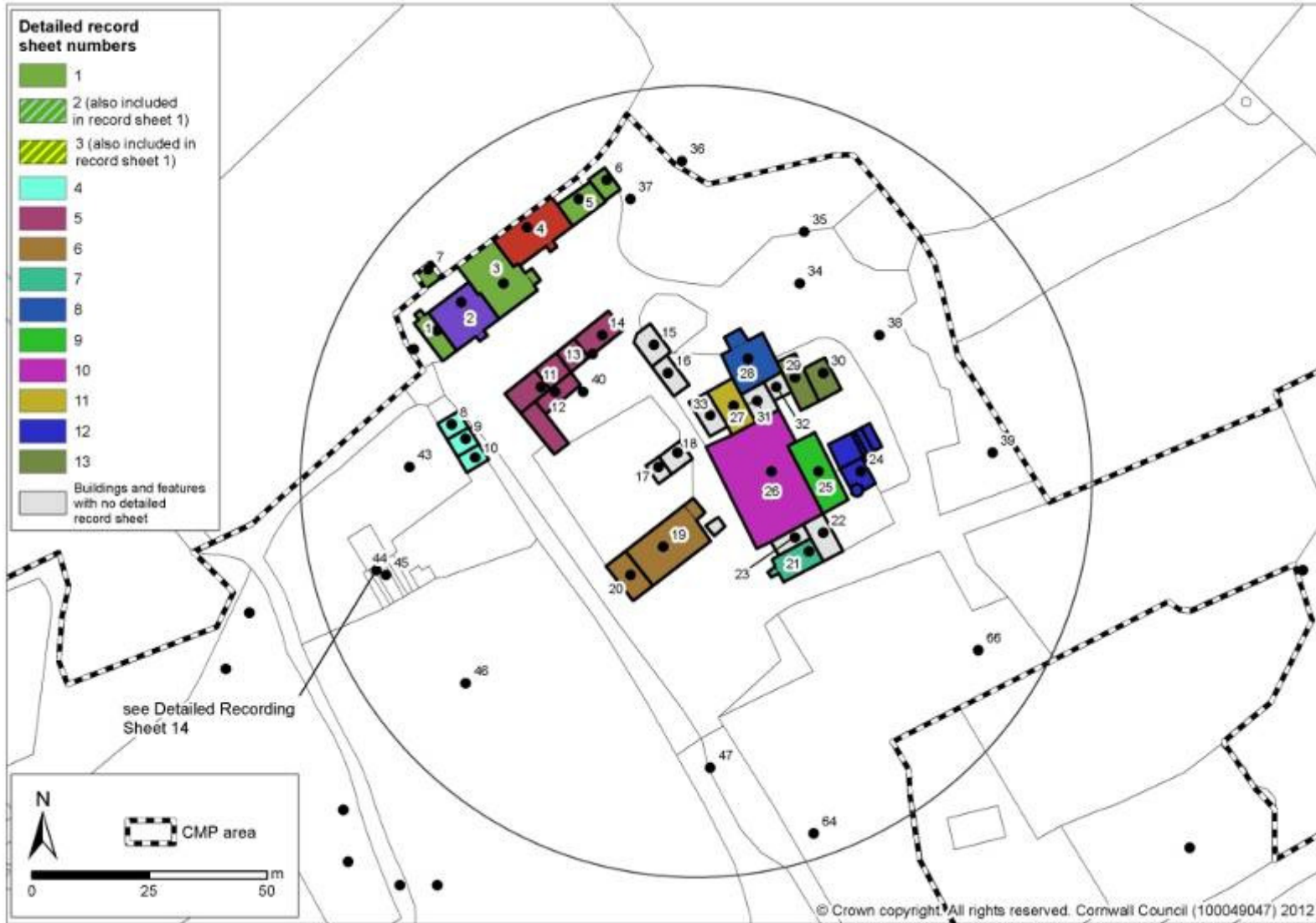


Figure 4 A core plan site inventory map of King Edward mine buildings. Refer to the Table 1 for site number descriptions

4.3 Summary table of building conservation works

King Edward mine core plan site inventory table of buildings impacted by the proposed changes

Site No.	Site	NGR (SW)	MCO No.	LB Ref.	EH HAR Register	Existing function	Proposed function	Assess Sheet No.	Site Impact (Rating)	Physical Impact (comments)
1	Count House Complex: Mess Room	66314 38925	56569	1142685	Yes	Unused	Workspace	R1	R (M)	High external visual and internal impacts
2	Count House Complex: Count House Office	66319 38931	56569	1142685	Yes	Unused	Offices	R1/R2	R (H)	High external visual and internal impacts
3	Count House Complex: Smithy	66328 38935	56569	1142685	Yes	Unused	Workspace	R1	R (H)	High external visual and internal impacts
4	Count House Complex: Miners' Dry	66333 38947	56710	1132883	Yes	Unused	Workspace	R1/R3	R (H)	High external visual and internal impacts
5	Count House Complex: Carpenters' Shop	66344 38953	56710	132883	Yes	Unused	Male/Female toilets	R1	R (M)	High external visual and internal impacts
11	Carpenters' Shop Complex: (Offices/Carpenters Shop/Machining room)	66336 38913	56719	1159182	No	Unused	Workspace	R5	R (M)	Low external visual and high internal impacts
12	Carpenters' Shop Complex: (Carpenters' Shop extension for saw mill)	66340 38913	56719	1159182	No	Unused	Workspace	R5	R (M)	Low external visual and internal impacts
13	Carpenters' Shop Complex: (Assay Office)	66347 38920	56719	1159182	No	Unused	Workspace	R5	R (M)	Low external visual and internal impacts
14	Carpenters' Shop Complex: (Stores/Dark Room)	66349 38924	56719	1159182	No	Store	Store	R5	R (L)	Low external visual and internal impacts

Note:

- Site number relates to core site inventory plan (Fig 4)
- MCO No. is the unique identifier given to each record in the HBSMR
- LB Ref. is the National List Entry number on the National Heritage List for England
- EH HAR Register: English Heritage at Risk Register 2012
- Assess Sheet No. related to the relevant Detail Record Sheets (Sections 6.2.1 and 6.3.1)
- The impact significance column shows that all sites are regionally important 'R'. The letter in brackets (H=High, M=Medium, L=Low) summarises the impact of the proposed works on the site, Section 5 and the site inventory text describes this in more detail (Section 5.2.1)
- Many unused buildings are currently used for temporary storage by Trevithick Society/KEM for a variety of items of historical interest

The methodology of approaching the issue of sustainability to such significant buildings has been to focus on two fronts; firstly, to utilise and adapt existing building surveys of the mine to assess each building's significance, originality and phasing. Secondly, to produce building record sheets (for significant sites only), describing in detail all aspects of the building's history, condition, function, significant features, contents/fittings, machinery, and if appropriate, any known recent site impacts. These sheets are in effect, conservation statements. But they also include information relating to proposed impacts, a result of the proposed scheme for adaptive re-use and to promote future sustainability of the entire site as a whole.

5 Assessment of impact and mitigation

5.1 Impact significance definitions

The potential impacts during works are described below (and summarised in tabular form in Table 1), for each site. Impacts are described in the text section for each site on a feature-by-feature basis. The following site impact terms are used within each site identification description relating to the impact assessment and site gazetteer:

Major positive	Site continues in, or is restored to, its original design and use
Moderate positive	Site restored as far as possible respecting its original function, but its use is altered
Minor positive	Site partially restored; interpretation introduced
Negligible positive	Stabilisation/maintenance of site
Negligible negative	Benign neglect – losses of fabric over a long period of time
Minor negative	Site suffers areas of alteration or damage, which contribute to loss of meaning
Moderate negative	Significant loss of fabric or alteration, leading to erosion of original character
Major negative	Complete demolition/removal

5.2 King Edward mine adaptive re-use project

5.2.1 Site impact and remediation summary

Figures 2 to 4 show the spatial relationship between the buildings that will be impacted; namely the Counthouse and Carpenters' Shop complexes by the adaptive re-use project. The King Edward Mine Conservation Management Plan contains a detailed significance and character description and a conservation philosophy (Section 2.3), that has informed and guided the architect and design team when forming the proposals.

Proposed physical and visual impacts are varied for both building complexes; the Counthouse complex being of traditional 1860's construction with stone and (originally) slate, whilst the

Carpenters' Shop complex was built in 1903 of timber and slate. Although the proposed functional use of these buildings are similar (mainly workshops and offices), the impacts to these different construction forms are markedly different. Refer to Figs 6 and 8 for new Unit references etc.

Counthouse Complex

Externally, the Counthouse complex will have its 1960s cementitious render carefully removed, the mortar joints repointed and the walls painted white. The roofs are to be re-slatted (the existing sheet roofing removed), and two chimneys rebuilt (and roof vents for the Smithy), that are shown to exist in the early decades of the 20th century – a period that was highly significant for the KEM site, and for which detailed archive information is evidenced. The same conservation principles extend to proposed changes of window design, as many of the existing are of late construction and failing in places. These external and visual impacts are therefore high and significant. However, they can be seen in the context of reversing previous late 19th century physical impacts that were not consistent in terms of following any conservation philosophy, rather one of practicality and cost cutting measures – both of which have effectively reduced the character of the complex.

Internally, the consequences of dampness through lack of use and heating have affected the lower walls and floor joists – especially in the Counthouse building itself. Remediation impacts will need to include re-plastering, re-timbering and the consequence of adhering to 21st century building regulations for insulation measures. There is no doubt also that the impact of the provision of additional toilets for the proposed new offices and workshops will impact upon the internal character of the building, and archaeologically through below ground excavation for drains. This provision of toilets for commercial workspaces is a normal requirement of ERDF funding and is expected by most suitable tenants. The proposed new toilets and showers in the Miners' Dry should not detract from the building's existing character, as this part of the building has always been used for washing and changing. The proposed scheme reflects 21st century functional changes of individual style for washing and changing, all of which are reversible.

New external concrete ramps (to underline the 'industrial' nature of the site), are required to provide inclusive access to two of the entrances and the toilet facilities. These will be specified as appropriate for their setting, be reversible and to minimise their impact. The provision of inclusive access is an important factor in ERDF funding eligibility which is vital for this project. Their impacts are considered to be reasonably outweighed by the consequent benefits.

Carpenters' Shop Complex

Externally, the Carpenters' Shop Complex will have its artificial slate roofing removed and replaced with traditional scantle slate to restore this complex to its original appearance in line with the adopted conservation approach. This will be an enhancement to the building. The timber ship-lap walls will be cleaned, sanded where necessary and re-painted. Defective timber will be replaced or sections re-scarfed. Generally the windows are to be repaired and retained with existing style (1903); one boarded over window is to be revealed and one former doorway reinstated. A minor alteration is proposed to an existing doorway to resolve an access issue. The restoration of parapet wall details and an assay chimney will also restore these buildings' original skyline in line with the adopted conservation approach. This will also provide visual evidence about the previous uses of the spaces below. These external and visual impacts are therefore visually significant, although their physical impact is less so, accentuating the character of the complex.

