



A47 Blofield to North Burlingham Dualling

Scheme Number: TR010040

Volume 6 **6.1 Environmental Statement** **Chapter 6 – Cultural Heritage**

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CHAPTER 6 CULTURAL HERITAGE

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6. Cultural Heritage

6.1. Introduction

- 6.1.1. As part of the Environmental Impact Assessment (EIA) process, this Environmental Statement (ES) chapter reports the predicted significant effects on cultural heritage as a result of the Proposed Scheme. This assessment includes a review of the existing baseline conditions, consideration of the potential impacts, identification of proportionate mitigation and enhancement and describing predicted significant residual effects.
- 6.1.2. The approach to this assessment follows the methodology set out in the Scoping Report (February 2018) and subsequent agreed Scoping Opinion (March 2018) for the EIA of the Proposed Scheme. The assessment has been undertaken in combination with the most up to date guidance in the Design Manual for Roads and Bridges (DMRB); LA 104 Environmental assessment and monitoring, and LA 106 Cultural heritage assessment.
- 6.1.3. The main chapter text is supported by the following appendices (**TR010040/APP/6.2**):
- Appendix 6.1 – Cultural Heritage Baseline. A detailed description of baseline information gathered to date, including assessment of archaeological potential, contribution of setting to value / significance and of the value / significance of all identified heritage assets;
 - Appendix 6.2 – Geophysical and Metal Detector Survey A47 Dualling Blofield to North Burlingham (APS Report No.164/06);
 - Appendix 6.3 – Blofield to North Burlingham A47 Norfolk ENF143427 Geophysical Survey. An archaeological geophysical survey (magnetic gradiometry) report; and
 - Appendix 6.4 – A47 Blofield to North Burlingham Archaeological Evaluation, an archaeological trial trenching survey report (CA Report: SU0135_2).

6.2. Competent expert evidence

- 6.2.1. This cultural heritage chapter has been undertaken by a Senior Heritage Consultant who holds full corporate membership with the Chartered Institute for Archaeologists (MCIfA). The Senior Consultant has over 14 years of experience undertaking heritage assessments for highways schemes throughout the UK. A technical review of this assessment was undertaken by a Technical Director with 30 years of professional heritage experience.

6.3. Legislation and policy framework

6.3.1. The relevant legislative and planning context for cultural heritage is presented below.

National legislation and policy

6.3.2. The overarching legislation and policy relating to the historic environment in England and relevant to this heritage assessment of the Proposed Scheme are:

- The Ancient Monuments and Archaeological Areas Act 1979, which provides legal protection for areas of national archaeological importance as well as setting out guidelines for the selection of sites for inclusion in the protected schedule.
- The Planning (Listed Buildings and Conservation Areas) Act 1990, which provides legal protection for buildings recognised to be of special architectural or historic interest and are subject to additional controls over demolition and alteration. Section 1 of the Act requires the Secretary of State to compile and maintain lists of buildings of special architectural or historic interest. The principal statutory duty under the Act is to preserve the special character of heritage assets, including their setting.

National Networks National Policy Statement

6.3.3. The *National Networks National Policy Statement* (NNNPS, 2014) sets out guidance concerning infrastructure projects. Of relevance to this assessment is Section 5: The historic environment, which addresses impacts to heritage assets and the conservation and enhancement of the historic environment. The statement sets out requirements for the applicant's assessment and the Secretary of State's responsibilities when dealing with planning proposals which have the potential to impact on cultural heritage assets. The statement emphasises the importance of balancing the need for the conservation of heritage assets with the desirability of new development.

6.3.4. Paragraph 5.131 states “Given that heritage assets are irreplaceable, harm or loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II Listed Building or a grade II Registered Park or Garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including World Heritage Sites, Scheduled Monuments, grade I and II* Listed Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional”.

National Planning Policy Framework (NPPF, 2019)

6.3.5. Of relevance to the Proposed Scheme are paragraphs 188, 189, 190, 192, 193, 194, 196, 197 and 199 of the NPPF. These paragraphs set out the local planning authority's responsibilities when dealing with planning proposals which have the potential to impact heritage assets. These paragraphs emphasise the importance of balancing the need for the conservation of heritage assets with the desirability of new development. Although the Proposed Scheme will not be subject to the local authority planning process, these policies represent best practice when dealing with the cultural heritage resource.

Local planning policy

Joint Core Strategy for Broadland, Norwich and South Norfolk (Greater Norwich Development Partnership 2014)

6.3.6. The Joint Core Strategy for Broadland, Norwich and South Norfolk contains the following policies relevant to cultural heritage:

- Policy 1 - Addressing climate change and protecting environmental assets: "The built environment, heritage assets, and the wider historic environment will be conserved and enhanced through the protection of buildings and structures which contribute to their surroundings, the protection of their settings, the encouragement of high-quality maintenance and repair and enhancement of public spaces"
- Policy 2 - Promoting good design: "Development proposals will respect local distinctiveness including landscape character and historic environment, taking account of conservation area appraisals and including the wider countryside and the Broads area"

6.4. Methodology

6.4.1. The assessment has been undertaken in accordance with DMRB LA 106 and has considered effects on designated and non-designated heritage assets. These assets include; listed buildings, non-designated locally recorded historically important buildings and landscapes, locally important buildings and structures identified during survey work, and non-designated below ground archaeological remains.

