WYG Planning & Environment

part of the WYG group

Prittlebrook Air Raid Shelters

Former Ekco Factory Site,

Southend-on-Sea, Essex

Built Heritage Appraisal

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Ropemaker Court, 11-12 Lower Park Row, Bristol, BS1 5BN

Telephone +44 (0)117 244 0501

Email: martin.brown@wyg.com

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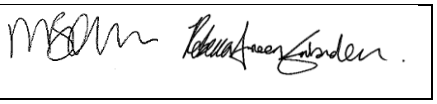
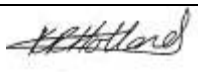
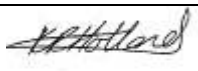
Prepared by:	Martin Brown, Principal Archaeologist & Rebecca Enlander, Graduate Archaeologist	Signed:	
Checked by:	Kirsten Holland Associate Archaeologist	Signed:	
Verified by:	Kirsten Holland Associate Archaeologist	Signed:	

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1.0 Introduction

This built heritage appraisal has been prepared by Martin Brown, Principal Archaeologist, and Dr Rebecca Enlander, Graduate Archaeologist, WYG on behalf of CBRE to provide an appraisal of the air raid shelters at the former EKCO site, Prittlebrook on behalf of Aviva Investors.

The purpose of this report is to provide an initial appraisal of the current condition of the built heritage within the site. This appraisal will then be used to inform the assessment of the heritage significance of the structures, in relation to their architectural and historical merit in a national context, and in reference to English Heritage guidelines, Conservation Principles and comparative sites. The viability of finding long-term uses for the structures and recommendations for the designation of the structures are also explored as part of a multi-disciplinary assessment covering architecture, heritage and market considerations.

The proposed redevelopment of the former Prittlebrook Industrial Estate in Southend-on-Sea involves a hybrid planning application for the comprehensive redevelopment of the site to provide a mixed use development. This will comprise outline and detailed planning permission. Concurrent to the planning application, an application for the listing of Prittlebrook Air Raid Shelters has been submitted.

2.0 Site Description

The site is located approximately 3km north of central Southend-on-Sea, and comprises the former Ekco Works factory and industrial estate (National Grid Reference TQ 876 878). The main access to the site is from Priory Crescent to the south, with a further access gate off Thornford Gardens to the north. Until recently, the site comprised the 1930s factory buildings of the Ekco Works and more recent factory buildings. Three air raid shelters exist below a long range of 1930s factory buildings. Many of the above ground standing buildings have now been demolished. A number of other shelters are understood to exist across the site, but there exact locations are not known as their entrances have been concealed by development. A site location plan is included in Appendix B.

3.0 Sources Consulted

This study has taken into consideration the historical and archaeological background of the proposed development area. The sources consulted were:

- English Heritage guidance for the Listed Building;

- English Heritage guidance on the designation of military structures (2011);
- The Essex County Council Field Archaeology Unit report on the air-raid shelters (ECC 2008);
- Archaeology South-East desk-based assessment (ASE 2014); and
- Appropriate documentary sources and archaeological journals.

A site visit was completed on Wednesday 30th July 2014 to assess the present condition and significance of the site.

4.0 Legislation and Planning Policy Context

4.1 Planning (Listed Buildings and Conservation Areas) Act 1990

The Act outlines the provisions for designation, control of works and enforcement measures relating to Listed Buildings and Conservation Areas. Section 66 of the Act states that the planning authority must have special regard to the desirability of preserving the setting of any Listed Building that may be affected by the grant of planning permission. Section 72 states that special attention shall be paid to the desirability of preserving or enhancing the character or appearance of Conservation Areas.

4.2 Listing and the Enterprise and Regulatory Reform Act

The Enterprise and Regulatory Reform Act (ERRA) has enabled a number of heritage reforms, including an amendment to the Planning (Listed Buildings and Conservation Areas) Act 1990 that provides two potential ways to be more precise about what is listed. The empowerments can clarify whether attached or curtilage structures or objects that are fixed to a listed building are protected or to be excluded from listed building consent. In addition, parts or features of a listed building that is not of special interest can be stated, for the purposes of listed building consent. These provisions came into force on 25th June 2013. These provisions build on modern approaches to designation, which seek to provide as much clarity as possible about where special interest lies, and where it doesn't. For new listings, English Heritage will apply the ERRA approach as and when appropriate, from 25th June 2013.

4.3 National Planning Policy Framework 2012

The National Planning Policy Framework (NPPF) sets out the Government's national planning policies including those on the conservation of the historic environment. The NPPF covers all aspects of the historic environment and heritage assets including designated assets (World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Conservation Areas, Registered Parks and Gardens and Registered Battlefields) and non-designated assets. The NPPF draws attention to the benefits that conserving the historic environment can bring to the wider objectives of the NPPF in relation to sustainability, economic benefits and place-making (para 126).

The NPPF states that the significance of heritage assets (including their settings) should be identified, described and the impact of the proposal on the significance of the asset should be assessed. The planning application should include sufficient information to enable the impact of proposals on significance to be assessed and thus where desk-based research is insufficient to assess the interest, field evaluation may also be required. The NPPF identifies that the requirements for assessment and mitigation of impacts on heritage assets should be proportional to their significance and the potential impact (para 128).

The NPPF sets out the approach local authorities should adopt in assessing development proposals within the context of applications for development of both designated and non-designated assets. Great weight should be given to the conservation of designated heritage assets and harm or loss to significance through alteration or destruction should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional (para 132). Additional guidance is given on the consideration of elements within World Heritage Sites and Conservation Areas (para 138).

Where there is substantial harm to or total loss of significance of a designated heritage asset a number of criteria must be met alongside achieving substantial public benefits (para 133). Where there is less than substantial harm the harm should be weighed against the public benefits of the development (para 134). Balanced judgements should be made when weighing applications that affect non-designated heritage assets (para 134). The NPPF also makes provision to allow enabling development (para 140) and allowing development which enhances World Heritage Sites and Conservation Areas (para 127).