Internally, there is less impact to provide an alternative and more sustainable change of use. The minor internal alterations that are envisaged include the creation of Unit 2.1, which has an accessible WC fitted into an existing space. A timber internal ramp and new opening are also formed which allows full use of this space with the minimum of external alteration. Unit 2.2 is formed by the sealing of two existing openings. No alterations are required to create unit 2.3. These units will use the WC facilities with the Count House Complex in order to avoid further internal impacts to the building.

Two of the three units in this building can be easily accessed, but unit 2.3 requires a new access ramp. This is sited on the south-east side which is noted as a significant external surface. The ramp will be designed to be a free-standing galvanised steel element with no impact on the existing surface. The visual impact is considered to be reasonable in light of the overall benefit.

Other general impacts:

Site compounds and site (vehicular) access

The works will involve installation of services which will require some excavation externally. The main external areas will be repaired and relaid using similar or re-used materials to retain the current character. These sites are not shown in this report (their nature and extent are not known at present). Where shown, finer grain matching material will be used to create paths suitable for wheelchair users. Elsewhere existing surfaces will be retained. Car parking may be demarcated with recessed granite blocks set flush with a relaid surface material similar to existing. Thus, there will be very little impact on the character of the existing (industrial 'feel') surface surrounding both building complexes.

Site compounds will be at a mutually agreeable site (to KEM) close to these buildings but not affecting nor impacting upon the publicly accessible and working operation of the museum. Site vehicular access will be via the existing access road into the complex.

Impact reduction measures:

Detailed liaison with the project's conservation accredited architect (Paul Perry, PBWC Ltd) and appropriate statutory officers (EH, Conservation Officers and County Planners), non statutory advisers (Historic Environment Projects and KEM Ltd), with additional input from a public open consultation event (20th March), throughout the design and specification process have ensured that the impacts have been reduced as much as possible, and the scheme accords with the general conservation philosophy produced in the Conservation Management Plan.

An historic buildings consultancy, and archaeological recording before and during the site works may be able to minimise any further below ground site impacts, but also record any visible/disturbed archaeological features and to record the nature and extent of the building conservation works.

Residual impact mitigation:

There will be a number of visual residual impacts – mainly affecting the Counthouse Complex, but these have been deemed to be positive, accentuating the character of this complex and reversing previous impacts that were not conducive to the character and setting of this highly significant mine complex. However, the (new) residual visual impact will soon fade from people's memories, as the benefits in terms of increased commercial use and public access will come to fruition to improve the long term sustainability of KEM, and will be seen to be a substantial public gain.

6 Site inventory impact description and remediation measures

6.1 Methodology

The following sites are described in more detail in the Conservation Management Plan (Buck 2013, Section 3.6.1 (Counthouse Complex) and Section 3.6.3 (Carpenters' Shop Complex Detail Record). All the sites mentioned are summarised in Section 5.2.1, and all have variable impacts. The proposed works for each site are described, followed by a section describing the reduction (or mitigation and remediation) of each impact, followed by a final section which details the residual impact. To avoid repetitive duplication in this site inventory section, site impact and remediation measures already given in Section 5.2.1 are not reproduced – simply referred to.

The following annotated survey plans for the Counthouse Complex, and the Carpenters' Shop complex have been reproduced (with permission) from drawings produced by PBWC Ltd, as part of Listed Building Applications for planning permission for change of use. The following detail record sheets provide the site background for each significant part of the complex. They describe in detail all aspects of the building's history, condition, function, significant features, contents/fittings, machinery, and the proposed site impacts.

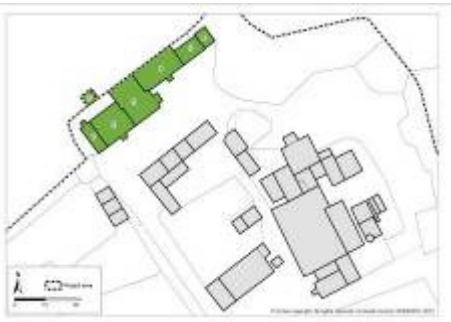

- **R1** Counthouse Complex (Sites 1-7)
- **R2** Counthouse Complex (Office: Site 2)
- **R3** Counthouse Complex (Miners Dry: Site 4)

- **R5** Carpenters' Shop complex (Sites 11-14 but focus on Site 11)

6.2 Counthouse Complex

6.2.1 Detail record sheets

Site name:	KING EDWARD MINE	Sheet R1
Building name/identifier:	Count House Complex (Sites 1 – 7: Overall summary)	
Survey date:	2/8/2012	
Designations:	Listed Building Grade II* (Ref. 1142685 - Counthouse and Smith's Shop), Listed Building Grade II* (Ref. 11328113 - Miners' Dry). This site is on the EH Building at Risk Register 2012.	
Location:	NGR: SW 6632 3892 North side of KEM site. Block Plan Fig 4	
Building at Risk:	Yes	
Recorder:	C Buck	
Survey Plan Ref:	Proposed Survey Plan (PBWC Dwg. No. 3188 (PR Site) 010 Annotated Proposed Survey Plan (PBWC Dwg. No. 3188 (PR Co) 010/A Annotated Proposed Survey Elevations (PBWC Dwg. No. 3188 (PR Co) 011/B	

Site map and photograph:		
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Construction materials: (walls, roof, floor, ceiling, windows, doors):	<p><i>External:</i> Corrugated asbestos roof sheeting replaced original slate in 1950s. Cementitious pebble dashed render over original granite quoins and stone masonry with earth rab/lime mortar. Only one original window appears to remain (Site 4), the remainder of later different 20th century styles. Many original chimneys removed (including Counthouse, Smithy forge etc).</p> <p><i>Internal:</i> Buildings have been unoccupied leading to damp, floors and walls. Counthouse Office has dry lining of plasterboard and painted woodchip wallpaper on some walls, covering damp lime plaster. Cement plastering in places. Many original plaster ceilings replaced. Floor joists in office collapsing. Smithy building has had major alterations (possibly 1960s). Miners Dry ceiling fully built over, walls faced with granolithic plaster (to create a wet room). Some original doors/floorboards and some dado rails.</p>
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Build date:	Mess Room (Site 1) c1870s. Counthouse Office (Site 2) c1864/5. Smithy (Site 3) 1865-1877. Miners' Dry (Site 4) 1865-1877. Carpenters' Shop (Site 5) 1865-1877. Store (Site 6) 1960s. Outhouse/chimney/store (Site 6) 1865-1877.
Modification date:	Complex re-roofed (some rafters replaced with steel) in mid 1950s. Windows replaced during 20 th century, possibly twice. Internal asbestos sheeting added to some walls and some re-plastering at a similar date. Office/Mess room relatively unaltered, but the Smithy buildings have been drastically altered at various times (possibly 1960s onwards). Miners' Dry walls re-plastered and ceiling rebuilt to infill balcony (1960s onwards). Carpenters' Shop internally unrecognisable when transformed into toilets (1960s).
Original function:	South Condurrow Mine: Counthouse, Smithy, Miners' Dry and Carpenters' Shop.
Current function:	Mess Room (Site 1): Unused. Count House Office (Site 2): Unused. Smithy (Site 3): Storage of some Trevithick Society items. Miners' Dry (Site 4): Wet room (unused). Carpenters' Shop (Site 5): Male toilets. Store (Site 6): Used.
Proposed function:	Mess Room (Site 1): Workspace. Count House Office (Site 2): Rented office space. Smithy (Site 3): Workspace. Miners' Dry (Site 4): Workspace. Carpenters' Shop (Site 5): Men's and Women's toilets with shower facilities. Store (Site 6): Unchanged as store.
Significant features/contents:	Mess Room (Site 1): Possibly original wall plaster finish. Count House Office (Site 2): Some original lime wall plaster and original floorboards. Original fireplace in office. Smithy (Site 3): No visible significant original features. Miners' Dry (Site 4): Original roof joists. Carpenters' Shop (Site 5): No visible significant original features. Outhouse/store (Site 7): Possibly original wall footprint.
Original fixtures and fittings:	Mess Room (Site 1): Dado Rails. Count House Office (Site 2): Some original doors/architraves. Original fireplace in office. Miners' Dry (Site 4) and Carpenters' Shop (Site 5): 1960s modifications obscured original details. Most window openings appear to be original dimensions with original brick cills, but windows mostly of later date. Window and frame at south west corner of Miners' dry may be original (small paned).
Machinery:	Not applicable. Smithy building used for temporary storage of Holman's compressors etc for Trevithick Society.
Summary description:	Count House Complex is Listed Grade II* and now on EH Buildings at Risk Register (2012). The Count House was built first, closely followed by the remainder of the buildings in a single connected complex to serve the needs of South Condurrow Mine (1865-1896). From 1903 the buildings were used to serve the training needs and administration of Camborne School of Mines. Externally, it appears the original slate roof of all buildings in this complex was replaced in the 1950/60s, as well as re-rendering the external walls with cementitious pebble dash. It is likely many original windows were also replaced at this time. Internally, there were major alterations to the Smithy and Miners' Dry during the following decade – presumably to suit the training needs of

	<p>the mining students. In the past, the Count House Office has suffered from damp, the walls being dry lined (twice), re-plastered and floor joists affected by damp rot. However, the Counthouse building is relatively unaltered compared to others in this complex.</p>
<p>Completeness and condition:</p>	<p>This is a rare example of a 19th century Cornish mine complex housing the Count House Office, the Smithy, the Miners' Dry and Carpenters' Shop. Internally, the Office (Site 2) and Mess room (Site 1) are the most unaltered buildings, retaining degrees of original features.</p>
<p>Significance/conservation strategy:</p>	<p>The historic group value of this complex of buildings is highly significant (these are often separate buildings). However, individually, given the extent of the 1950s and later repairs and modifications externally and internally affecting site character, each building is therefore less significant. In any future building conservation/adaptive reuse project, replacement of the asbestos roof with slate, removal of the exterior pebble dash and repointing with an appropriate mortar, and repairing floor joists where appropriate would go a long way to restoring the original character of this complex. The issue of window replacement to an agreed design (reflecting a significant period of the site) will need to be debated with conservation professionals, but a conservation philosophy would relate to minimising impacts and reflecting/mimicking original details where they have been consistently applied, for example drain gutters and downpipe details for the Counthouse (c1860s). For new Counthouse replacement windows again I feel that any decision on window style should reflect basic conservation philosophy (a compromise between the spec that was included in the Listing detail and the original form). The agreed window style should be consistently used throughout the complex. However, it is likely that internal secondary glazing may be required for change of use and to meet current building regulations.</p>
<p>EH at Risk Register 2012:</p>	<p>Count House (Site 2), Blacksmiths Shop (Site 3), and Miners' Dry (Site 4).</p>
<p>Additional requirements for future projects/any other factors affecting reuse/repair etc:</p>	<p>Given the masking of the external walls by a later cementitious pebble dash, a structural assessment of the building after removal may be necessary, to assess if there are structural remediation works that may impact the building. Internal photographic survey should be undertaken before proposed works. Re-use of original internal features (doors, architraves, (unblock fireplace) etc), is recommended. It may be appropriate to rebuild the chimneys that have been removed if funding and consent is given. The use of lime wash as an exterior finish should be considered and maintenance implications discussed.</p>