6.4.2. In addition to LA 106, the following guidance has been used to inform this assessment:

- Chartered Institute for Archaeologists (ClfA) Standard and guidance for historic desk based assessment (ClfA 2017)
- Conservation Principles, Policies and Guidance (Historic England 2008)
- Design Manual for Roads and Bridges (DMRB), LA 104 Environmental assessment and monitoring

- Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision Taking (Historic England 2015)
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England 2017)
- Standards for Development-led Archaeological Projects in Norfolk (NCCES 2018)

- 6.4.3. Temporary and permanent construction and operational effects on heritage assets have been considered in this assessment. Temporary effects relate to setting effects from construction-related activities. Permanent effects can be either physical effects on the heritage asset or effects on their setting.
- 6.4.4. All heritage assets are listed in Appendix 6.1, Table 4 (**TR010040/APP/6.2**) with an assessment of their heritage value. This appendix also provides the historic background necessary to place the assessments in context.
- 6.4.5. The results of site visits, geophysical survey and trial trenching have been received and used to inform the assessment of archaeological potential.
- 6.4.6. The methodology was presented within Chapter 6 of the EIA Scoping Report for the Proposed Scheme (2018). A schedule of responses detailing how each of the Scoping Opinion comments has been considered as part of this chapter is contained within Appendix 4.1 (**TR010040/APP/6.2**).
- 6.4.7. Changes to DMRB guidance in 2019 since the date of scoping did not significantly affect the methodology as presented within the EIA Scoping Report (2018).

Update to guidance and scope of assessment

- 6.4.8. Following the Scoping Report of the Proposed Scheme (2018), an update to DMRB guidance was published in 2019. The scope of this assessment has been reviewed and changed to reflect the most up to date guidance in DMRB LA 106.

Table 6-1 (Summary of proposed scope) sets out the proposed scope for further assessment in the ES which was originally used in the scoping assessment to determine the proposed scope of the heritage assessment. Where the response to one or more of the scoping assessment questions is 'yes', further assessment has been undertaken.

Table 6-1 : Summary of proposed scope

Scoping question	Comment	Scope in?
Is any designated or other cultural heritage resource in the footprint of the Proposed Scheme or outside that footprint but still potentially physically affected by it?	Non-statutory sites recorded within the proposed construction boundary.	Yes
Is the setting of any designated or other cultural heritage resource in the footprint of the Proposed Scheme, within the zone of visual influence or potentially affected by noise?	Designated and non-designated assets have settings that include or partially include the footprint of the Proposed Scheme, ZVI and / or is potentially affected by noise.	Yes
Is there new land take associated with the Proposed Scheme?	The Proposed Scheme has new land take south of the existing highway.	Yes
Could potential hitherto unknown archaeological remains be concealed?	Potential archaeological remains are indicated in the Proposed Scheme footprint from findsspots and cropmarks visible on aerial photos.	Yes

Consultation

- 6.4.9. The statutory environmental bodies (SEB); Historic England, Norfolk County Council and Broadland Council contributed to the assessment through comments in the Scoping Opinion (**TR010040/APP/6.6**). Responses are recorded in Appendix 4.1 (Scoping opinion responses) (**TR010040/APP/6.2**).
- 6.4.10. Further consultation on study area and approach to assessment of impacts was agreed with the SEB. General agreement was reached regarding the approach to mitigation and no contentious issues were identified.
- 6.4.11. In addition to this:
- Norfolk County Council was consulted in relation to the design of archaeological evaluations and archaeological mitigation proposals
 - Historic England was consulted regarding the Grade I listed buildings
 - Broadland Councils Conservation Officer was consulted regarding Grade II listed buildings and non-designated built heritage

Assessment criteria

- 6.4.12. Further clarification of how criteria in this assessment apply to cultural heritage is provided in Appendix 6.1 (**TR010040/APP/6.2**).
- 6.4.13. The value / sensitivity of heritage assets and the magnitude and significance of effects has been based on the criteria outlined in tables 3.2, 3.4N and 3.7 of DMRB LA 104.

- 6.4.14. Each heritage asset is graded for value / sensitivity on a scale of Negligible, Low, Medium, High and Very High. This is based on the criteria outlined in DMRB LA 104 and with reference to other appropriate criteria such as those used to designate scheduled monuments or listed buildings as well as professional judgement. The contribution that setting makes to the value of the asset is assessed at this stage.
- 6.4.15. The magnitude of impact is assessed on a scale of No Change, Negligible, Minor, Moderate or Major. This is based on consideration of each of the parts of each asset likely to be affected. These parts could be physical elements of the asset or its setting and how important those elements are to the heritage value of the asset. Impacts can be beneficial or adverse and there can be both beneficial and adverse impacts on the same asset. Beneficial and adverse impacts do not "balance out" and each type of impact gets carried forward to assessment of residual effect significance.

6.5. Assessment assumptions and limitations

- 6.5.1. Information provided by the Historic Environment Records (HER) can be limited due to its dependence on previous opportunities for historic and archaeological research, fieldwork, and discovery. Where nothing of historic interest is shown in a particular area, this can be down to a lack of research or investigation in the area to date, rather than proof that no heritage assets are present at that location.
- 6.5.2. Documentary sources are rare before the medieval period and many historic documents are inherently biased.
- 6.5.3. Older primary sources often fail to accurately locate sites and interpretation can be subjective.
- 6.5.4. Site inspections were undertaken in 2017 for a previous scheme assessment. While the notes from this survey were available, the photographs were not. A second site visit was undertaken in April 2020. However, due to restrictions made necessary by the COVID-19 pandemic, this was limited to an in-vehicle "windshield survey" only for large parts of the study area. Likewise, visits to data archives were not possible during the period of the updated assessment. These limitations are largely mitigated by undertaking archaeological field survey in the form of geophysical survey and trenching as well as the availability of digital images online and records from other discipline's surveys.
- 6.5.5. Site meetings intended to discuss setting impacts with Historic England and NCCES were also cancelled due to COVID-19 controls.

6.5.6. Consultees noted the limitation that they could not reach agreements on specifics without the final scheme design (including landscape design) and the final archaeological trenching report (which was issued in draft). The final trenching report is included as Appendix 6.4 (**TR010040/APP/6.2**).

6.6. Study Area

6.6.1. The study area has been defined in accordance with DMRB LA 106 and shown on Figure 6.1 (**TR010040/APP/6.3**) to include:

- the footprint of the Proposed Scheme and areas which may be physically affected
- the Zone of Visual Influence (ZVI)
- This draws from the Zone of Theoretical Visibility (ZTV,) and is modified using site observations to account for vegetation or other factors. The ZVI does not have a mappable output, as it is based partly on professional judgement and will change with season and weather.
- any heritage assets which may potentially be affected by noise

6.6.2. To establish the archaeological potential and historic context of the Proposed Scheme, additional baseline information has been gathered for the wider region.

