

8 HISTORIC ENVIRONMENT

8.1 INTRODUCTION

Company

Built Heritage

The assessment of built heritage effects reported in this chapter has been undertaken by CgMs Heritage, part of the RPS Group, who are a specialist heritage consultancy.

Archaeology

The assessment of archaeological effects reported in this chapter has been undertaken by Waterman Infrastructure & Environment.

Author

Built Heritage

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Archaeology

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Chapter Purpose

This chapter of the ES assesses the likely significant effects of the proposed development on the environment in terms of built heritage and archaeology. The chapter and its supporting appendices describe the planning policy context, the assessment methodology; the baseline conditions at the application site and surroundings; the likely significant effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; the likely residual effects after these measures have been employed; and the cumulative effects. In summary, the objectives of the chapter are to:

- Outline the legislative and policy framework in regard to the historic environment;
- Identify and appraise the known and unknown heritage assets and historic environment resource at the site and in the surrounding area, which could be affected by the proposed development;
- Assess the likely impacts to these heritage assets;
- Identify suitable mitigation measures to reduce any adverse impacts; and
- Assess the residual significance of effect to the heritage assets.

Figures

None

Appendices

- Appendix 8.1: Built Heritage Statement Site Wide (CGMS, 2019);
- Appendix 8.2: Built Heritage Statement Q14 Building (CGMS, 2019);
- and
- Appendix 8.3: Archaeological Desk-Based Assessment (ADBA), Fort Halstead (Waterman 2019).

8.2 METHODOLOGY

Guidance

- Chartered Institute for Archaeologists (CIfA), 2017. Standard and Guidance for historic environment desk-based assessment [1]
- English Heritage, 2008. Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment [2]
- Highways Agency, 2007. Design Manual for Roads and Bridges (DMRB), Volume 11 Environmental Assessment, Section 3 Environmental Topics, Part 2, HA 208/07 Cultural Heritage [3]
- Historic England, 2015. Historic Environment Good Practice Advice in Planning Note 2 (GPA 2) – Managing Significance in Decision Taking [4]
- Historic England, 2017. Historic Environment Good Practice Advice in Planning Note 3 – The Setting of Heritage Assets [5]

Legislation and Policy

- The Ancient Monuments and Archaeological Areas Act 1979 provides protection for scheduled monuments [6]. It also provides the mechanism to undertake consented works to monuments.
- The Planning (Listed Buildings and Conservation Areas) Act 1990 provides protection to listed buildings [7]. Section 66 of the Act states that when determining planning applications that may affect listed buildings or their settings, special regard should be given to the desirability to preserve the listed building, or its setting. Section 16 provides the same protection to listed buildings when considering listed building consent applications.
- Her Majesty's Stationary Office (HMSO), 2019. National Planning Policy Framework (NPPF)(see Section 16 Conserving and enhancing the historic environment) [8]
- Sevenoaks District Council, Core Strategy, 2011(see Policy SP1) [9]
- Sevenoaks District Council, Allocations and Development Management Plan, 2015 (see Policy EN4) [10]

Consultees

Built Heritage

Consultation has been undertaken with Historic England regarding the current proposals and application. This has included a site meeting to discuss the proposals and follow-up discussion by email.

A site meeting was also held with the Head of Design and Conservation at Sevenoaks District Council (SDC) and several pre-application meetings were held to discuss the emerging designs. Feedback received during these meetings has informed the development of the proposals.

Consultations have also been undertaken with Wendy Rogers, Senior Archaeology Officer, Kent County Council Heritage Conservation and were concluded on 24th June 2019.

Scoping

Comments on the proposed approach to the historic environment assessment set out in the EIA Scoping Report were provided by Kent County Council's Heritage Conservation (KCCHC) team to SDC in December 2018. The following summarise the key points of that document:

- The diversity of the historic environment within the site needs to be fully appreciated.;
- There is potential for multi-period archaeology, buildings and landscapes from the prehistoric period onwards to be within the site;
- The EIA needs to cover the full range of the historic built environment which needs to be clearly demonstrated including interrelationships between buildings, spaces, the group value of clusters of buildings, the layout of certain areas of the site specific to the function of certain buildings etc. and the spaces and routeways in between the buildings of heritage interest;
- The EIA should consider all elements of the historic environment, that is, archaeology, built heritage and historic landscape; and
- The setting of the Scheduled Monument (Fort Halstead, 1004214) needs to be addressed within the EIA.

In response to the above comments, a joint historic environment approach, that is, covering all three topics; archaeology, built heritage and historic landscape has been adopted for this chapter. The built heritage assessment uses a holistic approach and includes a consideration of effects on the settings of built heritage assets, including the Scheduled Monument (Fort Halstead, 1004214).

A Built Heritage Statement is provided in Appendix 8.1 & Appendix 8.2 (ES Volume III) and an updated Archaeological Desk-Based Assessment (ADBA), which considers the likely multifaceted nature of the site and also considers the historic landscape, is provided in Appendix 8.3 (ES Volume III).

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Consideration of Climate Change

Based on the current UK Climate Projections, as described in Chapter 2 and Appendix 2.4, there are not anticipated to be issues in regard to climate change that could affect the historic environment. As such, this topic has not been considered further.

Consideration of Human Health

Human health is not considered relevant to this assessment and shall therefore not be discussed further. Wider consideration around potential for human health effects may be found in Appendix 2.5, Vol III of this ES.

Consideration of Risk of Major Accidents and/or Disasters

Based on the information presented in Appendix 2.6 that considers risks of major accidents and/or disasters, there are not anticipated to be issues that could affect the historic environment.

Alternatives

The alternatives that have been considered as part of the design process are discussed in Chapter 4: Alternatives and Design Evolution. No alternatives specifically related to the historic environment have been considered.

Assessment of Baseline Conditions & Receptor Sensitivity

Built Heritage

Baseline information has been taken from the following sources:

- Site visit of the site and those buildings within it, where access was granted;
- National Heritage Listed for England (Historic England);
- Kent Historic Environment Record (KHER);
- Built Heritage Statement: Fort Halstead, Kent (including Built Heritage Gazetteer) (Heritage Collective; 2015); and
- Kent Archives, Kent History and Library Centre.

The assessment considers built heritage assets within the application site only. The site visit and visual assessment work undertaken has confirmed that the proposed development will have no impact on the setting of any surrounding heritage assets. The same approach was taken when preparing the previous ES Chapter for the 2015 application and no additional heritage assets have been identified during the scoping process as requiring assessment.

Section 8.3 of this chapter sets out all built heritage receptors considered in this chapter and shown on Figure 2a of the Built Heritage Statement (Appendix 8.1).

Table 8.1 sets out the scale of sensitivity that has been applied to built heritage receptors identified and considered within this assessment.

Table 8.1
Scale of built heritage sensitivity used in the assessment

SENSITIVITY	DESCRIPTION
Very High	<ul style="list-style-type: none"> • Structures inscribed as of universal importance as World Heritage Sites • Other buildings of recognised international importance
High	<ul style="list-style-type: none"> • Scheduled Monuments with standing remains. • Grade I and Grade II* Listed Buildings • Other listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade • Conservation Areas containing very important buildings • Undesignated structures of clear national importance
Medium	<ul style="list-style-type: none"> • Grade II Listed Buildings • Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations • Conservation Areas containing buildings that contribute significantly to its historic character
Low	<ul style="list-style-type: none"> • 'Locally Listed' buildings • Historic (unlisted) buildings of modest quality in their fabric or historical association
Negligible	<ul style="list-style-type: none"> • Buildings of no architectural or historical note; buildings of an intrusive character

Archaeology

The following sources were consulted for the purpose of this assessment:

- Historic England's *The National Heritage List for England* (NHLE) for designated heritage assets within the site and a 2km study area;
- The Kent Historic Environment Record (KHER) for non-designated heritage assets within the site and a 2km study;
- Available secondary sources considered in further detail in the ADBA (Appendix 8.3, ES Volume III); and
- A site visit undertaken on 4th June 2019.