Site name:	KING EDWARD MINE	Sheet R2
Building name/identifier:	Count House Complex: Count House Office (Site 2)	
Survey date:	2/8/2012	
Designations:	Listed Building Grade II* (Ref. 1142685 - Counthouse). This site is on the EH Building at Risk Register 2012.	
Location:	NGR: SW 66319 3829 North side of KEM site. Block Plan Fig 4	
Building at Risk:	Yes	
Recorder:	C Buck	
Plan Ref:	Proposed Survey Plan (PBWC Dwg. No. 3188 (PR Site) 010 Annotated Proposed Survey Plan (PBWC Dwg. No. 3188 (PR Co) 010/A Annotated Proposed Survey Elevations (PBWC Dwg. No. 3188 (PR Co) 011/B	



Site map and photograph:		
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Construction materials: (walls, roof, floor, ceiling, windows, doors):	<p><i>External:</i> Corrugated asbestos sheeting replaced slate in 1950s. Cementitious pebble dashed render over original granite quoins and stone masonry with lime mortar. Windows are mostly 1970s replacements and other styles. Original chimneys removed. First floor windows blocked up.</p> <p><i>Internal:</i> This building has been unoccupied leading to damp floors and walls. Office has dry lining of plasterboard and painted woodchip wallpaper on some walls, covering damp lime plaster. Cement plastering in places. Many original plaster ceilings replaced with fibreboard. Floor joists in front office collapsing (dry rot). At rear some modifications to partitions, with original staircase to first floor (storage space) removed. Some original doors/floorboards/architrave and fireplace (removed/blocked up on east side).</p>
Build date:	Counthouse Office constructed c1864/5 as South Condurrow Mine Count House (shown in elevation on 1865 mine plan). The mine retained this complex until 1903 when it ceased operating. The lease was then sold by the Pendarves Estate to Camborne School of Mines.
Modification date:	In approximately the 1930s the interior of the building was dry lined with asbestos/cement sheets, no doubt the dado rails removed at the time. The building was re-roofed (some rafters replaced with steel) in the 1950s with corrugated asbestos sheets. Exterior pebble dash in cement render

	probably added at a similar time. Possibly at least three periods of window replacement (from the 1890s onwards). The earlier internal dry lining was removed in the 1990s and replaced with plasterboard and some new skirtings. The floor was re-laid with lino. Ceilings removed at some date and replaced with fibre board (probably 1960-70s). Staircase to first floor removed at an early date and modifications to timber partitions at rear of building, both at unknown dates.
Original function:	Count House Office for South Condurrow Mine (1864-1903), then Camborne School of Mines admin office up to 1974.
Current function:	Unused.
Proposed function:	To be converted by adaptive reuse for rented office space.
Significant features/contents:	South Condurrow Mine Count House which retains its original plan and design. Some original lime wall plaster, original floorboards, doors and architraves. Original fireplace in south west office. South east fireplace not visible but opening probably blocked up. Some original timber partitions at rear of building are still extant (painted white).
Original fixtures and fittings:	Original window openings. Internally, some original doors/architraves and floorboards. Original fireplace in south west office, but original opening for south east office probably infilled.
Machinery:	Not applicable.
Summary description:	All buildings within the Count House Complex are Listed Grade II* and are on the EH Buildings at Risk Register (2012). The Count House (office) was built first to serve the needs of South Condurrow Mine (1865-1896). It was then used to serve the administration needs of Camborne School of Mines. Externally, it appears the original slate roof of the building was replaced in the 1950s, as well as re-rendering the external walls with cementitious pebble dash. It is likely the windows were also replaced at this time. The Count House Office has suffered from damp, the walls being dry lined and floor joists affected by damp rot. An original fireplace remains, its equivalent on the opposite ground floor side has been removed or infilled. The original lath and plaster ceilings have been replaced with fibreboard, however this building is relatively unaltered – its appearance mainly affected by changes to the external fabric.
Completeness and condition:	This is a rare example of a relatively unaltered (in plan) 19 th century Count House Office, retaining a few original fittings and features.
Significance/conservation strategy:	The historic group value of this building within this complex is highly significant. However, individually, given the extent of the 1960s repairs/modifications externally and internally affecting site character, each building is less significant. Replacement of the asbestos roof with slate, removal of the exterior pebble dash and repointing with an appropriate mortar, and repairing floor joists where appropriate would go a long way to restoring the original character of this building. The issue of window replacement will need to be debated with conservation professionals (refer to Record Sheet R1).

EH at Risk Register 2012:	Count House (Site 2)
Additional requirements for proposed work/any other factors affecting reuse/repair etc:	Given the masking of the external walls by a later cementitious pebble dash, a structural assessment of the building after removal may be necessary, to assess if there are structural remediation works that may impact the building. Internal photographic survey before proposed works. Re-use of original internal features (doors, architraves, (unblock fireplace) etc), is recommended. It may be appropriate to rebuild the chimneys that have been removed if funding and consent is given. The use of lime wash as an exterior finish should be considered and maintenance implications discussed.

Site name:	KING EDWARD MINE	Sheet R3
Building name/identifier:	Count House Complex: Miners' Dry (Site 4)	
Survey date:	2/8/2012	
Designations:	Listed Building Grade II* (Ref. 11328113 - Miners' Dry). This site is on the EH Building at Risk Register 2012.	
Location:	NGR: SW 66335 38947 North side of KEM site. Block Plan Fig 4	
Building at Risk:	Yes	
Recorder:	C Buck	
Plan Ref:	Proposed Survey Plan (PBWC Dwg. No. 3188 (PR Site) 010A Annotated Proposed Survey Plan (PBWC Dwg. No. 3188 (PR Co) 010/A Annotated Proposed Survey Elevations (PBWC Dwg. No. 3188 (PR Co) 011/B	

Site map and photograph:		
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Construction materials: (walls, roof, floor, ceiling, windows, doors):	<i>External:</i> Corrugated asbestos sheeting replaced slate in 1950/60s. Cementitious pebble dashed render over original granite quoins and stone masonry with lime mortar. Only one original window appears to remain, the remaining windows of different styles.
	<i>Internal:</i> An 1899 photograph (Fig 16) shows the internal layout of the Miners' Dry at that time. The walls were lime washed, with a part open ceiling and ground floor boiler. The building now has a full ceiling and first floor with open roof joists. At ground floor the building has been re-plastered with

	a granolithic finish to provide a 'wet room' with showers, possibly in the 1960s/70s.
Build date:	Original Miners' Dry (Site 4) c1865-1877.
Modification date:	The 1899 Miners' Dry archive photograph shows a central boiler, baths and basins with hooks and wooden slatted seats. Light was provided on the south side by windows on two floors, through the open ceiling with stairway access to a balcony with access to lockers etc. The boiler was removed at an unknown date and the ceiling extended over the entire floor plan to create two rooms above the former boiler/wash room, accessed via a new staircase at the west end of the building. The previously open ceiling joists were boxed in and windows replaced with the present form. At ground floor, it was re-plastered with a granolithic finish and showers installed. All of these works date to the late 1960s/early 1970s. A central doorway opening was blocked.
Original function:	South Condurrow Mine/King Edward Mine Miners' Dry.
Current function:	Unused former CSM 'Wet room' with showers.
Proposed function:	Rented workspace/arts/crafts etc.
Significant features/contents:	Miners' Dry (Site 4): Original walls and (boxed in) roof joists. No visible significant original features at ground floor (masked by later re-plastering etc). It is possible that the original drains survive below ground floor level, and probably the pipes relating to the original boiler.
Original fixtures and fittings:	Most window openings appear to be original dimensions, windows mostly of later date but the window and frame at the south west corner of Miners' Dry may be original (small paned). Original fixtures and fittings appear to have been removed.
Machinery:	Not applicable.
Summary description:	Count House Complex is Listed Grade II* and now on EH Buildings at Risk Register (2012). The Count House was built first, closely followed by the remainder of the buildings in a single connected complex to serve the needs of South Condurrow Mine (1865-1896). This building provided changing facilities following underground mine student training from 1897 - 1923, and possibly later when underground training moved to Great Condurrow Mine (Beacon). An internal 1899 photograph of the Miners' Dry and description is given in Figure 17 and (Brooks 2002, 12). Externally, it appears the original slate roof was replaced in the 1950s, as well as re-rendering the external walls with cementitious pebble dash. Internally substantial changes have occurred to both floors, although the exterior walls and openings appear to have been untouched (apart from the partial blocking of a doorway to form a window).
Completeness and condition:	This is a rare example of a 19 th century Cornish mine complex housing the Count House Office, the Smithy, the Miners' Dry and Carpenters' Shop. However, this building has been heavily modified, obscuring or destroying original details/features.
Significance/conservation	The historic group value of this complex of buildings is highly significant (as these are often separate buildings). However,

<p>strategy:</p>	<p>individually, given the extent of the 1960s repairs, modifications externally and internally that affect site character for each building is less significant. Replacement of the existing roof with slate, removal of the exterior pebble dash and repointing with lime mortar would go a long way to restoring the original external character of this complex. The issue of window replacement will need to be debated with conservation professionals (refer to Record Sheet R1). Internally, removal of the later granolithic plastered walls is not necessarily recommended – adaptive re-use of its existing form may be possible (after the washing facilities are removed), and have less impact.</p>
<p>EH at Risk Register 2012:</p>	<p>Miners' Dry (Site 4)</p>
<p>Additional requirements for proposed work/any other factors affecting reuse/repair etc:</p>	<p>Given the masking of the external walls by a later cementitious pebble dash, a structural assessment of the building after removal may be necessary, to assess if there are structural remediation works that may impact the building (including removal of wall pipes etc). The insertion of a first floor in the Miners' Dry has substantially reduced natural light levels in that space, and any decision on insertion of one or more windows in the north side of the Miners' Dry to increase natural light levels should reflect the conservation philosophy and be informed by a natural light assessment. Internal photographic survey should be undertaken before proposed works. The use of lime wash as an exterior finish should be considered and maintenance implications discussed. Internal photographic survey before proposed works should be undertaken. An impact assessment of any proposed ground floor works should be undertaken in order to preserve original pipe work (above/below ground) relating to its original function.</p>

6.2.2 Site impacts

Refer to Figures 6 and 7 for the proposed scheme (plans and elevations respectively) affecting the Counthouse Complex.