6.6.3. In response to a comment in the Scoping Opinion for the Proposed Scheme (2018) (**TR010040/APP/6.6**), the study area has been expanded to identify designated assets within the ZTV (approx. 1.3km at maximum based on the Proposed Scheme) that could have settings which may be sensitive to visual impacts.

6.7. Baseline conditions

6.7.1. The archaeological and historic background is given in detail in Appendix 6.1 (**TR010040/APP/6.2**), along with an assessment of value / significance for all heritage assets identified. A summary of the baseline conditions and descriptions of the heritage assets which may be affected by the Proposed Scheme is set out below.

6.7.2. A total of 142 heritage assets have been identified within the study area. These assets are made up of:

- 25 Listed Buildings
- 113 non-designated assets

- Four non-designated historic landscape types in 118 individual parcels¹
- 6.7.3. There are no Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields or Conservation Areas within the study area.
- 6.7.4. Heritage assets are referred to by their National Heritage List for England (NLHE) or Norfolk Historic Environment Record (NHER) reference number. Assets recorded by both sources are referred to by their NHER reference. Where assets have been identified by fieldwork as a part of this Proposed Scheme assessment, they are prefixed by “BLO”.
- 6.7.5. Heritage assets are shown on Figures 6.1, 6.2 and 6.3 (**TR010040/APP/6.3**) and are listed in the gazetteer in Appendix 6, Table 6-4 1 (**TR010040/APP/6.2**) with an assessment of their value/sensitivity.
- 6.7.6. Heritage assets were screened for potential impacts following reviews of all available information. Details of this process and comments on individual assets can be found in Appendix 6.1, Table 6-5 (**TR010040/APP/6.2**). In brief, the excluded assets mainly fell into three categories:
- Upstanding remains within the ZTV but, the Proposed Scheme would only be visible from an inaccessible location such as; roof lines, the tops of trees, boundary walls or hedges.
 - Archaeological remains with no upstanding elements outside the footprint of the road, as these could not be affected by the Proposed Scheme. However, these were still used to inform the assessment of potential for the presence of previously unknown archaeological remains within the Proposed Scheme footprint.
 - Findspots of artefacts that have been removed from their original location. These cannot be affected as they are no longer present however, as above, these may indicate other remains nearby and so were used to inform potential.
- 6.7.7. For clarity and transparency, screening and non-significant effects without site specific mitigation are discussed in Appendix 6.1, Table 6-5 (**TR010040/APP/6.2**). This exercise identified 20 key assets which may experience significant effects. These key assets.

¹ An individual parcel is made up of a small area of land that is the same character throughout. In the study area, these are mostly post-medieval and modern landscape types distributed in a mosaic across the landscape,

Key designated heritage assets

Church of St Andrew (1051522)

- 6.7.8. This Grade I listed building is the medieval parish church of the historic Burlingham St Andrew parish. The earliest part of the building, the North doorway, dates to the 14th century and the Norfolk perpendicular style tower and windows date to the 15th century. There is evidence within the building construction of earlier reused material which likely reflects a former Anglo-Norman church on this site. Within the church there remain interesting features including carved figures that retain their original colouring, such as within the roof hammer beams and the rood screen. All of the above contribute to the high evidential and aesthetic values of this heritage asset.
- 6.7.9. The church also holds historic and communal value as it was the local parish church associated with the Burroughs family which owned Burlingham Hall estate and much of the surrounding land within the parish. The family memorials are now housed in this church; however, they were originally housed in the Church of St Peter, North Burlingham (1304547). In addition, the historic defacing of many of the paintings on the 16th century rood screen, as a result of the 16th century English Reformation, informs some of the value of the heritage asset. The rood screen is a late example of pre-reformation church architecture and considered to be a defiant statement in the face of emerging change in the country in the wake of the puritan movement. The church is still open to worshipers, which positively contributes to the sense of spiritual value associated with the heritage asset. The above details inform the heritage asset's **high** level of heritage value.
- 6.7.10. Positive elements of the church's setting that contribute to its heritage value are defined by two main components; the visibility of the church spire from the surrounding landscape and its relationship to the settlement of North Burlingham. The rural setting provides ambience, tempered by the church being placed on the former main route through this area, Main Road, which provides access.
- 6.7.11. The visibility of the church spire is constrained by woodlands to the west, north and east. These are part of the parkland associated with North Burlingham Park (MNF61984) and appear to be a deliberate attempt to screen the church and provide a secluded character to the church yard. Further mature trees to the south block long-distance views of the spire. The spire is partially visible to the south and south-west from the existing A47 road through breaks in the trees and buildings along the A47 and Main Road.
- 6.7.12. The main church building and its church yard are visible from a small section of Main Road within North Burlingham. This is limited to immediately south of the church, with modern buildings and vegetation blocking longer views.

- 6.7.13. The setting of the asset is now quiet and secluded, with a strong presentation to the south, preserving access of sunlight to the interior through the main south windows. Road noise can be heard in the church yard, and vehicles can be glimpsed through gaps in the planting between Main Road and the A47 verge. The presence of the road was assessed as noticeable during survey, but not particularly intrusive. However, it is reasonable to assume that the reduced road use during the Covid-19 pandemic had an influence and a larger effect has been assumed for the purposes of this assessment.
- 6.7.14. These elements of the setting of the asset make a moderate positive contribution to the value of the church.