Where loss of significance as a result of development is considered justified, the NPPF includes provision to allow for the recording and advancing understanding of the asset before it is lost in a manner proportionate to the importance and impact. The results of these investigations and the archive should be made publically accessible. The ability to record evidence should not however be a factor in deciding whether loss should be permitted (para 141).

4.4 Local Policy and Guidance

Southend on Sea Borough Council formally adopted its Local Development Framework: Core Strategy Development Plan Document (CSDPD), on 13th December 2007. The CSDPD forms part of the Southend on Sea Local Development Framework and provides the vision, objectives and planning strategy for the spatial development of the whole Borough of Southend-on-Sea, until 2021. The core strategy had one over-arching policy that is relevant to development and the historic environment; there are also two saved policies from the Southend-on-Sea Borough Local Plan 1994 (Saved Policies 2007) relevant to development and the historic environment:

- **Policy C1**: Ancient Monuments and Archaeological Sites (saved policy);
- **Policy C2**: Historic Buildings (saved policy); and
- **Policy CP4**: The Environment and Urban Renaissance Development. Development proposals will be expected to contribute to the creation of a high quality, sustainable urban environment which enhances and complements the natural and built assets of Southend. This includes safeguarding and enhancing the historic environment, heritage and archaeological assets, including Listed Buildings, Conservation Areas and Ancient Monuments

The full text of these policies is reproduced in Appendix D.

4.5 Conservation Principles

The English Heritage (2008) guidance 'Conservation Principles' is an over-arching philosophical framework, which acts to quantify the idea of 'significance'. Significance is a collective term for the sum of all the heritage values attached to a place.

The guidance outlines six principles of conservation. Principle 1 emphasises that the historic environment is a shared resource, and that people value it as part of their cultural and natural heritage. Each generation

should shape and sustain the historic environment in ways that allow people to use, enjoy and benefit from it, without compromising the ability of future generations to do so (2008, 19).

Principle 2 highlights that everyone should be able to participate in sustaining the historic environment, by opportunities to contribute knowledge and to participate in decisions about the future of places. Learning is central to sustaining the historic environment and experts should encourage and enable others to learn about, value and care for the historic environment (2008, 20).

Principle 3 stresses the importance of understanding the significance of places. A place can be any fixed part of the historic environment with a distinctive identity, and its significance embraces all the diverse cultural and natural heritage values that people associate with it; these values can grow over time. The degree of significance determines what, if any, protection, including statutory designation, is appropriate under law and policy (2008, 21).

Principle 4 states that significant places should be managed to sustain their values. While recognising that change in the historic environment is inevitable (natural processes, wear and tear, social, economic and technological change), conservation is the process of **managing** change to a significant place. Vulnerability to change should be judged and necessary actions and constraints taken to sustain, reveal and reinforce the values of significant places. Actions should endeavour to ensure that the place retains its authenticity. Intervention may be justified so long as any resulting harm is decisively outweighed by the benefits (2008, 22).

Principle 5 stresses that decisions about change must be reasonable, transparent and consistent; such decisions demand the application of expertise, experience and judgement, in a consistent, transparent process, guided by public policy (2008, 23).

Principle 6 emphasises that documenting and learning from decisions is essential; this will provide a record of what has happened to a significant place, and provide the rationale for how and why its significance may have been altered (2008, 23).

Many heritage values are recognised by statutory designation; however, the significance of a place should influence decisions about its future, whether or not it is has statutory designation. People value historic places in many different ways and the 'Conservation Principles' quantify these different values into four categories. These values are somewhat inter-related; the high level values range from evidential, which is dependent on the inherited fabric of the place, through historical and aesthetic, to communal values which derive from people's identification with the place (2008, 27-33).

- **Evidential value**: the potential of a place to yield evidence about past human activity.
- **Historical value**: the ways in which past people, events and aspects of life can be connected through a place to the present - it tends to be illustrative or associative.
- **Aesthetic value**: the ways in which people draw sensory and intellectual stimulation from a place.
- **Communal value**: the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.

To assess the heritage significance of a place, its context, history, fabric and character must first be understood. Such an understanding might be gained from Historic Environment Records, key documentation and mapping, and the process of investigation often generates and helps to define perceptions of heritage value. To provide a sound basis for management, the people and communities who are likely to attach heritage values to a place should be identified and the range of those values understood and articulated. Identified heritage values should be related to the fabric of the place, i.e. how do specific parts of the place relate to or detract from the value? Consideration should be given to the relative importance of those identified values, the contribution of associated objects and collections (i.e. historically-associated objects), and the contribution made by the setting and context of the place. Understanding the importance of a place by comparing it with other places that demonstrate similar values is also a useful stage in assessing significance. Finally, the significance of the place needs to be articulated in a summary or 'statement of significance' (2008, 35-41).

The guidance also includes a recommended approach to, and advice on, how to apply the principles and policies in practice, detailed interpretation of policies on repair, on intervention for research, on restoration, on new work and alteration, and on enabling development (2008, 51-64).

5.0 Previous Assessments

The site has been the subject of previous heritage investigations. In 2008, a measured survey and historic record was undertaken by Essex County Council Field Archaeology Unit (ECC 2008). This work recorded the three WWII air raid shelters at the former Ekco Works and was commissioned by Southend Borough Council, prior to proposed redevelopment of the site. The survey provides a comprehensive record of the structures, principally concentrating on the main shelter 1 which was the best-preserved example at the time. The survey was commissioned as a response to redevelopment proposals, and the imminent

demolition of the standing factory buildings on the site, including the old 1930s range and the lamp factory, as well as the WWII structures below (ECC 2008, 2).

Archaeology South-East carried out an archaeological desk-based assessment in June 2014; the assessment was centred on the Ekco site and adjacent sports fields in support of a hybrid planning application. The air raid shelters are described as 'in-filled' (ASE 2014, 2 and 11); however, media coverage suggests that the entrances have been blocked, rather than wholly in-filled, and suggest that all of the original fixtures, with the exception of the doors, have now been removed and put into storage. These are due to be displayed in the new Museum of the Thames Estuary (Trayner 2014). Additionally, a geotechnical report prepared by CGL for the Ekco site states that 'it is unclear as to whether the air raid shelters have been infilled, either historically or during the recent demolition works' (CGL 2014, 16). However the site visit confirmed that they are still accessible. The locations of the air raid shelters were not explored during CGL survey and the reports stress that their exact positions need to be accurately located on the ground, and they may have implications for the design of any further development on the site (*ibid*. 47 and figure 4). Informal consultation with the Southend Central Museum has confirmed that the fixtures and fittings are currently in storage at their facilities in central Southend (pers. comm.).