Significant impacts

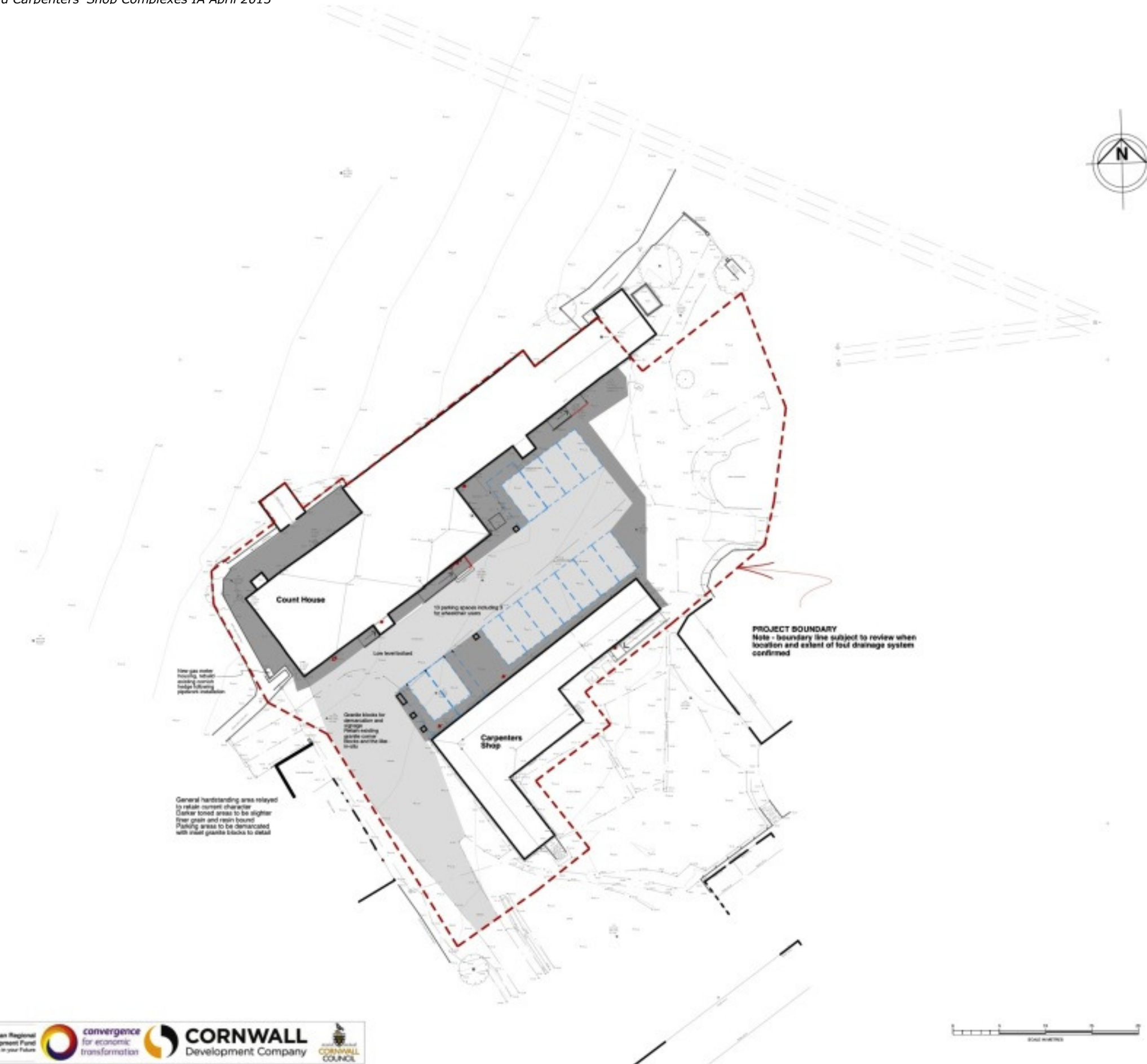
- Replacement of all existing sheet roofing with original style scantle slate
- Removal of pebble dash from all south elevations of Counthouse Complex, rake out and repoint with lime mortar and a white paint
- Where appropriate; replacement of recent 'modern' windows with a more appropriate style following the approved conservation philosophy
- Some chimneys to be reinstated to promote a period roof line character
- Installation of external concrete ramps for inclusive access

Refer to Figures 2, 3 and 4 for each site location. Site information for each building is given in Table 1 and the relevant detail record sheet.

Site 1 Mess Room (Unit 1.1)

External:

- Replacement of all existing sheet roofing with original style scantle slate



NOTES

- 1 THIS DRAWING IS THE COPYRIGHT OF THE ARCHITECT AND MAY NOT BE REPRODUCED WITHOUT LICENCE
- 2 DO NOT SCALE OFF THIS DRAWING
- 3 ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR BEFORE COMMENCEMENT OF WORK AND ANY DISCREPANCIES REPORTED TO THE ARCHITECT
- 4 NO RESPONSIBILITY CAN BE ACCEPTED FOR ERRORS ARISING ON SITE DUE TO UNAUTHORIZED VARIATIONS FROM THE ARCHITECT'S DRAWINGS.
- 5 DRAWINGS ISSUED ELECTRONICALLY MAY LOSE SOME DETAIL.

DESIGN RISKS FOR UNUSUAL OR COMPLEX HAZARDS.

- Possible shallow mine working in vicinity
- Unforeseen below ground services etc

AMENDMENTS

NO.	DESCRIPTION	DATE	BY
*	First issue	28 Feb 13	PP
A	Further detail added	15 March 13	PP

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King Edward Mine

Cornwall Council
Cornwall Development Company

Proposed Site Plan

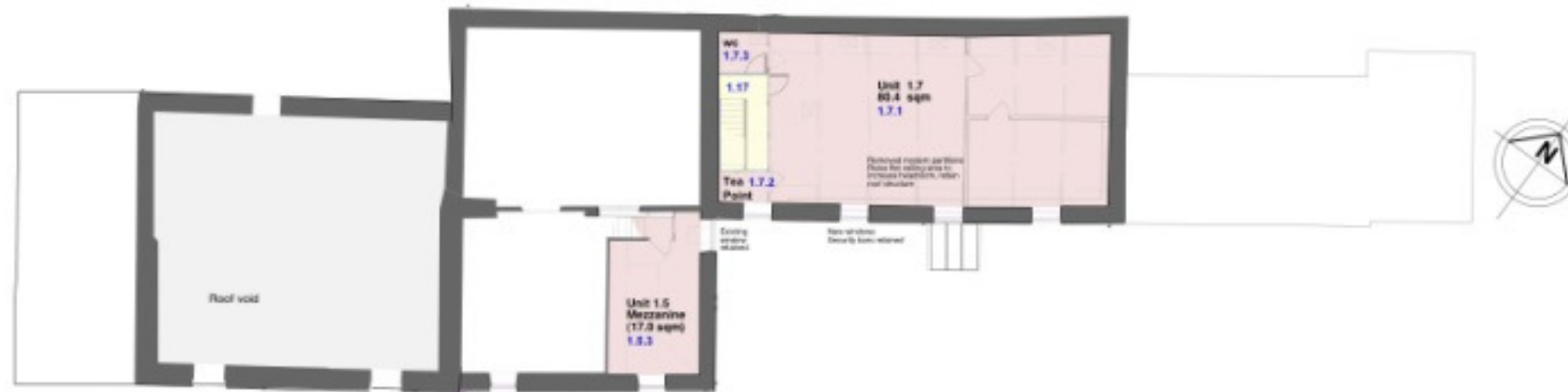
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DATE: Feb 13

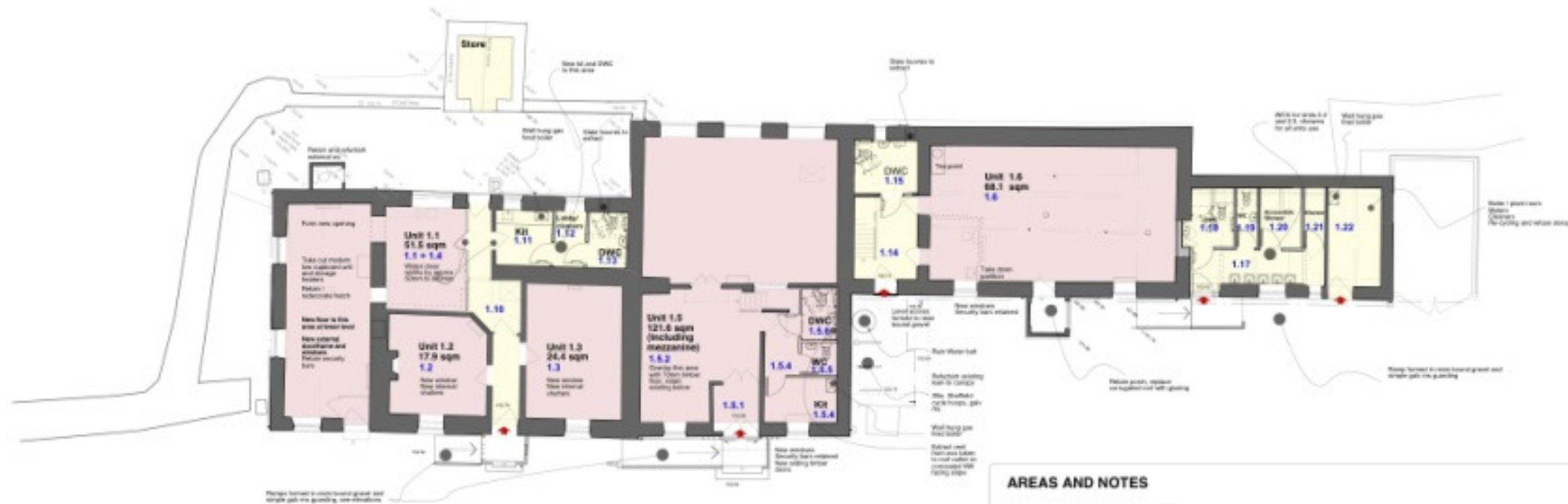
PREPARED BY: [blank] DRAWN BY: PP REVIEWED: PC



Figure 5 Proposed site plan (PBWC Ltd)



Counthouse First Floor Plan



Counthouse Ground Floor Plan

AREAS AND NOTES

- Unit 1.1 - 51.1 sqm - (6)
- Unit 1.2 - 17.9 sqm - (2)
- Unit 1.3 - 24.4 sqm - (4)
- Unit 1.5 - 121.6 sqm - (12)
- Unit 1.6 - 64.4 sqm - (8)
- Unit 1.7 - 80.4 sqm - (8)

Units 1.1, 1.2 and 1.3 share kitchenette, accessible wc
 Unit 1.5 has upper level without lift access which would need to be confirmed in the access statement
 Unit 1.5 has potential option for additional space at first floor level
 Units 1.6 and 1.7 can be let singly or together, will use adjacent wcs in addition to its accessible wc if required. No lift access to upper level.