Church of St Peter (1304547)

- 6.7.15. This Grade II listed medieval church is within the Burlingham St Peter parish (North Burlingham). The church building was heavily restored in the late 19th century. However, the tower collapsed in 1906 and the church was closed in 1935. Subsequently the building is now in ruins and overgrown, with considerable damage to its fabric. Much of the value comes from its early architectural form. The church holds a relationship and some group value with that of the neighbouring parish Church of St Andrew which is located close-by as both churches are within North Burlingham. Much of the contents of this heritage asset were moved to the Church of St Andrew following its abandonment. These factors give the asset a **medium** level of heritage value.
- 6.7.16. The setting of the asset is defined by its relationship to the Church of St Andrew (1051522) and North Burlingham. As with its sister church, the asset has a rural setting, tempered by being placed on the former line of the main route through this area, Main Road.
- 6.7.17. The asset is in private land and not accessible to the public. The former visibility of the asset is badly degraded, as it is effectively screened on all sides by woodland to the north and east, buildings to the west and tall hedges and trees to the south. The setting of the asset is therefore now somewhat secluded, being partially screened behind a large hedge on Main Road.
- 6.7.18. The relationship with the Church of St Andrew is in that both are accessed off Main Road and through documentary records of the movement of fixtures and monument between them. The churches are not visible from one another nor from any common viewpoint.
- 6.7.19. Road noise can be heard in the former church yard, and vehicles can be glimpsed through gaps in the planting between Main Road and the A47 verge. As noted above, the scale of this effect on the setting off the church has been assumed to be larger under normal circumstances.

- 6.7.20. These elements of the setting of the asset makes a moderate positive contribution to its value.

Owls Barn and House at Owls Barn (1304603, 1372653)

- 6.7.21. Owls Barn and House at Owls Barn are both Grade II listed buildings and are located immediately to the east of Blofield and date to around the early 18th century. These heritage assets have a shared setting together on the outskirts of Blofield within a historic context of a rural landscape and have been grouped for the purposes of this assessment. The assets have been converted for domestic use in the 20th century. These factors give the asset a **medium** level of heritage value.
- 6.7.22. Positive elements of the setting of these assets is provided by their relationship to each other ('group value') and the rural landscape, with former panoramic views of the surrounding farmland demonstrative of their former agricultural function. Owl Barn itself has owl holes visible in the roofline, further signalling this relationship.
- 6.7.23. The current setting of the assets is semi-rural, with modern buildings to the east and west screening views on those sides. The farmland to the south is still visible dominant in the setting. The farmland to the north is partially screened from the assets by a tall hedge. The setting of the asset makes a moderate positive contribution to their value.

Key non-designated heritage assets

- 6.7.24. A total of 119 non-designated assets have been identified within the study area. These are made up of:
- Ninety-two archaeological and built heritage assets identified from the NHER
 - Twenty-seven archaeological and built heritage assets identified from historic mapping and site visits
 - Numerous anomalies and archaeological remains which were identified from geophysical survey and archaeological trial trenching undertaken for this assessment. These have been assembled into eight broad groups of prehistoric, Roman, and medieval settlement remains, and multi-phase, undated field systems. Since these areas include assets previously recorded, they are not included in the totals. They are better understood in these groups rather than multiple individual features.
- 6.7.25. Assets that will be significantly affected by the proposed scheme are discussed below. For a full account of non-designated assets and non-significant effects refer to appendix 6.1 (**TR010040/APP/6.2**).

North Burlingham Park (MNF61984)

- 6.7.26. North Burlingham Park is the non-designated former parkland which surrounds Burlingham Hall and its formal gardens. Its south-western corner is adjacent to the Proposed Scheme at the proposed Acle Road junction and it extends as far west as St Andrew's Church, enclosing the northern side of North Burlingham. The parkland forms the setting of the hall. The 1797 Faden's Map of Norfolk shows the parkland, within the historic parish of Burlingham St Peter, bordered completely by trees, with tree lined entrance avenues from the north, east and south. The parkland was altered in appearance and shape at the turn of the 19th century with the inclusion of a further south-western portion, largely of worked arable land. The associated Burlingham Home Farmhouse is located to the west, outside of the parkland. The parkland is entirely surrounded by agricultural land, except to the south where it is bordered by the village of North Burlingham. This rural context and the associated estate-owned arable land informs the setting of the heritage asset.
- 6.7.27. The demolition of most of Burlingham Hall and its abandonment in the 1950s reduced much of the heritage setting and historic and aesthetic value of the parkland, which negatively impacted its heritage value. In addition, encroachment into the southern extent of the parkland over the 20th century from the former horticultural school (MNF46969), which led to the conversion of much of the parkland to agricultural land. The parkland is now modern agricultural land with dispersed parkland plantation. Despite these plantations providing some shape and depth within the parkland, due to the demolition of the main hall and agricultural enclosure of fields within the parkland, the historic designed vistas within the parkland, which would have once contributed historic value, have largely been removed. The northern approach along a tree-lined avenue remains, although this abruptly ends at a plantation with no access to the site of the former hall. There are also views towards the centre of the parkland, towards the site of the former hall from the east, viewed from South Walsham Road. These views contribute very little to the overall historic setting and heritage value of the parkland asset due to a lack of ability by the viewer to decipher a difference in these vistas from that of the surrounding rural landscape.
- 6.7.28. The numerous surrounding plantations provide a sense of shape and structure to the parkland which in turn positively contributes to the setting and historic value of the asset. Burlingham hall has been rebuilt on a modified plan and has been reoccupied recently. The heritage value of the asset remains **low**.

Poplar Farm (MNF12283)

- 6.7.29. The non-designated farmhouse at Poplar Farm dates from the 1820s, although many of the farm structures (barns and sheds) likely date from the 18th century.

Early 19th century mapping shows the layout of many of these structures within the farmyard, prior to the rebuilding of the farmhouse in the 1820s which is on the site of a previous farmhouse. The group together hold local interest in terms of evidential value, as a result of the age and vernacular style of some of these structures. Overall, the heritage asset group is of local interest and holds **low** heritage value.

- 6.7.30. The setting of the heritage assets is principally defined by the relationships of the working farm buildings as a group as well as the agricultural (arable) context. The farm also has a relationship to the route of the A47, which would have been an important transport link for the farm.
- 6.7.31. The current setting of the asset is largely rural, with the urbanising element of the current A47 traffic a dominant influence to the north. The setting of the asset makes a moderate positive contribution to its value.