6.0 Historic Context

The historical background of the site is described in detail in the ECC survey (2008), and that document is drawn upon here. This historic background, of both the air raid shelters and Ekco factories, is drawn from previous assessment (ECC 2008; ASE 2014).

The Ekco Company was established in 1926 and the Prittlewell premises was built in 1930; 'EKCO' was a household name producing radios, televisions and electric heating appliances, and valves and moulded 'bakelite' casings were produced as part of the manufacture process, in the contemporary Deco-style. The company was famous for mass producing circular bakelite radio sets, the most popular being a model called the 'AD 65'. By 1937, with war looming, secret work was being undertaken at the premises, researching and developing Radar systems and building army radio sets for the War Office. The works were enlarged during 1938-9, and during and it was during this time that the subterranean air raid shelters were incorporated into the new building design. The new development included the 'Lamp Factory', inserted between the two long workshop ranges and containing shelter 1 (ECC 2008, 3).

Shelter 1 was seemingly the main shelter for the scientists and the technologies they were developing, and it was equipped for gas attack, with cleansing facilities, a filtered air system and an independent power

supply. Shelters 2 and 3 were built around the same time, but provided more basic, secondary facilities for the factory workers (ECC 2008, 3). Several other shelters were reputedly constructed at this time, across the southern range of the site. With the outbreak of War in 1939, resources were given over to full military production. There are records of a number of WWII heritage assets in the immediate area, including road barriers, pillboxes and spigot mortar barriers (Arch SE 2014, 10). After the war, Ekco adopted a role in the fledgling nuclear power industry, alongside its production of domestic appliances. In 1985 Ekco was taken over by Linpak and later on, in 2005, by Ecomold. The site was close in 2008, and demolition works began across the site in 2009.

7.0 Baseline Conditions

7.1 Previous Condition of Built Heritage

The 2008 ECC survey of the Ekco air raid shelters provides a detailed description of their form and condition prior to demolition works at the site, and the main findings of the survey are summarised here, in order to provide a baseline from which to measure the current condition of the structures. For an exhaustive list of the fixtures and fittings of each room, refer to the ECC survey and accompanying illustrated record. In 2008, the shelters were intact and 'survived in exceptionally good condition with very little modification and hence retain original wartime décor and signage and fixtures and fittings' (ECC 2008, 5). The design of each of the three subterranean shelters varies, but they all incorporated blast walls and doors, and their plans included a number of right-angled turns, designed to limit the effects of bomb blast travelling through the system.

7.1.1 Shelter 1

The main shelter, Shelter 1, had a more sophisticated arrangement of rooms and fittings, including gas cleansing and first aid facilities, its own filtered air systems and an independent power supply. In the main shelter, room descriptions provided by ECC (2008) are confined to the northern end, which was better preserved than the southern end, which has since suffered from damp. The two ends were built and fitted identically. The main shelter is believed to have been built to a high specification for the use and protection of key Ekco staff and scientists and was positioned below the western front of the old lamp factory building.

In plan, the shelter has a linear, symmetrical form, with designated entry, gas cleansing and first aid blocks for men and women either end of three sheltering tunnels/ galleries (ECC 2008, fig. 4). The main rooms appear to be built from brick and rendered over, but the galleries have a circular profile, built from concrete

sewer pipes which would have provided better protection from the effects of a bomb blast. Entrance to shelter 1 was gained via two porches at the north and south of the shelter, providing entry points from beneath the stairs at either end of the former building above; the stairs also protected the entrances and indication that the shelter was contemporary with the above ground building, rather than being inserted at a later date. There was an external door buzzer beside the door containing a blue Perspex panel with two 'stop/go' lights behind, also a feature of door-entry systems inside the shelter. Concrete steps and a steel handrail lead down into the shelter.

Much of the original décor was observed *in situ* during the 2008 survey: the walls were painted yellow and the blast doors were painted white. Additionally, red-lettered signage was painted to indicate room function. Door signage (and some fixtures) was typically hand-painted, while wall and ceiling signage was stencilled. Printed notices are rarer, but these were observed on some doors and air vent fixtures within the shelter. The survey notes that the widespread provision of labelling and its exceptional survival greatly enhanced the understanding of the structure and its component parts (ECC 2008, 13).

At the bottom of the entrance steps were entry points into three areas: the cleansing area (for gas-contaminated personnel), the shelter/ galleries via a small anteroom, and the first aid room. Each entrance was fitted with an iron blast 'Dreadnought' door. Most of the main rooms also had a 15amp/500 volt switch box, featuring a cast iron cover plate and an on-off lever. The anteroom was used to control access into the shelter from the cleansing area, stairs and first aid room. As noted above, there was also an illuminated door buzzer, and an all-clear alert box is positioned over the exit door (ECC 2008, 7-9).

The cleansing area comprised three rooms centred on the wash-down room with showers for dealing with gas contamination. The showers area was demarcated by a concrete kerb; soap trays, pipe work, and the mounting for a water heater remained, although shower heads and shower piping had been removed. The showers were never used for their intended role in a gas attack, and the room seems to have been refitted post-war (ECC 2008, 7-8). In the first aid rooms, any fixtures indicative of function had been removed previously, with the exception of a table, which may have been an original feature, and fresh and filtered air vents above the door. The ceiling also retained a spring-loaded air vent and filtered air pipe and a ceramic light socket (*ibid*. 9).

The area under the stairs was probably used as a cupboard, perhaps for provisions, and it had been stripped out the northern area, but the equivalent room to the south retained a bakelite-type plug socket. There were also six chemical closets ('Elsan'-type chemical toilets) positioned at either end of the three

galleries. Original door fittings (handles and vacant/engaged signs) and signage remain in many, and these rooms are generally well-preserved (ECC 2008, 9).