NOTES	
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2	DO NOT SCALE OFF THIS DRAWING
3	ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR BEFORE COMMENCEMENT OF WORK AND ANY DISCREPANCIES REPORTED TO THE ARCHITECT
4	NO RESPONSIBILITY CAN BE ACCEPTED FOR ERRORS ARISING ON SITE DUE TO UNANTICIPATED VARIATIONS FROM THE ARCHITECT'S DRAWINGS
5	DRAWINGS ISSUED ELECTRONICALLY MAY LOSE SCALE DETAIL
DESIGN RISKS FOR UNUSUAL OR COMPLEX HAZARDOUS	
- Instability of existing walls due to low strength mortar	
- Instability from unexpected shallow mine workings	
- Possible instability of structural timber / steel due to unforeseen decay	
- Possible shallow mine working in vicinity	

AMENDMENTS

NO.	DESCRIPTION	DATE	BY
*	First issue 28 Feb 13		PP
A	Potential occupancies added, further detail added 13 Mar 13		PP
B	Door widths checked and alterations noted, wc / shower layout amended to retain more existing fabric and improve accessible shower size, water butt added adjacent to cycle storage area 8 April 13		PP

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FOR
King Edward Mine

**Cornwall Council
 Cornwall Development Company**

TITLE
**Proposed
 Counthouse Floor Plans**

PROJECT NO.
3188(PR-Co)-010 B

SCALE
**1:100@A1
 1:200@A3**

DATE
Feb 13

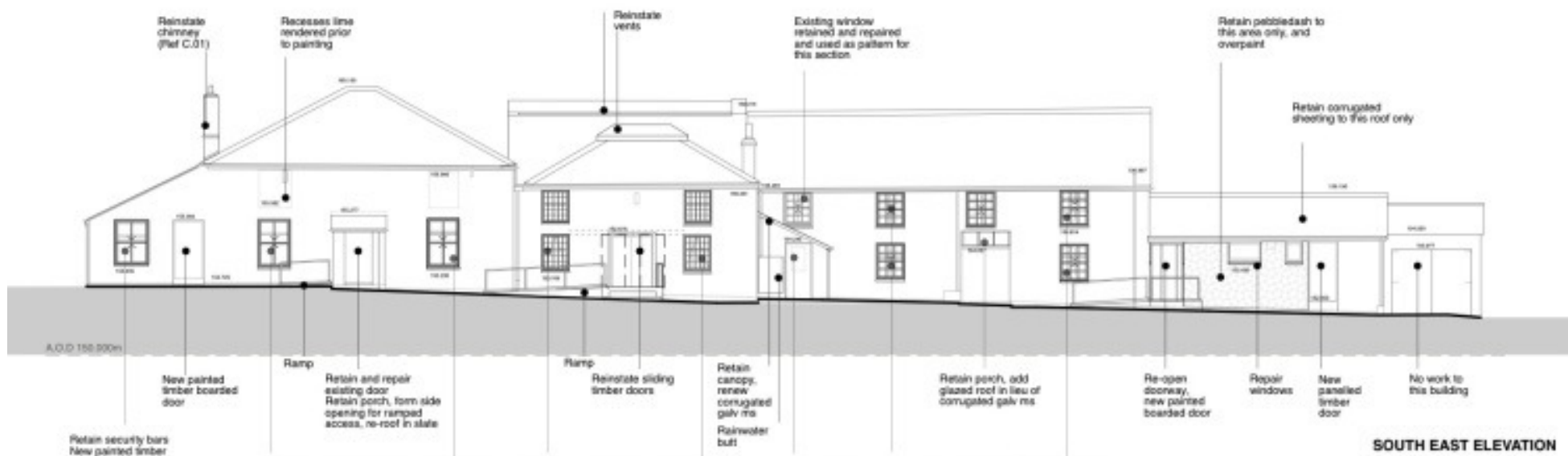
PREPARED BY
PP

DESIGNED BY
PP

CHECKED BY
PC



Figure 6 Proposed Counthouse Complex annotated plan showing known site impacts (PBWC Ltd)



Generally
 Remove pebble-dash render, repoint and vapour permeable silicate mineral paint (eg Kalm, Boveck)
 Re-roof with scambie slate
 Refurbish existing cast iron rainwater goods, replace sPVC with cast iron
 New clear glass where required (eg London Crown Glass Co Victorian Sheet, laminated as appropriate)
 Ramps formed in smooth resin bound gravel with 100mm concrete kerb and warm to touch powder coated galvanised ms handrails to detail

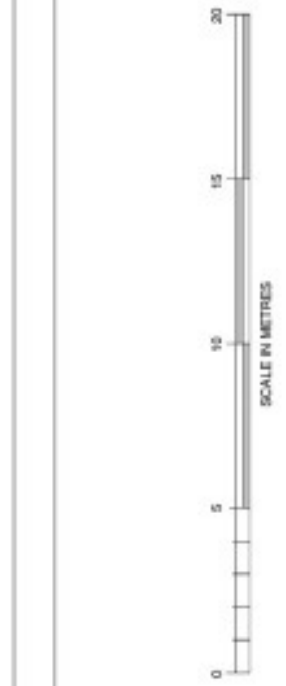
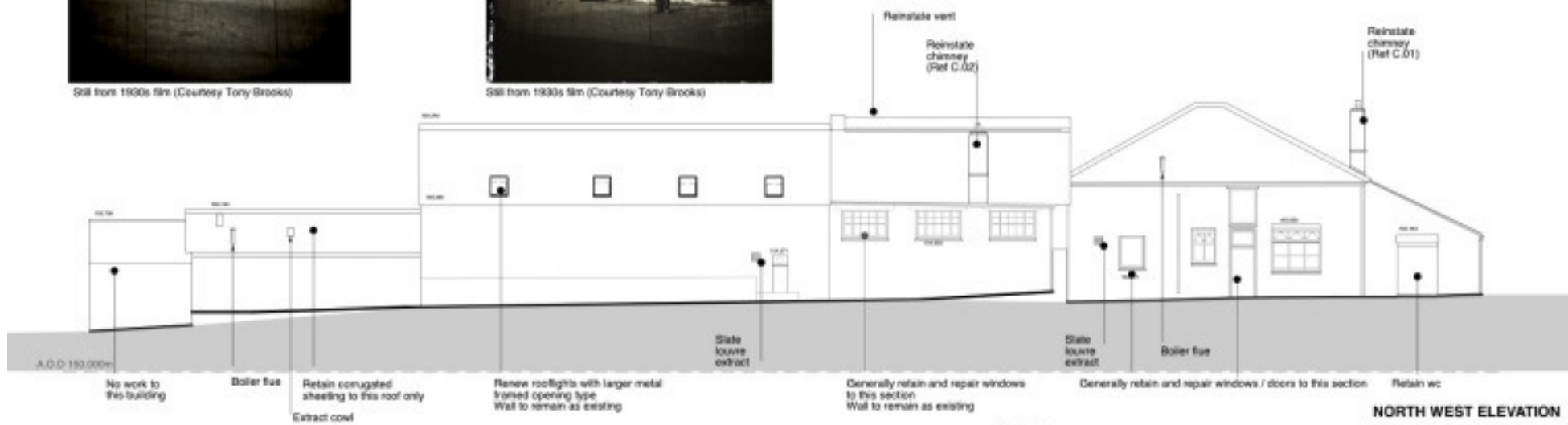
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DESIGN RISKS FOR UNUSUAL OR COMPLEX HAZARDS:

AMENDMENTS

NO.	DESCRIPTION	DATE
1	First issue	28 Feb 13
A	Further detail added	15 Mar 13
B	Roof vent, chimney and pitch over Unit 1.5 adjusted	2 Apr 13
C	Water butt added	8 Apr 13



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King Edward Mine
 Cornwall Council
 Cornwall Development Company

Proposed Counhouse Elevations

DRWG. NO.	REVISION
3188(PR-Co)-011	C
SCALE: 1:100@A1, 1:200@A3	DATE: Feb 13
PREPARED: 02/04/13	DRAWN BY: PP, REVIEWED: PC



Figure 7 Proposed Counhouse Complex annotated elevations showing known site impacts (PBWC Ltd)

- Removal of pebble dash from the south elevations of this annex building and repoint, repaint
- Addition of a new painted timber boarded door and new period sash windows (south elevation)
- New cills to be formed in lime render over existing brick
- Refurbishment of existing (external) WC

Internal:

- New doorway opening to be formed in north east corner to Unit 1.1 (Fig 6)
- Modern low cupboard and storage heaters to be removed
- Due to floor joist damage – replacement of floor joists and flooring to match existing specifications
- Internal re-plastering only as necessary following alterations, following existing specification
- Internal re-wiring generally within face fixed steel conduit to limit physical impact

Note:

Current specifications and impacts resulting in treatment of the mine shaft (sited under this annex), are not known.

Site 2 Counthouse Office (Units 1.1 to 1.3)

External:

- Replacement of all existing sheet roofing with scantle slate (replace joists as necessary)
- Removal of pebble dash from the south elevation of this building and repoint, repaint
- Existing front boarded door and porch to be repaired
- New period sash windows to be installed to ground floor (internal shutters retained), and lime render first floor recessed windows to south elevation
- Windows to north elevation to be repaired
- New cills to be formed in lime render over existing brick
- New fascia boards to be installed with period style guttering
- Concrete ramp to be installed with new side opening in front porch

Internal:

- New internal shutters to be installed to the south elevation windows (Units 1.2 and 1.3)
- Asbestos sheeting to be removed from front room walls and re-plastered where necessary (retaining original architraves and dado rails).
- Hidden Unit 1.3 fireplace (east side) to be investigated and revealed to retain as significant feature
- Existing toilets to be removed and replaced with new equivalents and new kitchen.
- Excavation to provide new WC and kitchen drains (drain runs not known)
- Replacement of all late 20th century ceilings with lath and plaster equivalents
- Floor joists and flooring to be replaced to match existing specifications if appropriate
- Internal re-wiring generally within face fixed steel conduit to limit physical impact

Site 3 Smithy (Unit 1.5)

External:

- Replacement of all existing sheet roofing (replace joists as necessary) with scantle slate and reinstate roof vents to both apexes
- Removal of pebble dash from the south elevation of this building and repoint, repaint

- Existing front sliding timber doors to be repaired
- New period windows to ground floor to be installed (vertical timber glazing bars with lapped glazing) to south elevation
- Windows to north elevation to be repaired
- New smithy chimney to be rebuilt with specifications from archive research (north elevation)
- New cills to be formed in lime render over existing brick
- New fascia boards to be installed with period style guttering
- Concrete ramp to be installed, with side entrance to porch and sliding timber doors reinstated
- Cycle hoops to be added to lean-to shelter on east side (canopy to be retained and refurbished)