Oaklands Former Rectory (BLO27)

- 6.7.32. This non-designated building, east of Poplar Farm and approximately 150m south of the current A47, first shown on the 1st edition Ordnance Survey map (1846-1899). The building appears to be in good condition but has been extended to the east and south. It is still in use as a residence but, it no longer functions as a rectory. The asset derives its value primarily from its relationship to the Church of St Andrew in North Burlingham and is of **low** value. The setting of the asset is partly derived from its relationship to the Church of St Andrew in North Burlingham, which is accessed via Lingwood Road, the A47 and Main Road. The asset also has an enclosed rural character in its setting, provided by the tall hedges surrounding it. The setting of the asset makes a large positive contribution to its value.

Old Post Office (BLO10)

- 6.7.33. This non-designated building, north of Poplar Farm and adjacent to the current A47, was first shown on the 1st edition Ordnance Survey map (1846-1899). The current building on the site seems to be dated to the turn of the 20th century and has been substantially altered as a dwelling. The asset is of **low** heritage value.
- 6.7.34. The setting of the asset is made up principally of its relationship to the road, as a communal building for local residents. The urbanising effect of modern traffic is somewhat lessened by screening. The setting of the asset makes a moderate positive contribution to its value.

Post-medieval guidepost and milestones (MNF62994, MNF62995, BLO21)

- 6.7.35. There are two non-designated milestones noted by the NHER within the Proposed Scheme boundary. Of these, MNF62995 at the western end of Main Road in North Burlingham, was not seen during site visits as the area was overgrown and its presence could not be verified. A follow up survey by ecologists confirmed the location of the asset, which appeared to be in a fair condition.
- 6.7.36. The milestone within Blofield on Yarmouth Road is a white painted triangular cast-iron post with black lettering. It is set back from the pavement, partially within a hedge. The guidepost (BLO21) is at the junction of Acle Road and the B1140. It is an iron fingerpost, painted white with black lettering and may have been restored in the modern period. Both are first depicted on the 1st edition Ordnance Survey map (1846-1899).
- 6.7.37. Cast-iron road markers are under threat nationally due to vehicle collisions, neglect and theft. They are often removed during road improvements and either not replaced or replaced at very different locations.
- 6.7.38. The design of road markers is often highly regional, being based on local procurement and batch ordering for particular routes. During the site visits, other examples of mileposts and guideposts nearby but outside the study area were noted to be of similar design, pointing to a regionally distinctive character.
- 6.7.39. The setting of guideposts in general is made up of its physical location and its visibility and legibility in its immediate surroundings. It also has group value with all other guideposts in the area, as the directions given are to the nearest settlements and historically, route finding would have depended on chaining together these directions. The setting and group value of milestones is similar but, with the difference that the lack of a directional arrow is replaced by the uniformity of the design across all milestones on the same turnpike.
- 6.7.40. For the reasons of group value, regional distinctiveness and fragility, these assets are assessed as of **medium** heritage value. The setting of the assets (including group setting) makes a moderate positive contribution to their value.

Beighton House (BLO26)

- 6.7.41. A non-designated house visible on 1st edition Ordnance Survey mapping (1856-1899) and labelled "Beighton House". This property is also referred to as "The White House" in several places in the local area as shown on historic mapping and has changed most often in the modern period. This is a white rendered brick, two storey building with three bays and pitched slate roof. The principal elevation faces the A47 and has 16-pane windows on the upper storey. The front door is

decorated with half-columns on either side. The windows on the lower storey have been replaced with sympathetically designed UPVC double glazing. A modern conservatory has been added to the western elevation. There is an L-shaped single storey outbuilding to rear. The asset is of **low** heritage value.

- 6.7.42. The setting of the asset relates to the route of the A47, as the main door is accessed from the road, and Acle Road, which also forms a property boundary to the west. Several footpaths are shown on the historic mapping, crossing at the junction of Acle road and the A47. The historic mapping shows an area of dense woodland surrounding the property to the south and east, which has been gradually lost over time. The asset is visible in long views from the A47 to the west, from the eastern end of Main Road and from parts of South Walsham Road. The rural landscape is an important aesthetic in the asset's setting, with long views over fields to the north and east. Setting makes a moderate positive contribution to the value of the asset, as the form coupled with the setting suggest that this was possibly a coach house.

Known archaeological remains, geophysical anomalies, cropmarks and findspots (MNF67754, MNF67756, MNF55628, MNF67748, MNF55616, MNF67749, MNF67747, MNF43153)

- 6.7.43. The precise extent of these assets is unknown despite the archaeological surveys undertaken to date. These surveys have also not found some features previously recorded and identified additional previously unknown features. Full details of the assets and surveys are available in Appendices 6.1, 6.2, 6.3 and 6.4 (**TR010040/APP/6.2**). For the purposes of this assessment, it is more useful to group the assets and survey results into zones² of archaeological potential, linked by location and character. These are listed below and shown on Figure 6.4 (**TR010040/APP/6.3**).

- Zone 1 – A single agricultural field south of the existing A47, east of Waterlow and continuing east for 250m and south for 230m. The northern part of this field has been damaged by a gas pipeline and construction of the current A47
 - Archaeological features dating to the Late Bronze Age and Roman periods were identified here. A large right-angled ditch, which may be an enclosure for a small agricultural and/or domestic site occupies the western third of the field, while other pits and ditches of Roman date with large amounts of Roman pottery and building material are spread over the remainder. Evidence of metalworking was also recovered.
 - Includes MNF67752, findspots of Prehistoric to Medieval artefacts.

² The zones are numbered sequentially west to east. The numbering is different to that used in the trial trenching report to take into account the wider archaeological context. Broadly, zone 1 corresponds with area A in the trenching report, zones 4 and 5 correspond to Area B and zones 7 and 8 correspond to Area C.