The three galleries, north, centre and south, had an unusual circular profile (to the square profile of the secondary shelters). Their condition varied between the north and south end, though all retained original light fixtures, filtered air pipes and electricity and water conduits. Much of the bench frames remained attached to the north gallery walls. The lights had unusual heavy torpedo-shaped wooden housing (and may date from the 1970s). The galleries employed the same filtered air system of steel pipes and cones as the end parts of the shelter to supply forced, clean air when the natural ventilation was shut down (ECC 2008, 9-10).

Finally, the power room formed a self-contained unit and housed a variety of equipment essential for the shelter's support system. Most of the equipment had been stripped out, leaving redundant and removed piping, brackets and wall/ceiling scars throughout the room. The main feature to survive was the electricity control panel and adjacent metal box that feed from it, the function of which is unknown. On the wall beside it was a Bakelite-type on-off switch for door buzzers, according to a note written in pencil on the wall above. An emergency exit was located at the end of a short passage and originally surfaced in the sports ground to the west of the building (ECC 2008, 11-12).

7.1.2 Shelter 2 and 3

The other two shelters were identically built and formed symmetrical U-shaped plans, with galleries and entry points at either side. Shelter 2 was found to be complete with the exception of the western entrance point, which was covered beneath part of a more modern building. In shelter 3, the eastern gallery and north passage had been blocked previously. Entry points were positioned along established walkways off or along the workshop floor, rather than under stairs (ECC 2008, 14).

The basic layout comprised two parallel galleries which were linked by a narrow passage containing chemical closets, escape hatches and storage areas (ECC 2008, figs. 8 and 9). In contrast with the extensive facilities in shelter 1, there were no first aid facilities, gas-prevention measures or air systems. Additionally, the construction, finish and standard of fittings were found to be comparatively basic, with bare un-plastered brick walls, concrete ceilings and floors. There was no ventilation system, apart from sprung air vents in the toilets. The exit hatches were reputedly kept open by the younger workers during air-raids and were only closed if the factory was under direct attack (Nash 2008, cited in ECC 2008, 15).

7.2 Current Condition of Built Heritage

Martin Brown, Principal Archaeologist WYG, undertook a site visit on Wednesday 30th July 2014 accompanied by Jennifer Liu of CBRE.

The Essex CC FAU report (ECC 2008) was used as a baseline against which condition and significance were assessed. During the site visit Shelter 1 and parts of shelters 2 and 3 were accessed. Unfortunately safety considerations meant that some areas could not be entered: the western gallery of Shelter 3 had approximately 15cm of water in it, while the eastern gallery of Shelter 3 could not be accessed because of water more than 15cm deep in the southern cross passage, while the original northern access to this gallery from surface level was blocked by rubble.

All surface structures on the site have been demolished, meaning that the original access ways and blast doors at ground level have been removed. Below ground level all access stairs remain in-situ, though some are blocked by rubble.

Photographs from the site visit are reproduced in Appendix C.

Shelter 1

The structure of the shelter has been exposed during demolition, showing the concrete cap on the galleries and power room and concrete blocks used at regular intervals along the galleries to buttress them and to reduce the effects of ground heave caused by shock wave passing through the soil in the event of a large bomb detonating close to the shelter.

Shelter 1 is accessible by stairs at both north and south ends though surface level doorways and blast doors have been demolished with the surrounding buildings.

From the south end entry into the decontamination area (Cleansing (Men)) is still as described in the 2008 report but any evidence of a door buzzer and entry/All Clear lights have been removed. The First Aid North space is partly filled with demolition rubble and post-war shelving remains in the shower room. The South Gallery has no floor planking remaining and the benches have been removed. There is standing water in the bottom of the pipe that forms the shelter structure. The blast door, blast wall and chemical closets between the South and Centre galleries survive though the condition is not as good as described in 2008 and the blast door has suffered from corrosion. The Centre Gallery has extant floor planks while the frames on which bench seating survive on the east side. The Bakelite light fittings are extant, as are the associated

pipes for cabling. The cones from the air filtration system are no longer in-situ and only one cone was found on the floor of the Gallery; it no longer included stencilled signage. Elsewhere and throughout Shelter 1 evidence of the filtration and ventilation system remained in situ, including stink traps and air vents in the chemical closets but these have not survived well and are clearly suffering from corrosion as a result of atmospheric changes in the shelter.

The Power Room is not in good condition: the roof structure has been pierced during either demolition or the uncovering of the shelter from above; the control panel has been badly damaged and the fascia has been removed and was propped against the north wall. Meanwhile, the passage leading to the Emergency Exit from the Power Room has been damaged during demolition and is largely in-filled with rubble and a significant quantity of cementatious Asbestos sheeting; as a result further investigation of the passage was not undertaken.

The North Gallery was accessed from the Centre Gallery past the blast wall, chemical closets and access to the emergency hatch. The Blast Door remains in-situ, as does the door to the chemical closet, though the door has suffered from water action and is now in poor condition. The electrical isolation box remains in situ, though it has been disconnected and the cabling removed. Within the Gallery the floor planking survives, as does much of the bench seating along the walls.

The southern First Aid and Cleansing (Women) area remain relatively clear of rubble and blast doors remain in situ, though buzzers and All Clear lights have been removed. The First Aid room still retains its table, as described in 2008, but the whole area has suffered from the years without maintenance and from more recent water ingress. The same is true of the showers, although the electrical isolation box has been damaged. Access to the surface has been truncated at ground level, so although the stairs and stair rails survive at basement level they have been lost as one approaches ground level. The stairway is accessible but has rubble on and around it. The stencilled Exit sign and associated cartoon directional hands remain in-situ, though they are currently open to the elements and may not survive for long. The buzzer and All Clear box have been removed.

Shelter 2

Shelter 2 was accessed via the steps down to the eastern gallery. No evidence of benches survives though internal vertical beams inserted to strengthen the roof remain in situ. Strip lights and associated ducting remain in situ. Access to the western arm of the shelter was not possible due to depth of water in the lower area at the south end beyond the east arms chemical closet. The doors to the chemical closets had been

removed. The escape hatches remain in situ and accessible from ground level though the condition of the iron rungs means that they were not used to access the western shelter arm. The stairs to the western arm were blocked by rubble.