Internal:

- New internal shutters to be installed to the south elevation windows (Unit 1.5)
- Walls re-plastered where necessary (retaining original timber features where possible), to ground floor and first floor.
- New toilets and new kitchen to east side of ground floor to be constructed
- Excavation to provide new WC and kitchen drains
- South ground floor area to be laid with 70mm timber floor overlaying existing
- Internal re-wiring to ground floor and first floor

Site 4 Miners' Dry (Units 1.6 and 1.7)

External:

- Replacement of all existing sheet roofing (replace joists as necessary) with scantle slate
- Removal of pebble dash from the south elevation of this building and repoint, repaint
- Front porch retained, but existing roof replaced with glazing
- New period windows to be installed (based on template of existing window at south west corner) to both south elevations
- North elevation windows to be repaired
- North side rooflights to be replaced with modern equivalents
- New cills to be formed in lime render over existing brick
- New fascia boards installed and period style guttering

Internal:

- New internal shutters to be installed to the south elevation windows
- Internal partition removed from the ground floor
- Retain existing granolithic wall finish, making good as necessary
- New toilets constructed to former Lamp Room north west corner of ground floor
- Excavation to provide new WC drains
- Internal re-wiring to ground and first floor within surface mounted conduit
- In Unit 1.7 remove modern partitions and raise flat ceiling to increase headroom
- Existing doorway access to new WC's/Showers blocked up

Site 5 Former Carpenters' Shop (Site/office toilets)

External:

- Existing corrugated sheet roofing to be repaired as necessary

- Pebble dash exterior finish to be overpainted on the south elevation of this building
- West side doorway to be blocked up and new door installed with new concrete access ramp from west side
- Windows to north elevation to be repaired
- New fascia boards to be installed with period style guttering

Internal:

- Existing WC internal partitions to be removed and replaced with a new design of toilets, showers and basins
- Retain existing tiled finish where possible, new tiling to match elsewhere
- Existing doorway access to be blocked from Miners' Dry (Unit 1.6) and used for disabled toilet and basin
- New Boiler/plant facilities installed in general ancillary eastern ground floor room
- Excavation to provide new WC drains
- Internal re-wiring to ground floor within surface mounted conduit

Note:

Site 6 (Store) and Site 7 (Outhouse/Store) is unlikely to be impacted by this project (see Figure 4 for site location). Note

To summarise, the main tenets of the conservation philosophy has been followed in order to minimise impact, retain the site's character, allow reversibility, and new build has been mainly accommodated within the existing buildings. The specification and design for the replacement of old and un-repairable external and internal fixtures and fittings (including windows) has followed the philosophy of replicating a significant period in time (early decades of 20th century) for KEM, and for which archive information is available.

The main visual impact of the scheme relates to the Counthouse Complex, where the cementitious based external render is to be carefully removed, the joints raked out and repointed. In addition, the corrugated sheet roof is to be removed and replaced by original scantle slate (see front cover image). In addition, two chimneys that were present during the early decades of the 20th century are also to be replicated, in order to present a period roofscape.

The overall impact of these proposed works on the site can be defined as '**Moderate positive**'. The scheme will restore the buildings as far as possible respecting their original function, but their use will be altered. It should be noted that as a result of these proposed works, the Counthouse Complex will be able to be removed from the EH Buildings at Risk Register 2012.

6.2.3 Impact mitigation recommendations

Reduction of impact measures and residual impact mitigation has been described in Section 5.2.1. Site impacts; visually, physically and to the overall site's character have been mitigated as part of a consultancy process by the project's conservation accredited architect (Paul Perry, PBWC Ltd) with KEM Ltd (primarily Tony Brooks), EH (Francis Kelly), the area Conservation Officer (Andy Richards), and HE Projects (CMP author, Colin Buck), whilst drawing up the design and producing the project specifications.

The impact mitigation strategy for the project is fully described in Section 7. There are more significant external and internal impacts to the Counthouse than the Carpenters' Shop complex, but this relates more to the present condition of the former (and capital works necessary to bring it to an appropriate standard for adaptive reuse), compared to the latter.

It is certainly recommended that a necessary pre-requisite (and a planning condition) for statutory and Listed Building Consent would be:

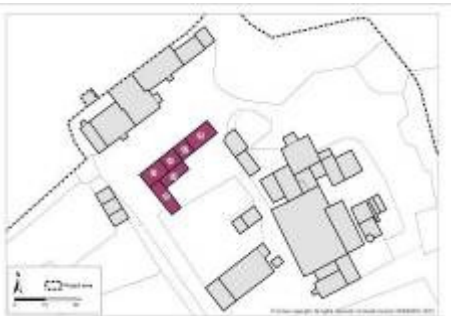

- An archive photographic survey before any works are started (exterior and interior)
- Annotation of a Level 3 survey of the buildings to include historic elements that may be impacted

- Archaeological recording during works (particularly excavation impact sites)
- Production of an archaeological report detailing the results of the above three archaeological recording interventions.

6.3 Carpenters' Shop Complex

6.3.1 Detail record sheet

Site name:	KING EDWARD MINE	Sheet R5
Building name/identifier:	Carpenters' Shop Complex: Offices/Carpenters' Shop/Machining Room (Sites 11-14)	
Survey date:	2/8/2012	
Designations:	Listed Building Grade II* (Ref. 1159182 – Carpenters' Shop)	
Location:	NGR: SW 66339 38917 West of core KEM site. Block Plan Fig 4	
Building at Risk:	No	
Recorder:	C Buck	
Plan Ref:	Proposed Survey Plan (PBWC Dwg. No. 3188 (PR Site) 010A Annotated Proposed Survey Plan (PBWC Dwg. No. 3188 (PR Ca) 010/A Annotated Proposed Survey Elevations (PBWC Dwg. No. 3188 (PR Ca) 011/B	

Site map and photograph:		
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Construction materials: (walls, roof, floor, ceiling, windows, doors):	<p><i>External:</i> The roof is constructed with scantle slate; the original was replaced in c1990. It appears to be in a good condition. The side and end walls are built of horizontal boarded ship lap (with the exception of the Carpenters' Shop west wall which is constructed of brick), all of which is in dire need of redecoration, and possibly some sections replaced. The rainwater goods are plastic. The external joinery is in a reasonable to poor condition – again, some needs replacing, re-puttying and all re-decorating. Site 12, a new extension was built of concrete block, with external cement render and slate roof.</p> <p><i>Internal:</i> All the original internal partition walls are built of vertical tongue and grooved timber. However the wall between the Machine Shop and the Assay Office was built of stone, lime plastered with an inbuilt chimney flue for the Assay furnace. The ceiling was also boarded out with tongue and grooved timber under the roof joists. In the Carpenters'</p>
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	Shop and the Machining Room (north east end), steel joists were used for machinery support. The ends of these rooms are either stone or brick (to support the drive shafts/belts etc extending from one room to the other. The floor is also constructed of timber floorboards. The windows, for the most part appear to be original, except for those that have been adapted to provide access to the later 1950s saw machine building, or blocked doorways with a later window (see Fig 21). Internal modifications since construction can be seen throughout the building, but are minimal. Site 12, was built with a concrete floor and internal cement render.
Build date:	S. Condurrow Mine retained the lease on the Count House and Assay Complexes from 1897 to 1903: The Carpenters Shop/Mine Office/Assay House/Dark Room (Sites 11-13) all built in c1903 (possibly slightly later for Sites 13/14) by CSM. Site 12, the saw machine building was built in the 1950s.
Modification date:	Internally, the original complex form was 'L' shaped and divided into three rooms (the Mine Office/Counthouse, the Carpenters' shop and the Machining room (all Site 11). At a slightly later date Sites 13 (the Assay Office), and 14 (the Stores/Dark Room), were built. In the 1950s building 12 was built to site a new machine saw. It has two external doors, with internal access via the Carpenters' Shop and a doorway formed from a former mine office window. In the office section the position of small stoves can be seen (reference to 1904 photographs of KEM also show these chimneys), and the position of former partitions.
Original functions:	Variously: KEM original Count House/Carpenters' Shop/Machining Room/Assay House and Dark Room. After taking on the lease for the Count House complex, the building was still utilised as Offices, the Carpenters' Shop and Machining Room.
Current function:	Unused. Temporary storage for some Trevithick Society items.
Proposed function:	Workspace of 3 self-contained units (Units 2.1 to 2.3).
Significant features/contents:	These timber framed buildings (with the exception of Site 12), are highly significant in terms of their original external timber ship lap design and internal tongue and grooved walls and partitions – replicated in other parts of the mine from 1903 onwards. This complex also retains many original windows and doorway openings.
Original fixtures and fittings:	The Carpenters' Shop (northern part of Site 11), retains original storage shelving, and a shaft drive with flywheel from the adjacent Machining Room (northern eastern part of Site 11). The Machining Room also contains other original shaft drives and fitments at a high level. The Assay building (Site 13) contains the original assay furnace with internal wall flue (except this has been capped at roof level). The Office building contains evidence for siting of the stoves to keep the occupants warm during the winter months.
Machinery:	There are numerous stored Trevithick Society Museum items in the Carpenters' Shop and Machining Room.