- This zone contains clearly defined and well-dated remains and is very likely to contain more of the same. The drop-off in artefacts and quality of remains in the surrounding area (see zone 2 below) suggests this represents a moderately sized farmstead type settlement, with elements of field systems surrounding it and may have been occupied from the late prehistoric into the Roman period.
- The zone has potential to contribute to regional research objectives to investigate Bronze Age flint working and settlement in non-gravel landscapes and well as development of enclosed settlements from the Bronze Age through Roman periods (Medlycot 2011).
- This zone has been assessed as of **medium** value.
- Zone 2 - Fields immediately surrounding Zone 1
 - Pits and ditches of Iron Age date were identified here but, were generally small and damaged by ploughing.
 - Includes MNF67753, MNF67752, MNF67754, MNF25248 and MNF67751. These assets are broadly of the same category, findspots of Prehistoric to Post-Medieval artefacts recovered from the surface. This supports an interpretation of a broad range of dates for these features however, their proximity to Area 1 and the presence of some dating evidence means that these are likely to indicate that further remains will be found here, including possible dating evidence.
 - This zone has the potential to contribute to the regional research framework in terms of the context of remains in zone 1 as well as to the general understanding of Prehistoric, Roman and Medieval field systems in the local area. The presence of a single Iron Age ditch and a pit may make a minor contribution to the research objective to investigate the development of Iron Age co-axial field systems and the Bronze Age/Iron Age transition (Brown and Glazebrook, 2000).
 - This zone has been assessed as of **medium** heritage value.
- Zone 3 - Agricultural fields surrounding Poplar Farm, extending 320m west of Lingwood Road and 350m east. The zone is crossed by a gas pipeline, which is likely to have disturbed any remains. Other areas of disturbance are a small woodland east of Poplar Farm and the farm itself, including drainage ponds and vehicle standing areas.
 - Pits and ditches containing Late Bronze Age pottery, flints, fired clay and heat-altered stone were identified across the zone. Iron Age pottery and a small amount of Roman fired clay were found in the eastern part of the zone, possibly associated with what might be a trackway.
 - Includes MNF67756 (geophysical anomalies), MNF67759 (an area of geophysics obscured by the gas pipeline) and MNF55628 (undated cropmarks of field boundaries). Immediately to the north are a large number of cropmarks interpreted as Bronze Age to Roman field boundaries (MNF55217) and findspots dating from the Roman and Medieval periods (MNF62561). The findspots and cropmarks support the

interpretation of this zone as a possible extension of the prehistoric field system to the north.

- This zone has the potential to contribute to the regional research framework objectives to investigate Bronze Age flint working in non-gravel landscapes and well as the Bronze Age/Iron Age transition. However, the remains are generally shallow, and the zone is heavily disturbed by modern services and ploughing. The main research value of the zone would be to contribute to the understanding of the field system to the north.
 - This zone has been assessed as of **medium** heritage value.
- Zone 4 – Two agricultural fields south of North Burlingham, starting at the junction of the current A47 and Main Road and extending approximately 350m west. The zone has a buried gas main running through it, as well as several overhead lines. There is a broad hedge line running north-south through the middle of the zone. The pipeline is likely to have removed any archaeological remains within its working area but, this is not precisely located. The field boundary hedgerow is also likely to have disturbed archaeology beneath it, but to an unknown degree. There is a strip of woodland to the east which is likely to have disturbed any archaeology within its footprint and so has been excluded from the zone.
 - A large number of pits, ditches and gullies of Late Bronze Age and Roman date were identified in this zone. A burnt pit was found with both late bronze age and Roman pottery in it. This has been interpreted as an oven. Archaeological testing in this zone has been very constrained due to the presence of utilities.
 - Contains a known prehistoric flint findspot (MNF 67750), supporting the Bronze Age dating above. The zone is likely to be part of the same agricultural and rural industry activity discussed below for zone 5 but, has been split into its own zone in part because it is more agricultural in character and is less concentrated in terms of features and in part due to the potential difficulties for mitigation, given the buried and overhead services. This is discussed in more detail in section 6.9.
 - This zone has the potential to make a contribution to the regional research objectives to investigate Bronze Age and Roman industrial activity.
 - The zone is assessed as of **medium** heritage value.
- Zone 5 – Two single agricultural field south of the existing A47, west of Lingwood Lane and continuing west for 320m and south for 110m and east of Lingwood Lane extending 100m east and 70m south. This zone is crossed by a gas pipeline. The working areas of the pipeline will have disturbed the archaeology within its footprints, but the precise layout of the area is unclear. There is a strip of woodland to the west which also contains a gas pipeline and is likely to have disturbed any archaeology within its footprint and so has been excluded from the zone.
 - A Bronze Age cremation burial was found in the south of this zone, as well as extensive pits and ditches suggesting agricultural activity in the Bronze Age and Roman period. There were also a number of features

indicating industrial activity; a possible quarry pit of Late Bronze Age and Roman date, a quarry pit which was dated only by a single medieval pottery sherd and may be earlier, a possible kiln of unknown date and several post-holes which indicate a wooden structure.

- Contains MNF67748 and MNF67749 which include prehistoric and Post-Medieval finds, supporting the prehistoric evidence above. A Saxon Brooch (MNF25942) was also found here. A complex of fragmentary and undated cropmarks is located to the south (MNF55616) but, there is not a clear relationship to the remains in the zone. The eastern part of the zone was also the site of a former plantation/nursery (BLO17). While this would usually be an indication that remains would have been disturbed, the findings of the trenching show that there was a particularly deep pit, interpreted as a Late Bronze Age quarry pit, which survived well at depth. This may be an indication that the plantation/nursery was used for small trees, that were harvested or moved elsewhere when larger.
- This zone has the potential to make a good contribution to the regional research objectives to investigate Bronze Age and Roman industrial activity, as well as bronze age burial practice and settlement patterns. The presence of a single cremation burial indicates a high potential for further burials.
- The zone is assessed as of **medium** heritage value.
- Zone 6 – Two agricultural fields immediately south of zone 5.
 - Three undated ditches were found here, corresponding to geophysical anomalies. One of these anomalies extends into zone 5, where it was also identified in trenching, but with no dating evidence.
 - The zone contains fragmentary, undated cropmarks (MNF55616).
 - The archaeological potential of the zone and its potential to contribute to regional research framework objectives is similar to zone 5. However, the geophysical survey results in this area are clearer than in zone 5 and so the potential for further unexpected substantial remains is lower. The area also has a high potential for further cremation burials due to proximity to the burial in zone 5.
 - The zone is assessed as of **medium** heritage value
- Zone 7 – A single agricultural field south of the existing A47 and west of Acle Road, extending between 150m and 200m south of the A47.
 - A large number of features were identified by trenching in this zone. These were mostly undated ditches and pits but included some dated to the Bronze Age, with possible continued use into the Roman period. Some medieval artefacts were recovered but do not strongly suggest specific activity in this period. A deep ditch, potentially dated to the prehistoric period was found in the north, corresponding to a cropmark of a rectilinear enclosure. A ring ditch and post holes were identified in the south of the area, suggesting prehistoric settlement but, no dating evidence was recovered.