Shelter 3

The western arm of Shelter 3 was only accessed as far as the westward traverse into the main shelter due to depth of water. Access to this shelter via the escape hatch was not considered safe. The eastern arm was accessible, despite rubble on the stairway from the south and water up to approximately 15cm in the shelter. The brick wall blocking the gallery remains in situ. All benches have been removed though ducting for electrical cables and associated switches remain in situ. It is considered likely that this situation is reproduced in the western gallery.

8.0 Significance of the Site

8.1 Comparative structures

Examples of WWII civilian shelters were routinely built alongside factory buildings, and domestic homes: Anderson Shelters, with metal frames and corrugated iron cladding were also common, many surviving today as garden sheds, while concrete and brick domestic examples also survive. Examples of shelters broadly cotemporary with the Ekco shelters include the Grade II Listed Air Raid Precaution Centre at Rossendale Street (LB 1235876). The subterranean concrete bunkers date from c. 1938; the walls were fairly crudely built, and have some bomb fragmentation damage, particularly to the west face. Rectangular in plan, the shelter had steps down into an air lock with a pair of steel doors with portholes, rubber gaskets and furniture of original design. A corridor along south wall provided access to the Messenger's Room, Telephone Room and, at the east end of the bunker, the Supervisor's Office and Map Room. The Machine Room retains original plant for air supply and purification and emergency electricity supply, as well as ventilator ducts. Additional original features include the Electric generator pedal driven by a twin bicycle frame and the tiered air filter units made by Sutcliffe Speakman and Co. As well as retaining several original elements, the centre was also the 'northern report centre', part of a system which included the main centre below Hackney Town Hall. From these bases, information on bombing raids, emergency rescue and repair work could be coordinated.

Listed gas decontamination facilities include the former public air raid shelter and gas decontamination centre, Westbourne Library, Ipswich (Grade II LB: 1408534). Like the main Ekco shelter, the Westbourne

Library centre was designed to be blast proof and gas proof. The building is L-shaped in plan and of a single storey with a tower over the main entrance. Internally, and in contrast with public air raid shelters (which had few distinguishing features), the decontamination centres, had a distinctive arrangement of rooms comprising an air lock, undressing area, showers, drying and dressing rooms. Metal columns running centrally through Westbourne library indicate a central division, possibly dividing civilian and military personnel decontamination areas. The Westbourne Library provides a rare example of a surviving civilian gas decontamination centre where the flow of the decontamination process can be read in the structure. The structure also retains decorative detailing, which is very unusual on a Second World War functional building, and is a tangible reminder of the dangers faced by the civilian population. The neighbouring building, Broomhill Lido (Grade II), was completed in 1938 and the air raid shelter was designed to replicate and compliment the facade of the Lido. Elsewhere, other surface examples, rather than subterranean shelters and decontamination centres, survive well at Rhydymwyn, near Mold in North Wales, associated with the Valley chemical weapons production facility (Birmingham Archaeology 2006).

8.2 English Heritage Listing Criteria

The English Heritage Listing Selection Guide for Military Structures (2011) states that civilian air raid shelters were routinely built during the later 1930s, as all new factories were obliged to provide purpose-built shelters, so their survival is not unusual. Determinant factors for designation include rarity of type, relationship to other listed buildings, and significance for overall understanding of the development of the category. Painted signs will not generally be enough to warrant designation, although shelters with surviving benches, other fittings and signage will warrant serious consideration (*ibid*. 10).

The value and significance of the air raid shelters are derived from a number of factors. With reference to English Heritage's Conservation Principles, the heritage value of the structures largely lies in their historical and communal value. When intact, both the former Ekco factory buildings and the subterranean shelters themselves were of local importance to the community of Southend. The Ekco Works were a large employer in the area and the Ekco Company was a household name in the production of electrical goods and appliances, including the iconic bakelite radio sets. However, demolition works and the removal of the original fixtures and fittings of the air raid shelters have essentially removed the contextual understanding of these structures.

The Ekco shelters are of interest because of the juxtaposition of two types of facility across the premises, the unusual and well-fitted shelter 1, with an emphasis on gas warfare, and the more standard shelters for the main workforce of the factory. In 2008, many of the rooms within the shelters retained their original

furniture. The decontamination facilities also provide an insight into the fear of gas attacks, which were founded in the allied troop's experience of mustard gas attacks during the First World War, and the fear of invasion. The plan and layout of the main shelter also reveals the gender segregation of individuals, and the flow of the decontamination process, through the rooms and signage in the structure.

The shelters also had significance from their association with the factory buildings described in the Essex County Council report (ECC 2008). Prior to demolition the whole site included a remarkably complete example of an inter-war industrial site with evidence of expansion for war production and later post-war additions. The site afforded a narrative of British industrial history from the inter-war period, through the conflict and into the post-war world. That the site included its subterranean measures against air-raids using both conventional and chemical weapons only served to increase its significance, as did the *materiel* produced during Ekco's war service, when it was engaged in making wireless and radar equipment, which may be seen as the "new" weapons of World War Two. As a result, the connection to historical events would have afforded a high level of significance.

8.3 Current Significance

In 2008 the condition of the shelters was Good: as has been discussed the internal fixtures and fittings remained intact and, aside from later minor works to convert the shelters into stores, the shelters were good examples of air-raid precautions within a civilian factory, indicative of the likely effect of total warfare and of the militarisation of civilian industry in the run up to war. As a result the three shelters, taken together could be characterised as of High significance and worthy of designation. The associative value of the three shelters, creating a discreet group that can be read in terms of the different value placed on the preservation and survival of specialists and managers over the workforce can still be read. However, association with the inter-war factory buildings they served has now been lost as a result of demolition, which has also structurally damaged all shelters.

The condition of the shelters in July 2014 must now be regarded as Poor, as a result of damage to the structures, ingress of water, the loss of internal fixtures and fittings and damage to the access stairs and loss of ground level. In addition, surviving elements, including blast doors have suffered as a result of environmental changes in the shelters.