<p>Summary description:</p>	<p>The Carpenters' Shop Complex is Listed Grade II*. This range of four rooms under a single slate roof was built to serve the needs of CSM soon after it took over this eastern part of South Condurrow Mine (as at that time the mine retained its lease on the Count House and Assay buildings). The building retains many original internal features, and its external timber frame character and slate roof is still preserved. Internally, original shaft drives and flywheels are extant in both the former Machining Room and the Carpenters Shop. The Assay Office (Site 13) also retains the original assay furnace, with evidence of original shelving and the position where a timber cabinet stood. Given the complex internal timber construction, modifications and signs of original features can still be seen. Site 12, a saw machine room, built with concrete block and rendered in the 1960's, has little character except for its slate roof.</p>
<p>Completeness and condition:</p>	<p>This is another rare example of a relatively untouched early 20th century mine building. It not only demonstrates period construction design, but also reflects a similar style around the mine and unusually retains a number of original features. However, this building has been in disuse for many years, its exterior timber ship lap needs to be redecorated, with some timbers and facias replaced, and guttering repainted or renewed with period equivalents. Its slate roof appears to be in a good condition. Internally, the walls and structures are in a good condition, no doubt a result of ensuring during the past century that the roof was well maintained.</p>
<p>Significance/conservation strategy:</p>	<p>The historic group value of this early 20th century complex of buildings is highly significant, as well as its contextual relationship to other buildings of a similar date and style across the site. Adaptive re-use of its existing form is recommended as long as its significant internal features are not compromised.</p>
<p>EH at Risk Register 2012:</p>	<p>Not applicable</p>
<p>Additional requirements for proposed work/any other factors affecting reuse/repair etc:</p>	<p>Given the statutory designation of these buildings it is likely to be condition of planning consent that an internal photographic survey is commissioned before any proposed works to enable adaptive re-use. Re-use of original internal features (doors/architraves/skirting boards/fireplace etc), is recommended where possible.</p>

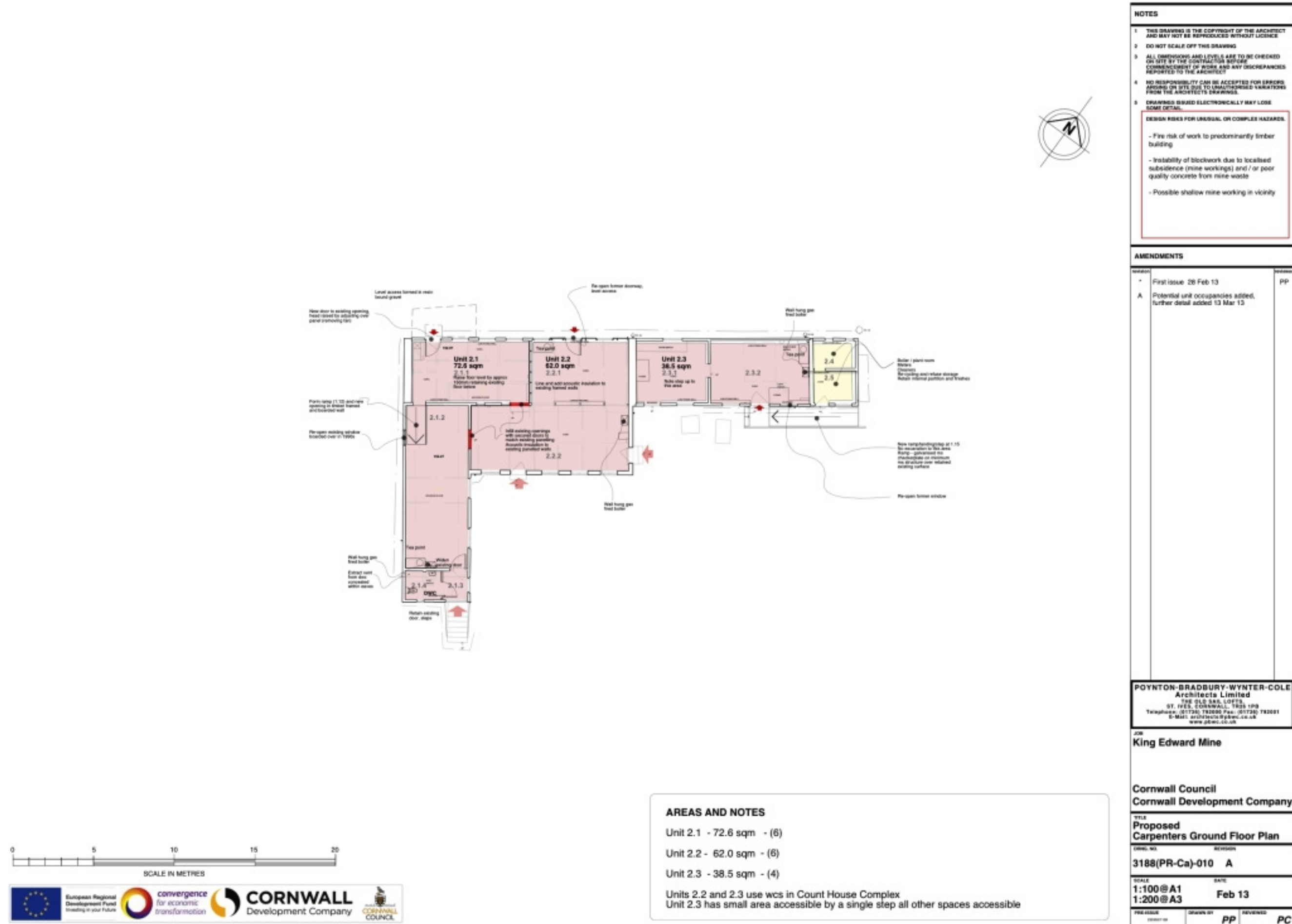
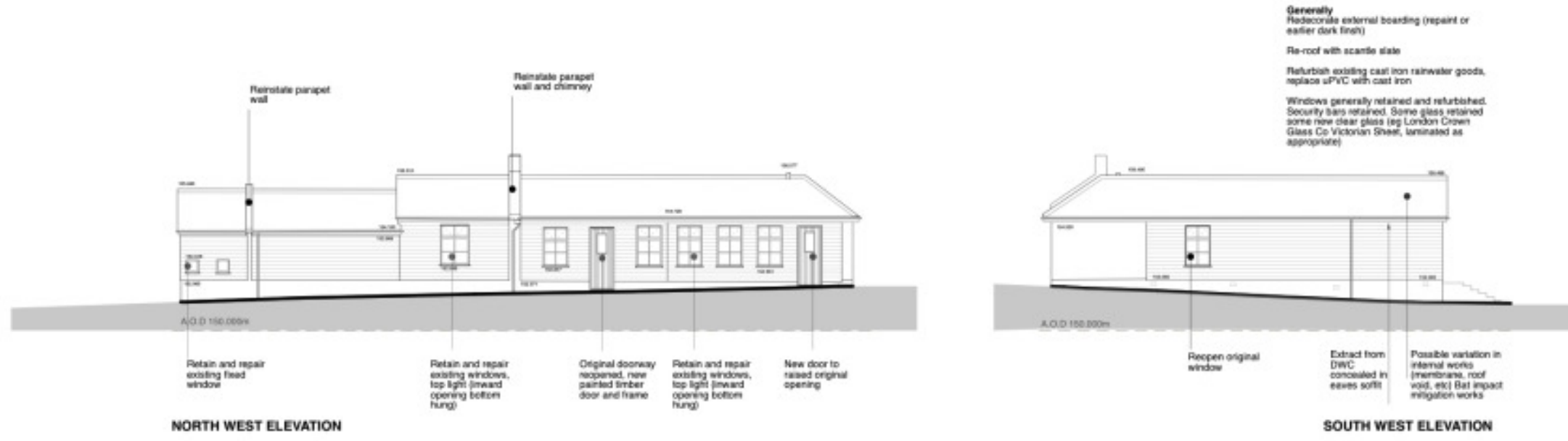


Figure 8 Proposed Carpenters' Shop Complex annotated plan showing site impacts (PBWC Ltd)



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DESIGN RISKS FOR UNUSUAL OR COMPLEX HAZARDS.

AMENDMENTS

NO.	DESCRIPTION	DATE	BY
*	First issue	26 Feb 13	PP
A	Further detail added	15 Mar 13	PP

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King Edward Mine

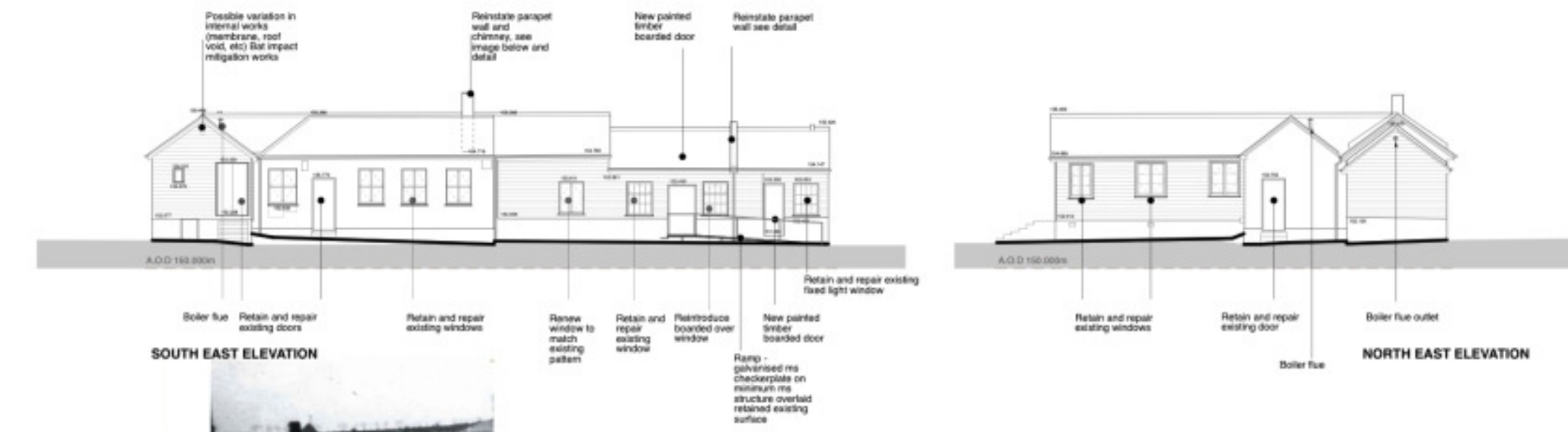
Cornwall Council
Cornwall Development Company

Proposed Carpenters Elevations

CORNWALL REF: 3188(PR-Ca)-011 A

SCALE: 1:100@A1
1:200@A3 DATE: Feb 13

PREPARED BY: PP CHECKED BY: PC



1925 Photograph (Courtesy Tony Brooks)

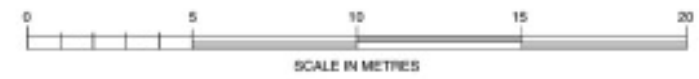


Figure 9 Proposed Carpenters' Shop Complex annotated elevations showing site impacts (PBWC Ltd)

6.3.2 Site impacts

Refer to Figures 8 and 9 for the proposed scheme (plans and elevations respectively) to the Carpenters' Shop complex.

Significant impacts

- Replacement of all existing roofing with original style scantle slate
- Existing windows to be retained and repaired (top light to be inward opening – bottom hung)
- Two parapet walls and a chimney to be rebuilt to promote a period roof line character
- On the north elevation, a blocked doorway to be re-opened and new door inserted
- On the west elevation, a blocked window to be re-opened and new window inserted to match prevailing style
- uPVC rainwater goods to be replaced with original cast iron spec and existing refurbished
- Galvanised disabled access ramp to be built for Unit 2.3
- Internally: Two existing doorways to be infilled with secured doors (Unit 2.2.2)
- Internally: A new access ramp to be built into the north-west corner floor of Unit 2.1.2 and a new access opening cut through the adjacent wall.
- Internally: Sound insulation added to all internal workspace areas.

Note:

Current specifications, method statements and impacts for replacement of foundation blocks (mundic based constituents), for this building are not known.

Refer to Figures 2, 3 and 4 for each site location. Site information for each building is given in Table 1 and the relevant detail record sheet.