As per Section 2 of the ADBA, a 2km study area surrounding the site was deemed to be appropriate for the purposes of the archaeology assessment to consider a broader view of possible archaeological constraints. This study area was derived from previous consultation with KCCHC in 2014, which recommended that "a broad view [should be] taken of the

archaeological interest of the wider area, not just the proposed development area".

Designated heritage assets considered in this chapter include World Heritage Sites, Scheduled Monuments, Listed Buildings, Conservation Areas, Registered Parks and Gardens and Registered Battlefields. Non-designated heritage assets include locally listed buildings and any other non-designated built heritage assets, monuments, archaeological sites and findspots.

Table 8.2 sets out the scale of sensitivity that has been applied to receptors identified and considered within this assessment. With respect to known and hitherto unknown archaeological assets, the ADBA provides an indication for the likelihood of survival of such assets to be present within the Site and what these might comprise. This has been utilised for the purposes of ascribing sensitivity.

Table 8.2
Scale of sensitivity used in the assessment

SENSITIVITY	DESCRIPTION
Very High	World Heritage Sites (including nominated sites) Assets of acknowledged international importance Assets that can contribute significantly to acknowledged international research objectives
High	Scheduled Monuments (including proposed sites) Non-designated assets of schedulable quality and importance Assets that can contribute significantly to acknowledged national research objectives
Medium	Designated and non-designated assets that contribute to regional research objectives
Low	Designated and non-designated assets of local importance Assets compromised by poor preservation and/or poor survival of contextual associations, including hitherto unknown archaeological assets indicated by the ADBA Assets of limited value, but with potential to contribute to local research objectives
Negligible	Assets with very little or no surviving archaeological interest
Unknown	The importance of the resource has not been ascertained

Assessment of Magnitude

Built Heritage

The assessment was undertaken based on the description of development contained in Chapter 3 of this volume of the ES.

Table 8.3 indicates the scale of impact magnitude that has been used in undertaking the assessment.

Table 8.3
Scale of magnitude for built heritage impacts used in the assessment

MAGNITUDE	DESCRIPTION
Very large	<ul style="list-style-type: none"> Physical change to key historic building elements, such that the resource is totally altered Comprehensive changes to the setting
Large	<ul style="list-style-type: none"> Physical change to many key historic building elements, such that the resource is significantly modified Changes to the setting of an historic building, such that it is significantly modified
Medium	<ul style="list-style-type: none"> Physical change to key historic building elements, such that the asset is slightly different Change to setting of an historic building, such that it is noticeably changed
Small	<ul style="list-style-type: none"> Slight physical changes to historic buildings elements or setting that hardly affect it

Archaeology

Table 8.4 indicates the scale of impact magnitude that has been used in undertaking the archaeological assessment, which reflects the terminology and methodology outlined in DMRB.

Table 8.4
Scale of magnitude for archaeological impacts used in the assessment

MAGNITUDE	DESCRIPTION
Very Large	Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting.
Large	Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset.
Medium	Changes to key archaeological materials, such that the asset is slightly altered.
Small	Slight changes to archaeological materials or setting that hardly affect it.
Negligible	No change.

Assessment of Significance

The assessment of significance within this chapter is based on the matrix presented in

Table 8.5. This follows DMRB guidance which states that the significance of effect is calculated based on the sensitivity of the receptor and the scale of magnitude.

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Table 8.5
Significance Matrix

MAGNITUDE OF EFFECT	SENSITIVITY OF RECEPTOR				
	Very High	High	Medium	Low	Negligible
Very Large	Major Significance	Major Significance	[3]	Moderate Significance	[1]
Large	Major Significance	[3]	Moderate Significance	Minor Significance	[2]
Medium	[3]	Moderate Significant	Minor Significance	[2]	Negligible Significance
Small	Moderate Significance	Minor Significance	[2]	Negligible Significance	Negligible Significance
Negligible	[1]	[2]	Negligible Significance	Negligible Significance	Negligible Significance

[1] The choice between 'Moderate Significance', 'Minor Significance' and 'Negligible Significance' will depend on the specifics of the impact and will be down to professional judgement and reasoning.

[2] The choice between 'Minor Significance' and 'Negligible Significance' will depend on the specifics of the impact and will be down to professional judgement and reasoning.

[3] The choice between 'Major Significance' and 'Moderate Significance' will depend on the specifics of the impact and will be down to professional judgement and reasoning.

n.b. 'Negligible Significance' includes 'Neutral' and 'No Impact' assessments.

Relevant Associated Development

There is no associated development considered relevant to this chapter and, as such, associated development has not been considered within the chapter.

Assumptions/Limitations

Built Heritage

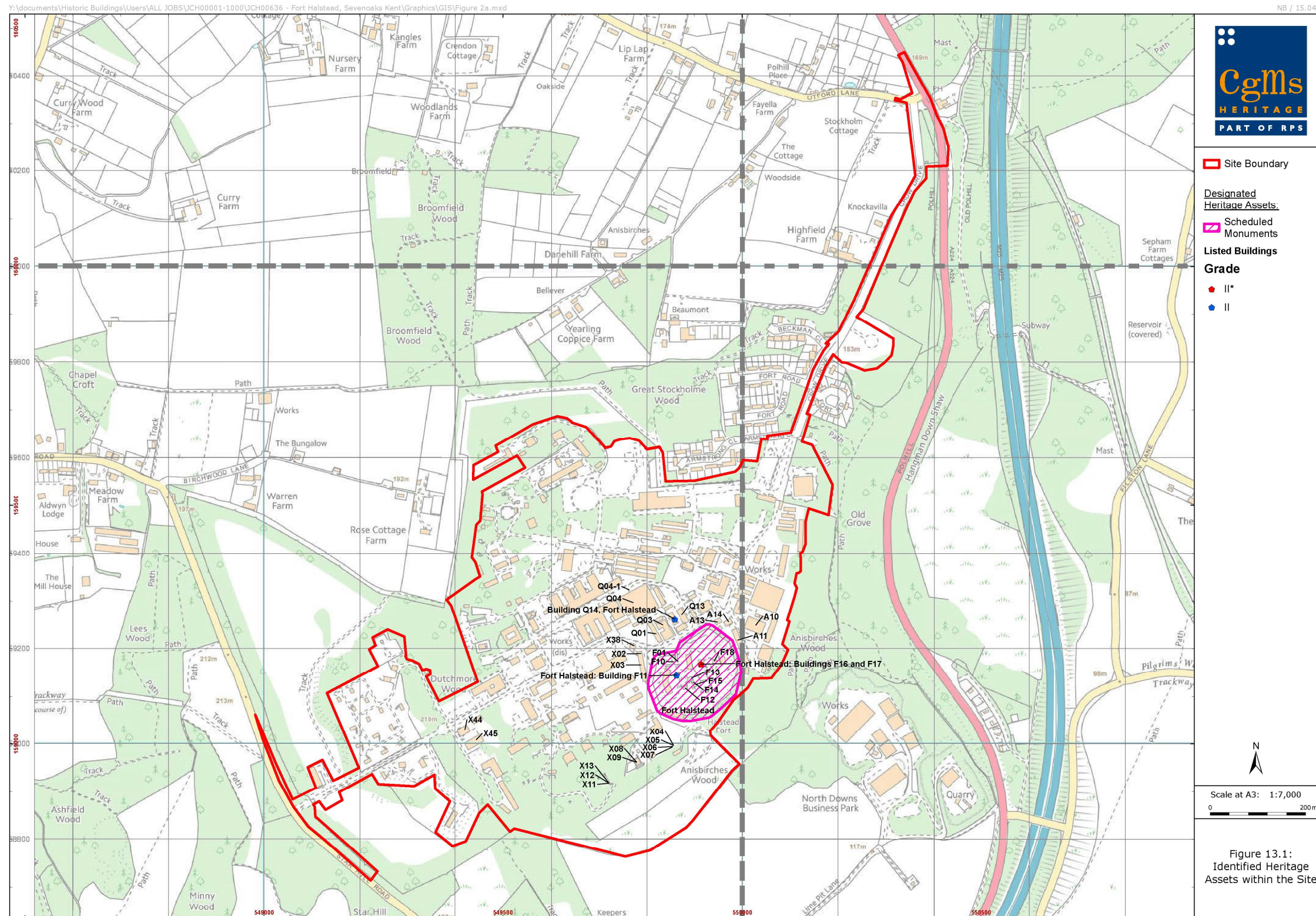
The site is currently occupied by the DSTL and QinetiQ. Due to the secure nature of their work, access to all structures has not been possible. In common with other government research establishments involved in weaponry research and development, and particularly due to the nature of the atomic bomb research that was undertaken here during the twentieth century, there is little documentary evidence in the public domain. Given these restrictions, it has not been possible to ascertain absolute construction dates and historic functions of all of the buildings within the site, and therefore our understanding of the sensitivity of many of the buildings is limited and not exhaustive. Where access has not been possible, the report relies on previous accounts of the buildings noted in previous reports, studies and gazetteers.