As a result of the demolitions and the changes within the shelters the shelters must now be regarded as having Low significance.

9.0 Opportunity for Change

Feasibility of finding long-term and economically viable uses for the structures and the site are considered to be very limited. Existing examples of preserved and protected sites of this type which are in regular use are limited. Although there were many similar sites constructed during the war few are accessible, even where identified as of interest the nature of these confined structures, often with limited access, does not make them easily convertible for either heritage or other use, as examples at St John's School, Redhill (Cockroft et al 2006: 73) or Corsham Tunnels (Cockroft et al 2006: 114-122) show.

The Cirencester Air Raid Shelter Museum makes use of a 1940s hospital air-raid shelter; The Living Memory Historical Association and Cirencester's Corinium Museum originally used the venue for a temporary exhibition to present an exhibition of Wartime Life in the Cotswolds in 1990. The success of the exhibit and in conjunction with the Imperial War Museum, The Living Memory Historical Association successfully saved the shelter and presents an annual exhibition in the shelter. The museum is run by volunteers and has now expanded to accommodate larger exhibitions within the former hospital building. The museum is supported by the local community, and works with local school who study the war period as part of the National Curriculum. The Cabinet War Rooms also presents a subterranean system to the public but it was the centre of the British war effort, has a clear association with Winston Churchill in his role as Britain's wartime leader and it is located in central London.

If such a scheme was to be undertaken at the Ekco Works it would need to be supported by the local council and would need to be economically viable; furthermore, converting the shelters would limit the above-ground development potential in this part of the site, as access options and the provision of facilities would be required, including new surface level access control.

Clearly any facility accessible to the public relies on the condition of the remains and their structural integrity. Based on the evidence of previous reports (ECC 2008 & ASE 2014) as well as of this report, it is clear that the shelters are in a declining condition from good to poor. In addition, their structural integrity has been compromised by recent demolition works, which have not only removed elements of the shelters but have also allowed access of water and air, leading to environmental changes within the shelters. As a result we do not consider the retention of and public access to these shelters to be a viable option.

10.0 Recommendations

A detailed built heritage survey to English Heritage levels (Understanding Historic Buildings, A guide to good recording practice, 2006) has previously been carried out ahead of demolition the former factory ranges (ECC 2008). This has served to provide a comprehensive baseline to measure the magnitude of change that pre-development works have had across the site and to the structures themselves. A further assessment (ASE 2014) demonstrated more recent condition following the demolition of the former factory buildings.

The condition of the shelters, including loss of internal features and the declining state of the in situ elements strongly suggest that preservation of the shelter in situ, and much less formal preservation by designation, would be inappropriate. In addition, the condition of the shelters following demolition would not make the shelters suitable for public access and interpretation, due to both the removal of internal features and the structural damage resulting from demolition, including breach of the roof in the power room. As a result, the demolition or capping and sealing of the shelters is considered to be the most appropriate course of action because in accordance with NPPF the significance of remains does not outweigh the value of the proposed development to the community (para 133).

The internal structure of the shelters has been well documented in previous reports. Subsequent to demolition the external structure of Shelter 1 has now been exposed and should be subject to further archaeological recording prior to demolition/capping archaeological recording should be undertaken by an appropriately experienced contractor to enhance the existing archaeological record. This would enable a full picture of the construction, architecture, fitments and condition to be collated into a single report.

The public presentation of the shelters themselves is not recommended, as is discussed above but the Southend Museum has collected artefacts from the site (see Para 5, above). As a result it may be appropriate to discuss with them the sponsorship of a display in the museum or at the Museum of the Thames Estuary, drawing on artefacts, photographic records from the 2008 Essex County Council report and existing oral testimony, as well as artefacts, to present the story of the Ekco factory and its role during the Second World War. Southend Museum should also be afforded another opportunity to recover material ahead of demolition if this option is pursued. In addition, some form of on-site interpretation and commemoration may well be appropriate, including the use of street names within the proposed development and interpretation panels and/or a commemorative stone or plaque within green/amenity space. Such an approach would recognise the significance of the factory and its staff and the contribution they made to the defence of Britain and the ultimate Allied victory in 1945. This public presentation of the

site and the commemoration of the war effort on the site would serve to mitigate the loss of the physical remains of the factory and its shelters.

11.0 References

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Essex County Council (ECC) Field Archaeology Unit (2008) Survey of air-raid shelters at the former Ekco works, Southend-on-sea, Essex.

HMSO (1990) Planning (Listed Buildings and Conservation Areas) Act.

Trayner, D. (2014) 'Call for protection for air raid shelters under Ekco factory site in Southend', Echo Local News article, 3rd April 2014. URL: http://www.echo-news.co.uk/news/local_news/11121859.Look_what_lies_beneath_former_Ekco_site/

The Enterprise and Regulatory Reform Act 2013 (Listed Buildings Certificate of Lawfulness) (Hearings and Inquiries Procedures) (Consequential Amendments) (England) Order 2014

Appendices

Appendix A – Report Conditions

Archaeology and Heritage Desk-Based Assessment, Former Ekco Factory, Prittlebrook, Heritage Appraisal

This report is produced solely for the benefit of **CBRE** and no liability is accepted for any reliance placed on it by any other party unless specifically agreed by us in writing.

This report is prepared for the proposed uses stated in the report and should not be relied upon for other purposes unless specifically agreed by us in writing. In time technological advances, improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of WYG using reasonable skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented accordingly within the scope for this report.

Reliance has been placed on the documents and information supplied to WYG by others, no independent verification of these has been made by WYG and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst reasonable skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal, budget and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.