Sites 11& 12 Offices, Carpenters' Shop, Machining Room and Sawmill (Units 2.1 and 2.2)

External:

- Replacement of all existing roofing with original style scantle slate
- Existing windows to be retained and repaired (top light to be inward opening – bottom hung)
- The external ship-lap weatherboarding to be cleaned, sanded, painted and repaired where necessary
- A new parapet wall is to be rebuilt to promote a period roof line character
- On the north elevation, the blocked doorway is to be re-opened and a new door inserted
- At the west end of the north elevation, a new door to the existing opening is to be raised above a slight concrete ramp
- On the west elevation, a blocked window is to be re-opened and new window inserted to match the prevailing style
- uPVC rainwater goods to be replaced with an original cast iron spec and refurbish existing

Internal:

- Two existing doorways are to be infilled with secured doors (Units 2.1.1, 2.1.2 and 2.2.2 – See Figure 8) to form Unit 2.2
- A new access ramp is to be formed into the north-west corner floor of Unit 2.1.2 floor and a new access opening created through the adjacent wall
- The floor level is to be raised by approximately 150mm to Unit 2.1.1 (retaining existing floor below)
- Sound insulation is to be added to all internal partition workspace areas
- There may be possible bat impact mitigation works to the roof void over Unit 2.1.2

- A new toilet and washing facilities is to be built at the south end of Unit 2.1.2 within the existing partitioned space
- Existing internal finishes to be retained, sound insulation material to be incorporated into void between studs and other improvements to sound proofing to be made within structure (hidden – eg within roof and floor voids).
- Internal re-wiring to be within face fixed conduit

Sites 13 & 14 Assay Office and Store (Unit 2.3)

External:

- Replacement of all existing roofing with scantle slate
- The existing south side windows to the store are to be repaired (Site 14 – Unit 2.3.2)
- A new galvanised disabled access ramp is to be built for Unit 2.3 (south side) and new timber boarded door
- A window on the south side of the Assay Office is to be renewed to match the existing style
- The external ship-lap weatherboarding to be cleaned, sanded, painted and repaired where necessary
- A new parapet wall is to be rebuilt to promote a period roof line character
- uPVC rainwater goods to be replaced with an original cast iron spec and refurbish existing

Internal:

- Sound insulation not required as there is an existing solid masonry wall between Units 2.2 and 2.3
- Internal re-wiring to be within face fixed conduit

Note:

Site 14 (former KEM Dark Room), is to be converted to the new Boiler/plant room. It is also planned to contain these unit's electrical meters, re-cycling and refuse storage. The internal partition is to be retained. There will be minimal impacts.

To summarise, the main tenets of the conservation philosophy has been followed in order to minimise impact, retain the site's character, allow reversibility, and new build has been mainly accommodated within the existing buildings. The retention and repair of old windows has followed the general conservation philosophy of keeping original features as much as possible, especially where they were created during a significant formative period in time (early decades of 20th century) for KEM.

The main visual impact of the scheme for the Carpenters' Shop Complex is likely to be internally where the Camborne School of Mine's original mine buildings were constructed with various specific functions. It is proposed that these buildings are formed into three separate units, two of them (Units 2.2 and 2.3), using toilets at the east end of the Counthouse Complex. Soundproofing and other building regulations may result in the original wall surfaces being lined, and the creation of Unit 2.1 (linking the former CSM Counthouse and Carpenters' Shop), with a new doorway and disabled access ramp are other significant impacts. But externally, the construction of a new chimney and parapet wall (present during the early decades of the 20th century are to be replicated), in order to present a period roofscape.

The overall impact of these proposed works on the site can be defined as '**Moderate positive**'. The scheme will restore the buildings as far as possible respecting their original function, but their use will be altered. It should be noted that as a result of these proposed works, the Carpenters' Shop Complex will be able to be removed from the EH Buildings at Risk Register 2012.

6.3.3 Impact mitigation recommendations

Refer to Section 6.2.3 – the impact mitigation recommendations equally refer to this building complex.

6.4 Residual impacts

Short-term residual impacts relate to the visual component – this will be mainly focussed on the Counthouse Complex, where the existing pebble dash exterior coating will be removed, the building re-slatted, and early 20th century windows installed. Longer term residual impacts to both buildings relate to perceptive changes of functional use, and physical impacts to the internal layouts and specifications to each building component.

However, given the nationally important statutory designation of these buildings, the adaptive reuse scheme is also to a large extent repairing and conserving these two historically important buildings. There is the positive residual impact that the buildings will be conserved for at least another generation. Structurally, they will both benefit from use and heating; at present they are used only for storage but dampness has caused damage to the Counthouse walls through neglect for some time.

6.5 Assessment of impact on historic building character

As described in the Significance section of this report (Section 3.2), KEM has International, National and Local significance attributes, as well as its statutory designations of Listed Building Grade II*. Therefore, the importance of production of a Conservation Management Plan (Buck 2013), that sets out clear principles and policies of significance and character, which underlies a clear Conservation Philosophy; to inform and guide project development, as well as the production of detailed specifications, cannot be understated.

The Conservation Philosophy's main tenets of utilising archive information to guide specifications for repair, alteration and rebuild have been followed. Generic conservation principles following principles of reversibility, minimising impacts upon original features – and adapting the design to each site's constraints have also been followed. In addition, the scheme is proposed to include the reversing of mid to late 20th century building work undertaken on the Counthouse that included pebble dashing the exterior, and re-roofing the complex with corrugated asbestos sheeting. Again, this is positive – the site's character should be enhanced rather than diminished by the sustainable regeneration project. Where new build has had to be accommodated, their design has been based on replicating an industrial feel and character, in line with the function of the site.

The overall impact of these proposed works on the site can be defined as '**Moderate positive**'. The scheme will restore the buildings as far as possible respecting their original function, but their use will be altered. It should be noted that as a result of these proposed works, both the Counthouse and Carpenters' Shop Complexes will be able to be removed from the EH Buildings at Risk Register 2012.

7 Impact mitigation strategy:

The impact mitigation strategy methodology is described below in three main stages: The pre-works consultancy, site supervision during works and the archaeological recording record (during and after works). This mechanism demonstrates the steps that have been taken to avoid or minimise adverse impacts, confirms that the proposed works have been designed in close liaison with the relevant statutory (and non-statutory) historic environment and conservation officers. This is based on a clear understanding of the significance of the site using appropriate methods and techniques for site monitoring and recording.

7.1 Pre-works consultancy

Cornwall Council Culture Team tendered and commissioned a Design Team to facilitate production of plans and specifications for the adaptive reuse of both the Counthouse

and Carpenters' Shop Complexes. Pre-works consultancy throughout this formative design period has occurred, leading to general compromise and agreement.

Detailed liaison with the project's conservation accredited architect (Paul Perry, PBWC Ltd) and appropriate statutory officers (EH, Conservation Officers and County Planners), non statutory advisers (Historic Environment Projects and KEM Ltd), with additional input from a public open consultation event (20th March) throughout the design and specification process, have ensured that the impacts have been reduced as much as possible, and the scheme accords with the general conservation philosophy produced in the Conservation Management Plan.

However, it should be noted that not all the impacts to the site are known at the present time, and cannot therefore be commented upon in detail nor mitigation discussed. For example, a mine shaft has been located beneath the Counthouse west wall (Mess Building – Site1), the foundation blocks under the Carpenters' Shop have been tested and contain elements of 'mundic', and excavation trenches (and therefore impacts) for drains both inside and outside the buildings are not finalised. In addition, detailed specifications for internal floor, wall and ceiling works have also not been finalised. This report should therefore be viewed as a generic impact assessment for the project.

7.2 Site supervision

A Conservation Accredited architect will also be appointed for the implementation phase. This will be undertaken with other statutory officers (for example English Heritage and the area Conservation Officer Andrew Richards).

The Conservation Management Plan should be a useful resource to inform and guide policy and conservation/repair work decisions that will need to be made during ongoing site works.

7.3 Programmes of archaeological recording

Listed Building Consent from Cornwall Council will be necessary for these works. This report has been commissioned by the Cornwall Council Culture Team, as its production is a pre-requisite for planning consent.

This report makes the following archaeological impact mitigation recommendations:

- An archive (Black and White) photographic survey of all buildings and rooms should be undertaken that will be impacted by the scheme (internally and externally), before any works are started.
- Annotation of a Level 3 survey of the buildings to include historic elements that may be impacted. A survey undertaken by PBWC (Ltd) to work up the site drawings appears to be of sufficient detail, but additional annotations relating to historic and period architectural features will be necessary.
- Archaeological recording during works (particularly excavation impact sites for example below ground services and drain routes).
- Production of an archaeological report detailing the results of the above three archaeological recording interventions. The archaeological recording report will include detailed 'before and after' site photographs as well as a descriptive text of the general works.

It is likely that a detailed brief will be supplied for the nature and extent of the archaeological recording.

8 References

8.1 Primary sources

King Edward Mine:

Archive photographs held by Tony Brooks

Cornwall Council:

Aerial photograph (oblique) of King Edward Mine

Ordnance Survey, 2007. *Mastermap Digital Mapping*

Survey drawings:

Counthouse/Carpenters' Shop Complexes proposed site plan, elevations and plans (Poynton, Bradbury, Wynter, Cole Architects drawings 2013)

8.2 Publications

Brooks, T and Watton, J., 2002, *King Edward Mine 2001, An illustrated account of underground and surface operations 1897- 2001*, Cornish Hillside Publications

Buck, C., 2013, *King Edward Mine, Camborne, Conservation Management Plan*, HE Projects (Report No 2012R086)

Purcell, Miller, Tritton (and Parkin heritage and tourism), 2011. *King Edward Mine: Master Plan and Business Plan 'The way forward'*.

WHS, 2007. The Outstanding Universal Value of the Cornwall and West Devon Mining Landscape

WHS, 2013. *Cornwall and West Devon Mining Landscape - World Heritage Site Management Plan 2013-2018*

8.3 Websites

<http://lbonline.english-heritage.org.uk> The Listed building database of English Heritage and the Department of Culture, Media and Sport

<http://www.cornish-mining.org.uk> The Cornwall and West Devon Mining Landscape World Heritage Site website

<http://www.stastier.co.uk> A particularly useful website by the manufacturers of St. Astier brand lime products detailing methodologies for their application.

<http://www.cornishlime.com> The website of the Cornish Lime Company

9 Project archive

The HES project number is **146165** (King Edward Mine: Heritage Impact Assessment)

The project's documentary, photographic and drawn archive is housed at the offices of Historic Environment, Cornwall Council, Kennall Building, Old County Hall, Station Road, Truro, TR1 3AY. The contents of this archive are as listed below:

1. A project file containing site records and notes, project correspondence and administration (File No. **146165**).
2. This report is held in digital form at HE CC as: G:\Historic Environment (Documents)\HE Projects\Sites\Sites K-L\King Edward Mine HIA 2012039\ King Edward Mine CMP Report 2012039
3. EH OASIS No. cornwall2-138559