Archaeology

In undertaking the archaeological assessment of the site and study area, there are some limitations and constraints affecting the outputs from this work, namely:

- No previous archaeological investigations have been undertaken within the site or preliminary investigations as part of this assessment. The potential for as yet unknown buried archaeological remains are therefore informed by records of known assets and previous investigations within the wider study area. These are presented in the ADBA in Appendix 8.3, ES Volume III; and
- Due to the security sensitive nature of the site and the lack of publicly available information concerning the 20th century research buildings, confirmation of former development plans and construction dates have not been provided.

Figure 13.1
Identified Heritage Assets within the Site



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8.3 BASELINE CONDITIONS

Built Heritage

Current Baseline

KEY RECEPTORS	DESCRIPTION	SENSITIVITY	FURTHER INFORMATION
Fort Halstead including buildings F2, F3, F4, F5, F6, F7, F8, F9 and the Second World War Firewatcher's Post (Scheduled Monument; NHLE 1004214)	The Fort and all listed buildings contained within it are located centrally on the eastern edge of the Site. Fort Halstead is a polygonal fort originally constructed as part of the London Defence Positions Scheme. The monument was later used for the development of the atomic bomb, at which point a number of purpose-built buildings were constructed within it. The monument includes 2 listed buildings (F11 and F16 & F17 (Listed as a single building) which are discussed separately below. The remaining buildings within the scheduled monument are not listed or considered as non-designated and comprise a range of late 19 th century structures constructed as part of the original Fort. They are predominantly constructed from red brick with limited architectural detailing. The monument also includes some post-war buildings, including gate lodges, constructed to serve the development of the atomic bomb. Its setting comprises the wider Fort Halstead complex and those buildings contained within it, which have been constructed from the early twentieth century.	High	Section 3.0, Appendix 8.1
Building F16, Grade II* Listed Building; NHLE 1412293)	Bomb chamber constructed in 1947 and specifically designed to assist the development of Britain's first atomic bomb. The building is constructed from reinforced concrete and is unique. It is listed for its historic interest as a purpose-built building constructed to aid the development of the atomic bomb. Its setting is intrinsically linked with the Detonation Chamber (the two buildings form part of the same listing) and it sits within the Fort Halstead Scheduled Monument.	High	Section 3.0, Appendix 8.1
Building F17 (Grade II* Listed Building; NHLE 1412293)	Detonation chamber constructed in 1947 and specifically designed to assist the development of Britain's first atomic bomb. The building is constructed from reinforced concrete and red brick and is unique. It is listed for its historic interest as a purpose-built building constructed to aid the development of the atomic bomb. Its setting is intrinsically linked with the Bomb Chamber (the two buildings form part of the same listing) and it sits within the Fort Halstead Scheduled Monument.	High	Section 3.0, Appendix 8.1
Building F11 (Grade II Listed Building; NHLE 1412292)	Filling Shed constructed in 1938. This building is one of the earliest buildings in the country specifically designed for rocketry research and an extremely rare pre-Second World War survival. It is listed for its rarity and role in developing the atomic bomb. It is located within the Fort Halstead Scheduled Monument and shares a close functional and visual relationship with those immediately surrounding buildings.	Medium	Section 3.0, Appendix 8.1
Building Q14 (Grade II Listed Building NHLE 1396578)	The Assembly Building was constructed to assemble the constituent parts of the prototype atomic bomb. It is located to the west of the scheduled monument. The building is constructed from red brick probably encasing a steel frame with a concrete roof. It is listed for its historic interest as a purpose-built construction built to serve the development of the atomic bomb. The setting of the building includes its links with the surrounding research and manufacturing buildings that were purpose-built to manufacture Britain's first atomic bomb.	Medium	Section 3.0, Appendix 8.2
Building F14 (Non-designated Heritage Asset, recorded in the Kent HER)	Laboratory building constructed in 1922 as part of the re-use of Fort Halstead following the First World War. It was later converted to a house. The building possesses historic interest linked to its research role following the First World War when the fortification began to assume other uses, beyond being a purely defensive structure. It is a single-storey brick building of no architectural interest. The building is constructed from brick and has an enclosed setting within the scheduled area. It has a functional link with the surrounding buildings.	Low	Section 3.0, Appendix 8.1
Building F18 (Non-designated Heritage Asset, recorded in the Kent HER)	The Recording Laboratory constructed in 1948. The building's importance derives from its historic interest as part of the development of the atomic bomb. It has limited architectural interest, being a simple red-brick construction. The building functioned alongside buildings F16 and 17 and shares a strong functional association which is central to its sensitivity and importance.	Low	Section 3.0, Appendix 8.1
Building A14 (Non-designated Heritage Asset, recorded in the Kent HER)	Late 19 th century caretakers' cottages constructed to accommodate the caretakers of the Fort. They are located immediately north of the scheduled monument and demonstrate the origins of the Fort and share a functional link with the scheduled monument. They are constructed from brick with a pitched slate roof and are of limited architectural interest.	Low	Section 3.0, Appendix 8.1
Building A13 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Tool Store constructed for the original Mobilisation centre around the turn of the 20 th century. The building demonstrates the origins of the Fort and its original use, which contributes to its importance. The building is located immediately north of the scheduled monument and to the west of A14. Its importance is derived from its historic role and important role within the fortification.	Low	Section 3.0, Appendix 8.1
Building A10 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Constructed between 1936-44 to accommodate workers associated with rocketry research. The building is located to the northeast of the scheduled monument and is surrounded by infrastructure and buildings associated with rocketry research and the later development of the atomic bomb. This is integral to the importance of the building because, while it is of limited importance in its own right, it played an important role in the development of the atomic bomb and in facilitating the wider development and operation of the fort.	Low	Section 3.0, Appendix 8.1
Building A11 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	A11 is a single-storey building constructed at approximately the same time as A10 and served as an additional research building. It is located to the northeast of the scheduled monument. It is surrounded by infrastructure and buildings associated with rocketry research and the later development of the atomic bomb which relate to its importance as a research building assisting the development of the atomic bomb.	Low	Section 3.0, Appendix 8.1
Building F1 and F10 (Other Non-designated)	A pair of entrance lodges constructed in 1946-47. The buildings are small, red-brick constructions that were built to provide additional security to the Fort given the sensitive nature of works	Low	Section 3.0, Appendix 8.1