- The zone contains findspots of prehistoric worked flints (MNF43153), supporting the interpretation of this area as a prehistoric settlement and agricultural site.
- The zone has potential to contribute to regional research objectives to investigate Bronze Age flint working and settlement in non-gravel landscapes and well as development of enclosed settlements from the Bronze Age through Roman periods.
- The zone is assessed as of **medium** heritage value.
- Zone 8 – A single agricultural field north of the existing A47, west of South Walsham Road.
 - A small number of features were identified here, mostly undated, save for two ditches, one Iron Age and one Medieval, in the east of the zone. The undated features included pits and ditches similar in character to zone 7, two of which may indicate a trackway in the western part of the zone.
 - The zone contains findspots of prehistoric flint flakes as well as an early Saxon brooch, medieval buckles, post medieval buckles and mounts for horse harness and a sword belt (MNF61621). This gives a broad range of dates that could be associated with the undated features. The zone is part of the area of parkland associated with North Burlingham Park (MNF61984) and in particular was the site of a former plantation woodland (BLO18). This woodland is likely to have disturbed archaeological remains within its footprint but, the possible trackway, ditch and pit in trench 88, which was wholly within the boundary of the plantation, show that some archaeological remains may survive. The former site of a WWII gun emplacement is noted in the zone (MNF55435). This was not identified in the trenching results but, this is not unusual, as many gun emplacements were temporary sites that may have consisted of a concrete or steel base resting on the surface or within only a shallow pit and were removed after the war.
 - The potential of the zone to contribute to the regional research framework objectives is similar to zone 7, as this area may contain remains which are part of the same activity as zone 7. However, there is also the potential for contribution to our understanding of the Bronze/Iron Age transition and early medieval activity. Despite the lack of deep, well preserved remains, this potential time depth increases the value of this zone for research.
 - The zone is assessed as of **medium** heritage value

Unknown archaeological remains

6.7.44. The remainder of the redline boundary could be grouped into a further archaeological zone, as the archaeological fieldwork to date is sufficient to characterise the likely remains. However, as this is spread out and interrupted by many roads, buildings, hardstanding, service trenches and woodland, it has not been presented as a “zone 9” to avoid a confusing presentation.

- 6.7.45. The areas of the proposed scheme outside of the 8 zones include areas without significant geophysical or archaeological trenching results as well as untested areas along the southern edge of the proposed scheme boundary. The trenching results show a good correlation with the geophysical survey. However, enough features were found through excavation that were not present on the geophysical or cropmark surveys that it must be assumed that the remainder of both the surveyed and un-surveyed land retains further archaeological potential.
- 6.7.46. The character of identified remains is remarkably consistent across the scheme and this can be expected to inform the un-discovered remains. The remaining open land within the Proposed Scheme boundary has the potential for remains which will contribute to regional research framework objectives as listed above for the 8 zones. However, the unknown remains are likely to be less substantial than the known remains and related to the identified activity. The potential value of any such remains might technically be of medium value, but as the value would be principally derived from their contribution to our understanding of the wider context of the 8 zones, they are more correctly of **low** heritage value in themselves. This would not preclude individual features or artefacts from being of higher value.
- 6.7.47. The likelihood of finding unknown remains across the entire Proposed Scheme is high, save for the following areas which have entirely or substantially removed the potential archaeology:
- Road surfaces and hardstanding which will have removed any archaeological remains within their footprints
 - Modern ponds and drainage ditches which will have removed any archaeological remains within their footprints
 - Buried services and their working areas which will have removed any archaeological remains within their footprints
 - Extant mature and semi-mature woodland, where root action and grubbing up prior to construction would destroy any potentially preserved archaeological remains.
 - 19th century and later quarries which are likely to have removed any earlier remains and are of negligible heritage value in themselves.

6.8. Potential impacts

- 6.8.1. This section provides an overview of potential significant impacts as a result of the Proposed Scheme during construction and operation.

Construction impacts

Temporary construction impacts

- 6.8.2. Temporary construction impacts would last for all or part of the construction period. These impacts include:
- noise generated by construction work which could impact the quiet, rural setting of heritage assets
 - movement of construction plant within the setting of heritage assets
 - siting of construction compounds, including the introduction of noise and lighting and potential impact on the setting of heritage assets
 - siting of haul routes and traffic diversions introducing traffic and plant movement deeper into the rural setting of heritage assets
- 6.8.3. These impacts are short term and reversible, which means they will cause no permanent change. Therefore, while temporary impacts are predicted for the Proposed Scheme, none of these will have residual effects.
- 6.8.4. Construction noise and the presence of temporary industrial structures, plant and fencing will have a minor impact on the settings of the Grade II Owls Barn and the House at Owls Barn (1304603 and 1372653), with a **slight adverse significance** of effect on the medium value asset.
- 6.8.5. The above factors will have a moderate impact on the settings of the non-designated Poplar farm (MNF12283), Oaklands Former Rectory (BLO27), the milestone in North Burlingham (MNF62995), North Burlingham Park (MNF61984) and Beighton House (BLO26), with a **slight adverse significance** of effect on these low value assets.
- 6.8.6. Traffic diversions during construction will increase traffic noise, visual intrusion and possible access difficulties in the settings of St Andrew's Church (1051522), Grade I and II listed buildings in Lingwood (1051521, 1263410, 1051477, 1152881, 1051526 and 1051527). These impacts will be of negligible magnitude, producing **slight adverse significance** of effects on the high value churches of St Andrew and St Peter, and a **neutral significance** of effect on the grade II medium value assets. DMRB guidance allows for an assessment of neutral or slight significance in the case of medium value assets and neutral has been chosen, as the primary impact of the increased low-speed traffic would be difficulty of access. This is not as much a problem for private residences as it is for the churches, which will continue to have services, (allowing for current and future possible pandemic controls) but will have their communal value temporarily affected.