14th July 2014
WYG Environment Planning Transport Ltd

Appendix B – Site Location (from ECC 2008)

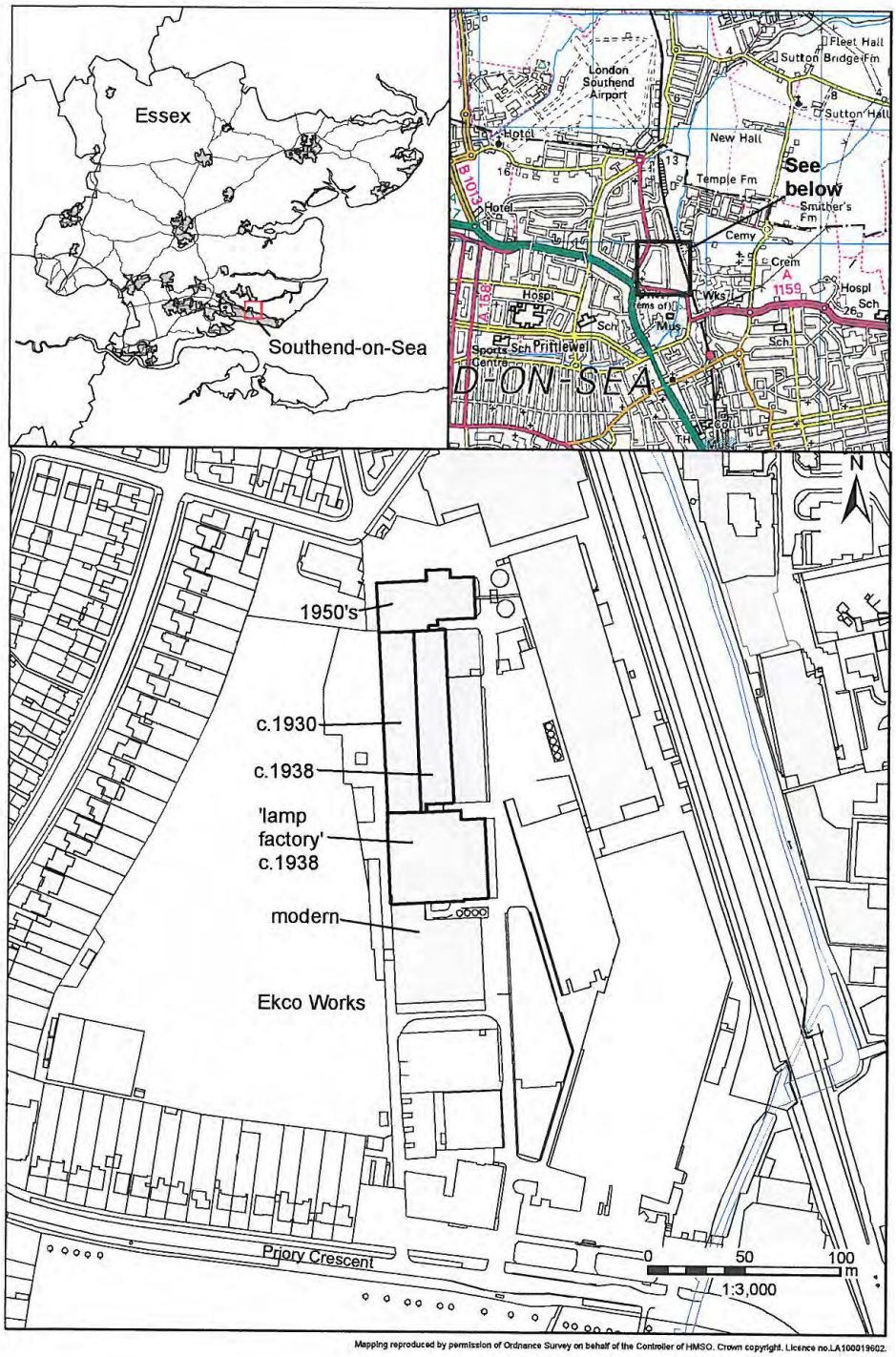


Fig.1. Site location and block plan

Essex County Council
Field Archaeology Unit

Appendix C – Site Photographs

Picture 1: View North across Shelter 1.

Photograph 2: General View North across the site, showing demolition of all buildings on the former Ekco Factory site.

Picture 3: Southern entrance to Shelter 1, showing rubble from demolition of surface buildings and surface access to the shelter.

Photograph 4: South Gallery of Shelter 1.

Photograph 5: Interior of the Plant Room, showing damage to the Control Panel and rubble blocking the escape passage.

Photograph 6: View north along the Centre Gallery of Shelter 1 showing original Bakelite light fitting (top right), cable ducting, remnants of air filtration system (top centre), plank flooring and fitments for benches.

Photograph 7: In situ blast door and door to the Chemical Closet showing the adverse effects of damp on the door.

Photograph 8: In situ benches in the North Gallery of Shelter 1.

Photograph 9: Shelter 1: First Aid Room.

Photograph 10: Shower and isolation box, Cleansing, Shelter 1.