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Heritage Assets identified by the authors of this Chapter)	undertaken there. Their setting is linked to their function and position on the edge of the wider Fort.		
Building F12 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Constructed in 1938-39. Although its exact function is unknown, it is presumed to have been constructed to provide additional research rooms to assist the development of rocketry technology. It shares a functional association with the surrounding contemporary buildings and is located within the Fort. The importance of the building is derived from its historic role in developing the atomic bomb.	Low	Section 3.0, Appendix 8.1
Building F13 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Small brick magazine constructed in 1938-39. It shares a functional association with the surrounding contemporary buildings within the scheduled monument.	Low	Section 3.0, Appendix 8.1
Building F15 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Single-storey toilet block constructed between 1936-46. It shares a functional association with the surrounding buildings and infrastructure within the scheduled monument.	Low	Section 3.0, Appendix 8.1
Building Q1 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Laboratory, offices and dark room constructed in or after 1939. The building is a single-storey brick construction which shares a functional link with the surrounding buildings, particularly those associated with the development of rocketry research and manufacture. It is located to the northwest of the scheduled monument and its importance is derived from its role in developing the atomic bomb. The surrounding buildings therefore contribute to its importance.	Low	Section 3.0, Appendix 8.1
Building Q3 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Double-height brick workshop constructed between 1947-49 to aid research into the detonators for the atomic bomb. It is located to the northwest of the scheduled monument. The building shares a functional link with the contemporary buildings associated with the research and manufacture of the atomic bomb. It is a simple red-brick construction and its importance is derived from its role in developing the atomic bomb.	Low	Section 3.0, Appendix 8.1
Buildings Q4 and Q4-1 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Storage building constructed in 1947-49 to hold casings and parts associated with the development of the prototype atomic bomb. The buildings share a functional link with the contemporary buildings associated with the research and manufacture of the atomic bomb which contributes to their importance. They are located centrally within the Site.	Low	Section 3.0, Appendix 8.1
Building Q13 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Constructed in approximately 1939 as the chemical laboratory to aid rocketry research. It is a large and prominent, two-storey building and shares a functional link with the surrounding buildings and infrastructure. It is located immediately east of the listed G14 building and its importance is derived from its important role in rocketry research and, ultimately, the development of the atomic bomb.	Low	Section 3.0, Appendix 8.1
Buildings X2 and X3 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Single-storey brick buildings constructed between 1939-44. Their original function is not known but they were constructed to aid rocketry research. They form part of a grouping of contemporary buildings which contributes to their sensitivity and are located immediately west of the scheduled monument.	Low	Section 3.0, Appendix 8.1
Buildings X4, X5 X6, X7 and X11, X12, X13 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	These buildings comprise a series of interlinked magazines constructed between 1936-47. The buildings form part of the wider complex of buildings constructed to aid rocketry research which is the key element of their sensitivity. The buildings are located southwest of the scheduled monument within the southern extent of the Site.	Low	Section 3.0, Appendix 8.1
Buildings X8 and X9 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	These are a pair of explosive testing chambers with associated control rooms. They were purpose built between 1936-47 and aided the ongoing research. They are located within the southern part of the Site.	Low	Section 3.0, Appendix 8.1
Buildings X38 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Single-storey brick building constructed between 1936-44 and later served as a physics laboratory. It forms part of the X enclave and is associated with the other buildings constructed to aid rocketry research which is integral to its importance. It is located centrally within the Site.	Low	Section 3.0, Appendix 8.1
Buildings X44 and X45 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	Series of flat-roofed buildings constructed to provide testing facilities and associated buildings. They were developed between 1949-57 to aid ongoing research and share a functional link with the surrounding buildings. They are located within the western area of the Site, immediately south of Crow Drive.	Low	Section 3.0, Appendix 8.1

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Future Baseline (The Extant Scheme)

KEY RECEPTORS	DESCRIPTION	SENSITIVITY	FURTHER INFORMATION
Fort Halstead including buildings F2, F3, F4, F5, F6, F7, F8, F9 and the Second World War Firewatcher's Post (Scheduled Monument; NHLE 1004214)	This heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the scheduled monument and listed buildings contained therein to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	High	Section 3.0, Appendix 8.1
Building F16, Grade II* Listed Building; NHLE 1412293)	The heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the listed building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	High	Section 3.0, Appendix 8.1
Building F17 (Grade II* Listed Building; NHLE 1412293)	The heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the listed building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	High	Section 3.0, Appendix 8.1
Building F11 (Grade II Listed Building; NHLE 1412292)	The heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the listed building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	Medium	Section 3.0, Appendix 8.1
Building Q14 (Grade II Listed Building NHLE 1396578)	The heritage asset would be retained as part of the extant scheme, with some minor alterations to its fabric. Its setting would also undergo changes. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	Medium	Section 3.0, Appendix 8.2
Building F14 (Non-designated Heritage Asset, recorded in the Kent HER)	The heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	Low	Section 3.0, Appendix 8.1
Building F18 (Non-designated Heritage Asset, recorded in the Kent HER)	The heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	Low	Section 3.0, Appendix 8.1
Building A14 (Non-designated Heritage Asset, recorded in the Kent HER)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1
Building A13 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1
Building A10 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1
Building A11 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1
Building F1 and F10 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The heritage assets would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	Low	Section 3.0, Appendix 8.1
Building F12 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	Low	Section 3.0, Appendix 8.1
Building F13 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	Low	Section 3.0, Appendix 8.1
Building F15 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The heritage asset would be retained and converted to form the heritage centre as part of the extant scheme. There will be minor changes to the fabric of the building to accommodate this change. There would be changes to its setting, including the demolition of existing buildings and construction of new buildings.	Low	Section 3.0, Appendix 8.1
Building Q1 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	This building would be demolished by the extant scheme.	Low	Section 3.0, Appendix 8.1
Building Q3 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	This building would be demolished by the extant scheme.	Low	Section 3.0, Appendix 8.1
Buildings Q4 and Q4-1 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	These buildings would be demolished by the extant scheme.	Low	Section 3.0, Appendix 8.1

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Chapter)			
Building Q13 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	These buildings would be demolished by the extant scheme.	Low	Section 3.0, Appendix 8.1
Buildings X2 and X3 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1
Buildings X4, X5 X6, X7 and X11, X12, X13 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1
Buildings X8 and X9 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1
Buildings X38 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1
Buildings X44 and X45 (Other Non-designated Heritage Assets identified by the authors of this Chapter)	The building would be retained, with changes to its setting as part of the extant scheme. This would include demolition of existing buildings and new development within its setting.	Low	Section 3.0, Appendix 8.1

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Current Baseline

KEY RECEPTORS	DESCRIPTION	SENSITIVITY	FURTHER INFORMATION
Fort Halstead Scheduled Monument	<p>The scheduled fort is located within the south-eastern extent of the site. It consists of a post-medieval to modern defensive structure which is polygonal in plan and surrounded by earthen ramparts and a deep external moat.</p> <p>The fort was scheduled based on its many important functions since its construction; including a late 19th century mobilisation centre as part of the London Defence Positions Scheme modified in the 1930s for research purposes (rocketry research) and again in the late 1940s for research into atomic bombs. Its setting comprises the wider complex of Fort Halstead and associated research and office buildings contained within it, which primarily date to the early 20th century.</p> <p>The monument contains two Listed Buildings (Grade II and Grade II*), which are discussed separately. The monument is however included within the archaeological assessment due to the possibility of revealing archaeological remains such sections of the late 19th century perimeter ditch. The ditch which was likely infilled in the late 1940s to facilitate access to the wartime explosives filling sheds (such as experimental filling shed F11, erected in 1938 for filling cordite rocket motors). There is therefore, the potential for explosive materials to be present within the moat infill as a result of the backfilling operation.</p> <p>Due to the scheduled status of the fort its sensitivity is considered to be high.</p>	High	Section 4.2.1, Appendix 8.3
Prehistoric trackway	<p>The course of a suspected prehistoric trackway has been projected across the most northern extent of the site, which is currently occupied by roads and buildings (such as Armstrong Close and Crow Drive). A small section of the projected trackway crosses a grassed area within the north-eastern corner of the site, which has historically been used as a sports and social facility. It is suggested the trackway originated in the Prehistoric period and used in the medieval period, however, no supporting field investigations have been undertaken to confirm its location and preservation within the site.</p> <p>This asset is considered of low sensitivity based on its potential localised value.</p>	Low	Section 4.3, Appendix 8.3
Outfarms south of Polhill Arms Public House and north-west of Dunton Green Lime Works	<p>The sites of 2 outfarms have been identified within the northern extent of the site off Pollhill (the A224) and to the north-east of the Scheduled Monument. The buildings have now been demolished but associated archaeological remains may survive buried below ground.</p> <p>The assets are of low sensitivity based on their potential local value.</p>	Low	Section 4.4, Appendix 8.3
Historic landscape	<p>The Historic Landscape Character (HLC) types within the Site and surrounding study area indicate the land has continued to be mainly agricultural fields (some of which display elements of post 1801 settlement), woodland and fields bounded by paths and tracks. As per the Area of Outstanding Natural Beauty (AONB) report submitted as part of this ES, the ancient woodland together with areas of chalk and semi-improved and neutral grassland form a key landscape feature within the site.</p> <p>Although the majority of the site was covered by woodland up until the end of the 19th century, there is evidence of a suspected prehistoric trackway within the northern extent of the site and a likely post-medieval bank boundary that defines part of the limits of part of the woodland at a time when it was divided into three parcels (recorded as Beaumont Wood, Dutchmore Wood and Anisbirches Wood). This is evidenced from the 1871 OS map, which shows it running into the northern extent of the site and separating woodland from open fields.</p>	Low	Section 4.4, Appendix 8.3

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	This landscape feature is of low sensitivity given it still survives to a greater extent outside of the site and is considered to be of low value.		
As yet unknown buried archaeological remains – Prehistoric (500,000 BC to AD 43)	The only known prehistoric evidence within the Site is the suspected prehistoric route of Pilgrim’s Way. Prehistoric activity within the study area is primarily represented by isolated finds. It is likely that the Site remained densely wooded at this time, and the trackway may have formed part of a formalised route through the wood. While the construction of buildings and landscaping would have led to the truncation and possible loss of any surviving below ground archaeology, the extent of such disturbance is currently not understood due to a lack of previous archaeological investigations within the Site. The combination of the extent of historic development and sparse nature of archaeological material of this date in the surrounding area supports the conclusion that there is low potential for further as yet unknown prehistoric remains within the Site.	Low	Section 5, Appendix 8.3
As yet unknown buried archaeological remains – Romano-British (AD 43 to AD 410)	No known archaeological remains of this period have yet been identified within the Site. Romano-British activity is principally located within or to the north of a cremation cemetery at Frog Farm approximately 1.4km east of the Site. While the construction of buildings and landscaping would have led to the truncation and possible loss of any surviving below ground archaeology, the extent of such disturbance is currently not understood due to a lack of previous archaeological investigations within the Site. The combination of the extent of historic development and the interpretation of archaeological material of this date within the study area (as presented within the ADBA) supports the conclusion that there is low potential for further as yet unknown Romano-British remains within the Site.	Low	Section 5, Appendix 8.3
As yet unknown buried archaeological remains – Early medieval (AD 410 to AD 1066)	No known archaeological remains of this period have yet been identified within the Site. The Anglo-Saxon cemetery at Polhill, c. 200m south-east of the Site, is the primary known early medieval asset within the study area. While the presence of a cemetery suggests a settlement within the study area, no corroborating evidence has been identified. While the construction of buildings and landscaping would have led to the truncation and possible loss of any surviving below ground archaeology, the extent of such disturbance is currently not understood due to a lack of previous archaeological investigations within the Site. The combination of the extent of historic development and sparse nature of archaeological material of this date within the study area supports the conclusion that there is low potential for further as yet unknown early medieval remains within the Site.	Low	Section 5, Appendix 8.3
As yet unknown buried archaeological remains – Medieval (AD 1066 to AD 1540)	No known archaeological remains of this period have yet been identified within the Site. It is likely that the Site was wooded in this period, though evidence of moated sites, timber framed buildings and findspots exist predominantly to the north, north-east, east and south of the Site. While the construction of buildings and landscaping would have led to the truncation and possible loss of any surviving below ground archaeology, the extent of such disturbance is currently not understood due to a lack of previous archaeological investigations within the Site. The combination of the extent of historic development and strong likelihood that the Site would have been wooded during this period (as summarised within the ADBA) supports the conclusion that there is low potential for further as yet unknown medieval remains within the Site.	Low	Section 5, Appendix 8.3
As yet unknown buried archaeological remains – Post-medieval (AD 1540 to AD 1901)	Historic mapping suggests the Site began to develop from at least the 1870s onwards with more substantial changes to the woodland. Widespread farming activity is noted within the study area during the post-medieval period. While the construction of buildings and landscaping would have led to the truncation and possible loss of any surviving below ground archaeology, the extent of such disturbance is currently not understood due to a lack of previous archaeological investigations within the Site. The combination of the extent of historic development and concentrated nature of such archaeological material, particularly in known areas of development such as surrounding the woodland boundary, the fort and within the study area, supports the conclusion that there is medium potential for further as yet unknown post-medieval remains within the Site.	Low	Section 5, Appendix 8.3

Future Baseline (The Extant Scheme)

KEY RECEPTORS	DESCRIPTION	SENSITIVITY	FURTHER INFORMATION
Fort Halstead Scheduled Monument	As the scheduled fort would be retained as part of the extant scheme, the monument would form part of the future baseline to be considered for the proposed development. Although it is possible that construction of the extant scheme may have truncated or removed associated archaeological remains surrounding the monument, their full location, extent and survival cannot be confirmed without archaeological investigations.	High	Section 4.2.1, Appendix 8.3
Prehistoric trackway	As the extant scheme would unlikely remove all elements of the trackway considering that it potentially stretches along the northern boundary of the site, it is possible that sections of the trackway would remain buried within the site and would therefore form part of the future baseline to be considered for the proposed development.	Low	Section 4.3, Appendix 8.3
Outfarms south of Polhill Arms Public House and north-west of Dunton Green Lime Works	The extant scheme would likely truncate or wholly remove the outfarms, especially the one north-west of Dunton Green Lime Works, however, as this cannot presently be confirmed without archaeological investigations confirming the extent, location and survival of these remains, they are still considered to form part of the future baseline	Low	Appendix 8.3
Historic landscape	As the extant scheme would unlikely remove all aspects of the historic landscape, for example, through the retention of ancient woodland, it would still form part of the future baseline to be considered for the proposed development.	Low	Appendix 8.3
Potential for buried archaeological remains of Prehistoric (500,000 BC to AD 43) date	As the full extent, location and survival of such remains is currently unknown, it is assumed that the extant scheme might not uncover all as yet unknown buried archaeological remains of this period within the site, indicating that such remains may still form part of the future baseline to be considered for the proposed development.	Low	Appendix 8.3
As yet unknown buried archaeological remains - Romano-British (AD 43 to AD 410)	As the full extent, location and survival of such remains is currently unknown, it is assumed that the extant scheme might not uncover all as yet unknown buried archaeological remains of this period within the site, indicating that such remains may still form part of the future baseline to be considered for the proposed development.	Low	Appendix 8.3
As yet unknown buried archaeological remains Early medieval (AD 410 to AD 1066)	As the full extent, location and survival of such remains is currently unknown, it is assumed that the extant scheme might not uncover all as yet unknown buried archaeological remains of this period within the site, indicating that such remains may still form part of the future baseline to be considered for the proposed development.	Low	Appendix 8.3

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As yet unknown buried archaeological remains Medieval (AD 1066 to AD 1540)	As the full extent, location and survival of such remains is currently unknown, it is assumed that the extant scheme might not uncover all as yet unknown buried archaeological remains of this period within the site, indicating that such remains may still form part of the future baseline to be considered for the proposed development.	Low	Appendix 8.3
As yet known buried archaeological remains Post-medieval (AD 1540 to AD 1901)	As the full extent, location and survival of such remains is currently unknown, it is assumed that the extant scheme might not uncover all as yet unknown buried archaeological remains of this period within the site, indicating that such remains may still form part of the future baseline to be considered for the proposed development.	Low	Appendix 8.3

8.4 POTENTIAL SIGNIFICANT IMPACTS

Built Heritage

PHASE	DESCRIPTION	ADVERSE/BENEFICIAL
Construction	Demolition of existing buildings and loss of existing historic context, as a result	Adverse
Construction	Repairs and alterations to existing buildings, including reinstatement of historic features	Beneficial
Construction	Creation of new views by demolition and/or vegetation clearance to allow greater appreciation of heritage assets	Beneficial
Operation	Provision of long-term viable uses for the retained heritage assets	Beneficial
Operation	Enhanced public access, including creation of new public square and heritage trail	Beneficial

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PHASE	DESCRIPTION	ADVERSE/BENEFICIAL
Construction	General intrusive works, including excavations and any ancillary associated works (such as service trenching and excavations for ecological mitigation areas and attenuation ponds) which could lead to the truncation or complete removal of known (such as the woodland bank) and as yet unknown buried archaeological remains.	Adverse

8.5 DESIGN INTERVENTIONS

Built Heritage

DESIGN INTERVENTION	DESCRIPTION	REASON FOR INTERVENTION	FURTHER INFORMATION
Retention of most important heritage assets within the masterplan	The masterplan has been developed to retain the most important buildings and those elements of setting that make the greatest contribution to the importance of the retained designed heritage assets. More buildings will be retained than the approved masterplan.	To retain as many non-designated heritage assets as possible and those elements of setting that make the greatest contribution to the importance of the designated heritage assets and minimise any adverse impacts.	Section 4.0, Appendix 8.1

Archaeology

No design interventions have been implemented in regard to archaeology.