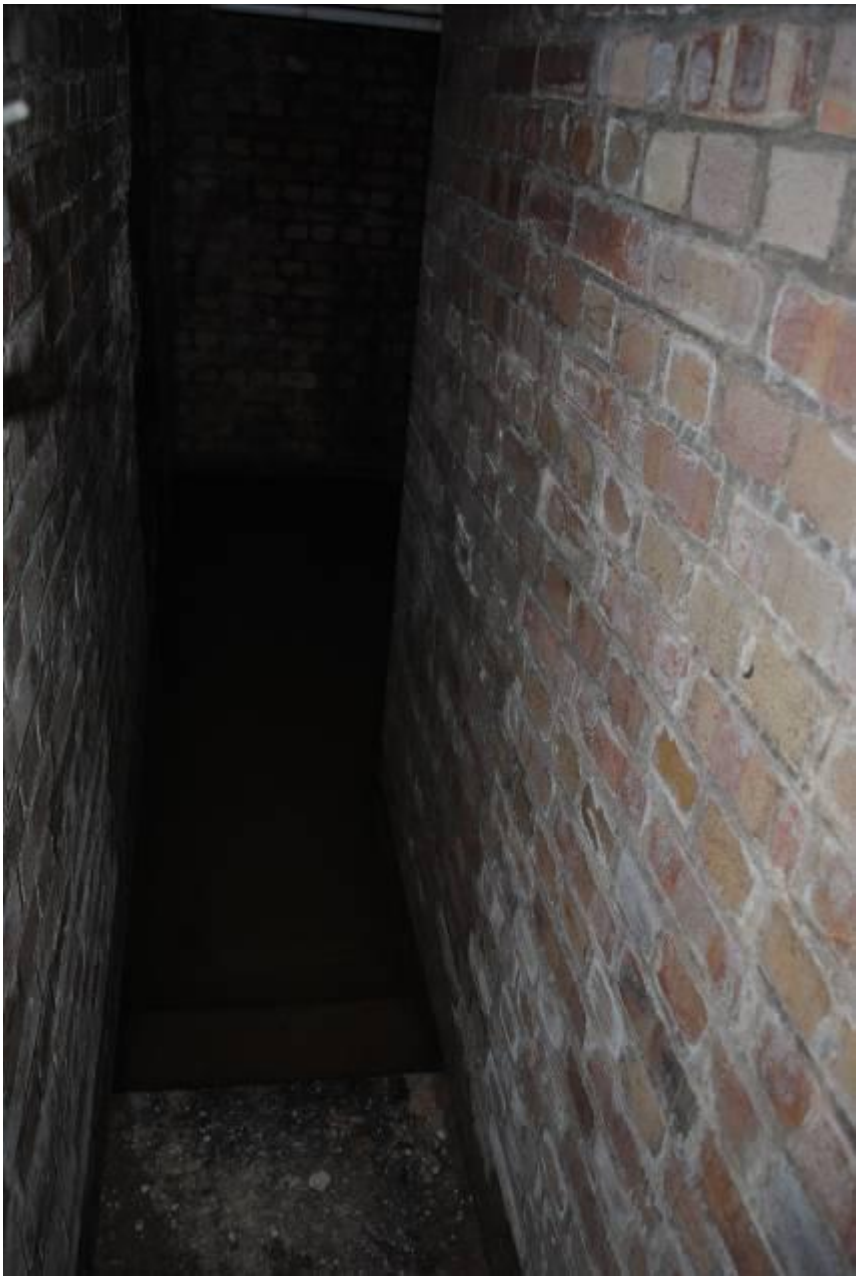
Photograph 11: North access to surface showing stencilled signage. The indicative cartoon hand remains visible to the right of the EXIT sign.

Photograph 12: Corroded stink pipe and air filter in chemical closet, Shelter 1.

Photograph 13: View south showing eastern access stairs to Shelter 2.

Photograph 14: Interior, east gallery of Shelter 2.

Photograph 15: Standing water in the eastern entrance to Shelter 2.



Photograph 16: Standing water in the cross passage between east and west galleries of Shelter 2.

Photograph 17: East Gallery of Shelter 3 showing standing water and the wall blocking the passage.

Photograph 18: Entrance to Shelter 3 eastern gallery and door to the chemical closet (right).

Photograph 19: Rubble strewn entrance to Shelter 3.

Appendix D – Planning Policy

The relevant Southend-on-Sea Borough Council development plan for the site comprises the Southend Core Strategy (CS) and the Southend-on-Sea Borough Local Plan 1994 (Saved Policies 2007).

The Southend-on-Sea Local Plan includes the following saved policies which relate to cultural heritage:

Policy C1 - Ancient Monuments and Archaeological Sites

Where important archaeological sites and monuments, whether scheduled or not, and their settings are affected by a proposed development, there will be a presumption in favour of their preservation in situ. In situations where there are grounds for believing that the proposed development would affect important archaeological sites and monuments, developers will be required to arrange for an archaeological field evaluation to be carried out before the planning application is determined, thus enabling an informed and reasonable planning decision to be made. In circumstances where preservation is neither possible nor merited, development will not be permitted until satisfactory provision has been made for a programme of archaeological investigation and recording prior to the commencement of the development.

Policy C2 - Historic Buildings

Listed Buildings and buildings on the Local List will be protected from demolition and unsympathetic development. Development proposals will be required to pay special regard to the preservation and restoration of internal and external features which contribute to their character, to the maintenance of their scale and proportions, to the preservation of their setting and to the use of appropriate materials.

Southend on Sea Borough Council formally adopted its Local Development Framework: Core Strategy Development Plan Document (CSDPD), on 13th December 2007; there is one policy which relates to development and cultural heritage:

Policy CP4: The Environment and Urban Renaissance

Development proposals will be expected to contribute to the creation of a high quality, sustainable urban environment which enhances and complements the natural and built assets of Southend. This will be achieved by:

- promoting sustainable development of the highest quality and encouraging innovation and excellence in design to create places of distinction and a sense of place;
- maximising the use of previously developed land, whilst recognising potential biodiversity value and promoting good, well-designed, quality mixed use developments;

- ensuring design solutions that maximise the use of sustainable and renewable resources in the construction of development and resource and energy conservation (including water) in developments;
- providing for quality in the public realm through the use of imaginative and innovative design, sustainable and quality materials and landscaping and imaginative use of public art;
- 5 maintaining and enhancing the amenities, appeal and character of residential areas, securing good relationships with existing development, and respecting the scale and nature of that development;
- creating safe, permeable and accessible development and spaces that encourage walking and cycling within 'Environmental Rooms';
- **safeguarding and enhancing the historic environment, heritage and archaeological assets, including Listed Buildings, Conservation Areas and Ancient Monuments** ;
- protecting and enhancing the town's parks, gardens and other urban open spaces, including all open areas whose townscape and amenity value is important to the surrounding area, and the biodiversity of the area;
- safeguarding, protecting and enhancing nature and conservation sites of international, national and local importance;
- creating and maintaining a 'Green Grid' of high quality, linked and publicly accessible open spaces across the town which contribute to and help develop the Thames Gateway Green Grid;
- maintaining the function and open character of a sustainable Green Belt;
- providing for the effective management of land uses on the urban fringe*, including landscape enhancement in respect of any development;
- protecting natural resources from inappropriate development;
- preventing, reducing or remedying all forms of pollution including soil, water, noise and other forms of airborne pollution.

All development will be required to have regard to the Council's Design and Townscape Guide SPD.

*Urban fringe may be considered to be the countryside and other land 'spaces' immediately surrounding towns and cities. However no definitive definition exists at present.