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8.6 ASSESSMENT PRE-MITIGATION (INCLUDING DESIGN INTERVENTION)

Built Heritage

PHASE	RECEPTOR(S) AFFECTED	IMPACT	MAGNITUDE PRE-MITIGATION	SIGNIFICANCE PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
Construction	Fort Halstead, including buildings F2, F3, F4, F5, F6, F7, F8, F9 and the Second World War Firewatcher's Post	Demolition of existing buildings within setting. This includes the demolition of a number of buildings that have not been identified as non-designated heritage assets (with the exception of Buildings Q1, Q3, Q4 and Q4-1). The buildings currently provide context and reflect the historic interest of the scheduled monument, which was originally constructed as a mobilisation centre before being converted to assist rocketry research and the development of Britain's atomic bomb. The buildings to be demolished are 20 th century buildings constructed to assist this process and contribute to its importance by demonstrating the development of the wider Fort in the 20 th century. However, all buildings to be demolished were previously consented to be demolished as part of the 2015 application and the current scheme includes the retention of a greater number of buildings than the previous application. The overall significance of effect does, however, remain unchanged from that previous assessed in the 2015 ES.	Large	Major Adverse	No	Section 4.0, Appendix 8.1
Construction	Fort Halstead, including buildings F2, F3, F4, F5, F6, F7, F8, F9 and the Second World War Firewatcher's Post	Creation of new views by demolition and/or vegetation clearance to allow greater appreciation of heritage assets. This will include vegetation clearance on the scheduled monument to enable a greater appreciation of its structure and defensive properties. The demolition of buildings within the Q area and the creation of the Town Square will allow additional views from the northwest and a greater appreciation of the Fort. Together these changes will better reveal the importance of the building and allow its architectural and historic interest to be experienced and appreciated from within the Site.	Medium	Moderate Beneficial	No	Section 4.0, Appendix 8.1
Construction	Building F16 and Building F17	Demolition of existing buildings within setting. This includes the demolition of a number of buildings that have not been identified as non-designated heritage assets (with the exception of Buildings Q1, Q3, Q4 and Q4-1). The buildings currently provide context and reflect the historic interest of listed buildings, which were originally constructed as a mobilisation centre before being converted to assist rocketry research and the development of Britain's atomic bomb. The buildings to be demolished are 20 th century buildings constructed to assist this process and contribute to its importance by demonstrating the development of the wider Fort in the 20 th century. However, all buildings to be demolished were previously consented to be demolished as part of the 2015 application.	Medium	Moderate Adverse	No	Section 4.0, Appendix 8.1
Construction	Building F16 and Building F17	Creation of new views by demolition and/or vegetation clearance to allow greater appreciation of heritage assets. This will include vegetation clearance from the scheduled monument and the demolition of buildings within the Q area. However, the magnitude of impact will be limited due to the setting of the heritage assets which is primarily focused on their location within the Fort and their relationship with other buildings within the Fort.	Small	Minor Beneficial	No	Section 4.0, Appendix 8.1
Construction	Building F11	Demolition of existing buildings within setting. This includes the demolition of a number of buildings that have not been identified as non-designated heritage assets (with the exception of Buildings Q1, Q3, Q4 and Q4-1). The buildings currently provide context and reflect the historic interest of listed buildings, which were originally constructed as a mobilisation centre before being converted to assist rocketry research and the development of Britain's atomic bomb. The buildings to be demolished are 20 th century buildings constructed to assist this process and contribute to its importance by demonstrating the development of the wider Fort in the 20 th century. However, all buildings to be demolished were previously consented to be demolished as part of the 2015 application.	Medium	Minor Adverse	No	Section 4.0, Appendix 8.1
Construction	Building F11	Creation of new views by demolition and/or vegetation clearance to allow greater appreciation of heritage assets. This will include vegetation clearance from the scheduled monument and the demolition of buildings within the Q area. However, the magnitude of impact will be limited due to the setting of the heritage assets which is primarily focused on their location within the Fort and their relationship with other buildings within the Fort.	Small	Negligible Beneficial	No	Section 4.0, Appendix 8.1
Construction	Building Q14	Demolition of existing buildings within setting, including the majority of the buildings within Q section and four non-designated heritage assets. Although the number of buildings to be demolished is reduced from the 2015 application, this will still lead to the loss of historic context and limit the ability to understand the importance of the building as an integral component of the development of the atomic bomb.	Large	Moderate Adverse	No	Section 4.0, Appendix 8.2
Construction	Building Q14	Creation of new views by demolition to allow greater appreciation of heritage assets. The buildings will be incorporated into, and become a prominent part of, the new Town Square. Views will be created by the demolition of the surrounding buildings while the public space will provide additional prominence to the building and allow its architectural interest to be appreciated.	Small	Negligible Beneficial	No	Section 4.0, Appendix 8.2

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Construction	Building Q14	Repairs and alterations to existing building, including reinstatement of historic features. These repairs are subject to a separate Listed Building Consent application and will include the reinstatement of windows and doors and the removal of later insertions to better reveal the historic footprint of the listed building, which is linked to its original use.	Large	Moderate Beneficial	No	Section 4.0, Appendix 8.2
Construction	Building F14 and Building F18	Demolition of existing buildings within setting. This includes the demolition of a number of buildings that have not been identified as non-designated heritage assets (with the exception of Buildings Q1, Q3, Q4 and Q4-1). The buildings currently provide context and reflect the historic interest of listed buildings, which were originally constructed as a mobilisation centre before being converted to assist rocketry research and the development of Britain's atomic bomb. The buildings to be demolished are 20th century buildings constructed to assist this process and contribute to its importance by demonstrating the development of the wider Fort in the 20th century. However, all buildings to be demolished were previously consented to be demolished as part of the 2015 application.	Moderate	Minor Adverse	No	Section 4.0, Appendix 8.1
Construction	Building F14 and Building F18	Creation of new views by demolition and/or vegetation clearance to allow greater appreciation of heritage assets. This will include vegetation clearance from the scheduled monument and the demolition of buildings within the Q area. However, the magnitude of impact will be limited due to the setting of the heritage assets which is primarily focused on their location within the Fort and their relationship with other buildings within the Fort.	Small	Negligible Beneficial	No	Section 4.0, Appendix 8.1
Construction	Q1, Q3, Q4 and Q4-1	Demolition of existing buildings (including Q1, Q3, Q4 and Q4-1). This will lead to the total loss of these non-designated heritage assets.	Very Large	Moderate Adverse	Building Recording	Section 4.0, Appendix 8.1
Construction	Building A10, Building A11, Building A13, Building A14, Building Q13	Demolition of existing buildings within setting. This will include the demolition of some buildings within the A area and H area which share an historic association with these buildings. Their historic uses and associations with one another will however remain legible.	Large	Minor Adverse	No	Section 4.0, Appendix 8.1
Construction	Building A10, Building A14, Building A11, Building A13, Building A14, Building Q13	Creation of new views by demolition to allow greater appreciation of heritage assets. This would include some buildings within close proximity to open up additional views of these non-designated heritage assets. However, any such impact would be limited.	Small	Negligible Beneficial	No	Section 4.0, Appendix 8.1
Construction	Building Q13	Repairs and alterations to existing building, including reinstatement of historic features. This will include the reinstatement of windows and removal of later additions to better reveal the original form of the building.	Medium	Minor Beneficial	No	Section 4.0, Appendix 8.1
Construction	Building F1, Building F10, Building F12, Building F13, Building F15, Building X2, Building X3, Building X4, Building X5, Building X6, Building X7, Building X11, Building X12, Building X13, Building X8, Building X9, Building X38, Building X44 and Building X45	Demolition of existing buildings within setting. This would include the demolition of a number of buildings in Areas F and X that have not been identified as non-designated heritage assets but do provide historic context.	Medium	Minor Adverse	No	Section 4.0, Appendix 8.1
Construction	Building F1, Building F10, Building F12, Building F13, Building F15, Building X2, Building X3, Building X4, Building X5, Building X6, Building X7, Building X11, Building X12, Building X13, Building X8, Building X9, Building X38, Building X44 and Building X45	Creation of new views by demolition and/or vegetation clearance to allow greater appreciation of heritage assets. This would include views from the surrounding areas, although much of the existing built form to be demolished within these assets' settings will be replaced by new development and any such impacts will be limited in magnitude.	Small	Negligible Beneficial	No	Section 4.0, Appendix 8.1

HISTORIC ENVIRONMENT

Operation	Fort Halstead, including buildings F2, F3, F4, F5, F6, F7, F8, F9 and the Second World War Firewatcher's Post and Building F16 and Building F17	Provision of long-term viable uses for the retained structures and enhanced public access, including creation of new public square and heritage trail. This will ensure the long-term conservation of these heritage assets and greater appreciation of them by the public. The creation of the heritage centre and heritage trail may be led by a conservation management plan (to be secure by condition) and would be informed by additional research and consultation.	Large	Major Beneficial	No	Section 4.0, Appendix 8.1
Operation	Building F11 and Building Q14	Provision of long-term viable uses for the retained structures and enhanced public access, including creation of new public square and heritage trail. This will ensure the long-term conservation of these heritage assets and greater appreciation of them by the public.	Large	Moderate Beneficial	No	Section 4.0, Appendix 8.1 & 8.2
Operation	Building F14, Building F18 and A14	Provision of long-term viable uses for the retained structures and enhanced public access, including creation of new public square and heritage trail. This will ensure the long-term conservation of these heritage assets and greater appreciation of them by the public.	Large	Minor Beneficial	No	Section 4.0, Appendix 8.1
Operation	Building A13, Building A10, Building A11, Building F1, Building F12, Building F13, Building F15, Building Q1, Building Q3, Building Q4, Building Q4-1, Building Q13, Building X2, Building X3, Buildings X4, Building X5, Building X6, Building X7, Building X11, Building X12, Building X13, Building X8, Building X9, Building X38, Building X44 and Building X45	Provision of long-term viable uses for the retained structures and enhanced public access, including creation of new public square and heritage trail. This will ensure the long-term conservation of these heritage assets and greater appreciation of them by the public.	Large	Minor Beneficial	No	Section 4.0, Appendix 8.1

The proposed development includes a number of changes from the extant planning permission. The relevant changes for built heritage include an increased quantum and density of new residential development and a reduction in the number of existing buildings to be demolished. There are also minor changes to the layout of the scheme to create new views to the retained designated and non-designated heritage assets, as discussed above. Together these changes will not affect the overall impacts that the heritage assets will experience. The 2015 ES used a different methodology to assess effects and grouped the relevant heritage assets geographically, rather than by their overall level of importance. As a result some of the overall effects predicted in the current ES are higher than those predicted in 2015. However, overall the nature of the impacts and the significance of effect is not predicted to change for the current scheme when compared with the extant permission.

Archaeology

PHASE	RECEPTOR(S) AFFECTED	IMPACT	MAGNITUDE PRE-MITIGATION	SIGNIFICANCE/EFFECT PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
Construction	Fort Halstead Scheduled Monument	The proposed development would likely have a physical impact on the scheduled fort, especially where it is required to make alterations to facilitate conversion into a heritage interpretation centre. Any physical works, including the removal of trees within and immediately adjacent to the Scheduled Monument boundary may reveal associated archaeological remains such as a suggested infilled section of late 19th century ditch. Any such works would require Scheduled Monument Consent (SMC) prior to the commencement of such works. The assessed effect would be the same as the consented scheme.	Large	Major Adverse	Yes	Appendix 8.3

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Construction	Prehistoric trackway	The proposed development could have a physical impact on a part of the suspected prehistoric trackway, especially where construction for residential housing is required in the current grassland area within the north-eastern extent of the site. Although the part of the trackway that be affected by the works within the site is relatively small in relation to its projected entire route, the partial loss of the asset would still need to be considered. The assessed effect would be the same as the consented scheme.	Small	Minor Adverse	Yes	Appendix 8.3
Construction	Outfarms south of Polhill Arms Public House and north-west of Dunton Green Lime Works	As the outfarm south of the former Polhill Arms Public House within the northern extent of the site does not lie within an area where intrusive works are proposed, it shall not be considered further in this assessment. However, the site of the former outfarm north-west of Dunton Green lies within an area planned for employment uses bordering the eastern part of the Scheduled Monument. As such, there is potential for construction works associated with the development of the employment area to impact associated buried archaeological remains should they survive. The assessed effect would be the same as the consented scheme.	Small	Minor Adverse	Yes	Appendix 8.3
Construction	As yet unknown buried archaeological remains (associated with Scheduled Monument)	It is considered that there may be as yet unknown buried archaeological remains associated with the Scheduled Monument within the site which could be subject to physical impacts due to the construction phase. Due to their direct association with the Scheduled Monument, such remains would likely be considered to be of equal value to the monument. The assessed effect would be the same as the consented scheme.	Medium	Major Adverse	Yes	Appendix 8.3
Construction	Historic landscape	The historic landscapes has been characterised as being predominantly woodland until the end of the 19th century, with elements of field boundaries (see above). The assessed effect would be the same as the consented scheme.	Medium	Moderate Adverse	No	Appendix 8.3
Construction	As yet unknown buried archaeological remains – Prehistoric (500,000 BC to AD 43)	The presence of any as yet unknown buried archaeological remains dating from the prehistoric period cannot be discounted in areas of historically undisturbed ground. As such, as yet unknown assets could experience physical impacts due to construction activities. The assessed effect would be the same as the consented scheme.	Medium	Minor Adverse	Yes	Appendix 8.3
Construction	As yet unknown buried archaeological remains – Romano-British (AD 43 to AD 410)	The presence of any as yet unknown buried archaeological remains dating from the Romano-British period are likely to be encountered in areas of historically undisturbed ground. As such, as yet unknown assets could experience physical impacts due to construction activities. The assessed effect would be the same as the consented scheme.	Medium	Minor Adverse	Yes	Appendix 8.3
Construction	As yet unknown buried archaeological remains – Early medieval (AD 410 to AD 1066)	The presence of any as yet unknown buried archaeological remains dating from the early medieval period are likely to be encountered in areas of historically undisturbed ground due to construction and landscaping works from the early 1900s onwards. As such, as yet unknown assets could experience physical impacts due to construction activities. The assessed effect would be the same as the consented scheme.	Medium	Minor Adverse	Yes	Appendix 8.3
Construction	As yet unknown buried archaeological remains – Medieval (AD 1066 to AD 1540)	The presence of any as yet unknown buried archaeological remains dating from the medieval period are likely to be encountered in areas of historically undisturbed ground due to construction and landscaping works from the early 1900s onwards. As such, as yet unknown assets could experience physical impacts due to construction activities. The assessed effect would be the same as the consented scheme.	Medium	Minor Adverse	Yes	Appendix 8.3
Construction	As yet unknown buried archaeological remains – Post-medieval (AD 1540 to AD 1901)	The presence of any as yet unknown buried archaeological remains dating from the post-medieval period are likely to be encountered in areas of historically undisturbed ground due to construction and landscaping works from the early 1900s onwards. As yet unknown buried archaeological remains associated with Scheduled Monument are discussed separately above. As such, as yet unknown assets could experience physical impacts due to construction activities. The assessed effect would be the same as the consented scheme.	Medium	Minor Adverse	Yes	Appendix 8.3

HISTORIC ENVIRONMENT

8.7 MITIGATION & ENHANCEMENT MEASURES

Built Heritage

PHASE	POSSIBLE EFFECT BEING MITIGATED	MITIGATION MEASURE	HOW SECURED / TRIGGER	MAGNITUDE POST-MITIGATION	ADVERSE/BENEFICIAL	FURTHER INFORMATION
Construction	Loss of existing buildings with heritage value. Specifically Buildings Q1, Q3, Q4 and Q4-1	Building Recording to appropriate level to allow recording, dissemination and archiving to provide a permanent record of the buildings and any features of architectural and/or historic interest they possess	Planning condition	Very Large	Adverse	Section 4.0, Appendix 8.1

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PHASE	POSSIBLE EFFECT BEING MITIGATED	MITIGATION MEASURE	HOW SECURED / TRIGGER	MAGNITUDE POST-MITIGATION	ADVERSE/BENEFICIAL	FURTHER INFORMATION
Construction	Potential for truncation and/or complete removal of known and as yet unknown buried archaeological remains (non-designated prehistoric to modern remains and post-medieval to modern designated remains)	<p>A programme of archaeological monitoring and recording during ground intrusive works (including for example attenuation ponds, ecological mitigation sites, service excavation, grubbing out of foundations where buildings are being demolished etc) is proposed.</p> <p>It is currently understood that the development would be undertaken in phases (likely 13 phases between 2020-2031). The scope and programme of appropriate archaeological phasing of works (such as watching briefs, evaluation and strip, map and record excavation) would need to be confirmed in consultations with KCCHC following submission of the EIA. The methodology for any archaeological works would be subject to an Archaeological Written Scheme of Investigation for the approval of KCCHC.</p> <p>Outline Planning Application for the extant scheme was granted in December 2015 (application reference SE/15/00628/OUT). The following conditions were attached:</p> <ul style="list-style-type: none"> <i>Prior to commencement of any works to the Scheduled Ancient Monument details shall be submitted to, and approved in writing by the Local Planning Authority of any proposed landscaping works, including the removal of trees within the curtilage of the Scheduled Ancient Monument. No development will be carried out otherwise than in accordance with the approved details.</i> <i>Before each phase of development identified pursuant to condition 5 is commenced no development shall take place until a written scheme of archaeological investigations has been submitted to and approved in writing by the Local Planning Authority. No development shall take place other in accordance with the programme of archaeological work provided for in the written scheme of investigation. No development may take place in any area which is identified in the scheme of investigations (or by the work provided for by that scheme) as requiring a programme of archaeological investigation work until that programme has been completed in accordance with the scheme of investigation.</i> <p>The potential presence of explosive materials in the moat represents a health and safety concern. The proposed development does not seek to expose the moat. As a result, it is not envisaged that examination or exploration of this feature would be proportionate or necessary as part of any archaeological mitigations as the moat will be preserved <i>in situ</i>.</p>	Planning condition	Moderate	Adverse	N/A

HISTORIC ENVIRONMENT

8.8 ASSESSMENT POST-MITIGATION

Built Heritage

PHASE	RECEPTOR	RESIDUAL IMPACT	SIGNIFICANCE	ADV/BEN	RESIDUAL EFFECT			
					ST/MT/LT	D/IND	P/T	R/IRR
Construction	Fort Halstead, including buildings F2, F3, F4, F5, F6, F7, F8, F9 and the Second World War Firewatcher's Post	Demolition of existing buildings and consequent loss of historic context. This will be mitigated by building recording of those non-designated heritage assets identified above, specifically Buildings Q1, Q3, Q4 and Q4-1. This will aid understanding and interpretation of these buildings and the wider Fort, including its historic development. Construction will also include the creation of new views to the Fort through clearance of buildings and vegetation.	Moderate	Adverse	Medium-term	Direct	Temporary	Irreversible
Construction	Building F16 and Building F17	Demolition of existing buildings within the setting of the listed buildings and consequent loss of historic context. Demolition works will also create new views to the listed building.	Minor	Adverse	Medium-term	Direct	Temporary	Irreversible
Construction	Building F11	Demolition of existing buildings within the setting of the listed building and consequent loss of historic context. Demolition works will also create new views to the listed building.	Minor	Adverse	Medium-term	Direct	Temporary	Irreversible
Construction	Building Q14	Repairs to building, including the reinstatement of metal windows. Demolition of existing buildings and consequent loss of historic context. Demolition works will also create new views to the listed building.	Negligible	Beneficial	Medium-term	Direct	Temporary	Irreversible
	Building F14 and Building F18	Demolition of existing buildings within the buildings' settings and consequent loss of historic context. Demolition works will also create new views to the listed buildings.	Minor	Adverse	Medium-term	Direct	Temporary	Irreversible
Construction	Q1, Q3, Q4 and Q4-1	Demolition, which will be mitigated by building recording and dissemination of information.	Moderate	Adverse	Long-term	Direct	Permanent	Irreversible
Construction	Building A10, Building A11, Building A13 and Building A14	Demolition of existing buildings within the setting of the buildings and consequent loss of historic context. Demolition works will also create new views to the listed building.	Minor	Adverse	Medium-term	Direct	Temporary	Irreversible
Construction	Building Q13	Repairs to building, including the reinstatement of metal windows. Demolition of existing buildings and consequent loss of historic context. Demolition works will also create new views to the listed building.	Negligible	Beneficial	Medium-term	Direct	Temporary	Irreversible

HISTORIC ENVIRONMENT

PHASE	RECEPTOR	RESIDUAL IMPACT	RESIDUAL EFFECT					
			SIGNIFICANCE	ADV/BEN	ST/MT/LT	D/IND	P/T	R/IRR
Construction	Building F1, Building F10, Building F12, Building F13, Building F15, Building X2, Building X3, Building X4, Building X5, Building X6, Building X7, Building X11, Building X12, Building X13, Building X8, Building X9, Building X38, Building X44 and Building X45	Demolition of existing buildings within the setting of the buildings, including buildings both within and outside of the Fort. This will lead to the loss of historic context. Demolition works will also create new views to the listed building.	Minor	Adverse	Medium-term	Direct	Temporary	Irreversible
Operation	Fort Halstead, including buildings F2, F3, F4, F5, F6, F7, F8, F9 and the Second World War Firewatcher's Post and Building F16 and Building F17	Provision of long-term viable use and increased public appreciation, including public access and heritage trail.	Major	Beneficial	Long-term	Direct	Permanent	Irreversible
Operation	Building F11 and Building Q14	Provision of long-term viable use and increased public appreciation, including public access and heritage trail.	Moderate	Beneficial	Long-term	Direct	Permanent	Irreversible
Operation	Building F14, Building F18 and A14	Provision of long-term viable use and increased public appreciation, including public access and heritage trail.	Minor	Beneficial	Long-term	Direct	Permanent	Irreversible

HISTORIC ENVIRONMENT

PHASE	RECEPTOR	RESIDUAL IMPACT	RESIDUAL EFFECT					
			SIGNIFICANCE	ADV/BEN	ST/MT/LT	D/IND	P/T	R/IRR
Operation	Building A13, Building A10, Building A11, Building F1, Building F12, Building F13, Building F15, Building Q1, Building Q3, Building Q4, Building Q4-1, Building Q13, Building X2, Building X3, Buildings X4, Building X5, Building X6, Building X7, Building X11, Building X12, Building X13, Building X8, Building X9, Building X38, Building X44 and Building X45	Provision of long-term viable use and increased public appreciation, including public access and heritage trail.	Minor	Beneficial	Long-term	Direct	Permanent	Irreversible

Key: ADV/BEN = Adverse/Beneficial; ST/MT/LT = Short-term/Medium-term/Long-term; D/IND = Direct/Indirect; P/T = Permanent/Temporary; R/IRR = Reversible/Irreversible

Archaeology

The proposed mitigation measures are not expected to change the effects of the proposals on the archaeological receptors. As such, the residual effects of the scheme are as per the effects reported in Section 8.6.

8.9 HISTORIC ENVIRONMENT: INTER-CUMULATIVE SCHEME IMPACTS

No consented schemes have been identified which would impact upon the archaeological receptors identified above. As such, there are no inter-cumulative scheme impacts.

8.10 WORKS CITED

8.11

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- [3] Design Manual for Roads and Bridges, "Volume 11: Environmental Assessment," 2011.
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