Permanent construction impacts

- 6.8.7. Permanent impacts occur from works carried out during the construction period which would result in a direct or indirect permanent impact. Permanent impacts are likely to include:
- Earthworks required for construction of the Proposed Scheme which have the potential to permanently impact the setting of heritage assets.
 - Structural damage to historic buildings due to proximity of works (vibration or other ground movement).
 - Excavation required for construction of the Proposed Scheme, site compounds, and haul routes, which have the potential to permanently remove archaeological remains.
 - The appearance of the Proposed Scheme, including landscaping works and presence of structures and signage which have the potential to permanently alter the setting of heritage assets.
- 6.8.8. Poplar Farm (MNF12283) would experience setting impacts from the removal of rural context. This would be predicted to have an impact of moderate magnitude on the low value asset, with a **slight adverse** significance of effect.
- 6.8.9. North Burlingham Park (MNF61984) is predicted to experience physical loss and alteration to parts of the south western corner of the park for the proposed junction layout. This would be predicted to change the setting by reducing rural context and increasing urbanisation. The asset is of low baseline value and the impact predicted to be of moderate magnitude, giving rise to a predicted impact of **slight adverse** significance.
- 6.8.10. The guidepost on Acle Road (BLO21) would be removed as part of the works for the Proposed Scheme. The guidepost is of medium value and total removal is predicted as a major magnitude of impact with a significance of effect predicted as moderate or large. In this case, the value of the asset is at the lower end of medium value as it derives mostly from group association and regional distinctiveness, and a **moderate adverse** significance of effect is predicted.
- 6.8.11. Oaklands Former Rectory (BLO27) would experience an impact on its setting due to the truncation of Lingwood Road, severing it from the previous route to its church. This would be predicted to have an impact of moderate magnitude on the low value asset, with a **slight adverse** significance of effect.
- 6.8.12. There are potential impacts predicted on the settings of several built heritage assets of up to high value. These are the Grade I listed Church of St Andrew (1051522), Grade II listed Church of St Peter, North Burlingham (1304547), Owls Barn and House at Owls Barn (1304603, 1372653), the Old Post Office (BLO10)

and, Beighton House (BLO26). These impacts would derive from the presence of new road structures, adding urbanizing elements and removing parts of the existing rural landscape. The magnitude of these potential impacts would be negligible due to the relatively small change to the existing road corridor and the low visibility of the proposed junctions from those assets. This would give a possible worst-case significance of effect of **slight adverse**. In the case of the Old Post Office, the increased distance from the busy carriageway as well as reinstatement of the footpath linking the asset to Blofield would be a minor beneficial impact, giving a **slight beneficial** effect. Details of the assessment of impact with non-site specific mitigation can be found in Appendix 6.1, Table 6-5 (**TR010040/APP/6.2**).

- 6.8.13. The known and potential archaeological assets have been grouped into 8 zones. An assessment of impacts for individual features and assets from the HER and desk-based resources is available in Appendix 6.1, Table 5 (**TR010040/APP/6.2**). The following description of predicted impacts refers only to the zones rather than the individual assets within each zone.
- 6.8.14. The proposed scheme will remove all identified and potential remains within its footprint. As the precise layout of storage areas, haul routes and site compounds cannot be committed to at this stage, it was assumed that the whole of the proposed scheme boundary will be disturbed, except for the current road elements to be retained. The magnitude of impact on zones 1 to 8 is major and the zones are of medium value, with a predicted **moderate/large adverse** impact before mitigation.
- 6.8.15. The potential archaeological remains affected by the Proposed Scheme outside of zones 1-8 are assessed to be of low value and may also be wholly removed during construction. A magnitude of impact of major is predicted and evaluated as a **slight/moderate** adverse impact before mitigation.
- 6.8.16. The physical removal of parts of historic landscape types and the setting changes from increased urbanising elements are predicted to have negligible magnitude of impact on the historic landscape. As the historic landscape types are of generally low value, the impact significance is predicted to be neutral to slight. The potential slight impact is for the “parks and recreation” historic landscape type due entirely to the impact on North Burlingham Park. As this impact is discussed in terms of the impact on the asset MNF61984, the impact on the historic landscape type has not been discussed to avoid double counting. This brings the overall significance of effect to **neutral**.

Operational impacts

6.8.17. Operational impacts would arise for heritage assets from the use of the Proposed Scheme. Operational impacts are likely to include:

- changes to traffic movements from the Proposed Scheme, which have the potential to alter the setting of heritage assets
- road lighting around the altered junctions, which have the potential to alter the setting of heritage assets:
 - The Old Post Office (BLO10), Owls Barn and the House at Owls Barn (MNF51094 and MNF511115) would be predicted to experience changes to their rural settings through potentially increased traffic noise and lighting, either through being closer or from the elevated parts of the proposed junctions. These are all small changes to the existing environment overall and would not be above minor magnitude for almost all assets. The predicted impacts are of **negligible** significance and are reported in more detail in Appendix 6.1, Table 5 (**TR010040/APP/6.2**).
 - Poplar Farm (MNF12283), Oaklands Former Rectory (BLO27) and North Burlingham Park (MNF61984) would experience a larger change in urbanising effects from traffic noise and vehicle lights (more so during winter). The magnitude of this impact would be moderate, giving a **slight adverse** significance of effect.

6.9. Design mitigation and enhancement measures

Design measures

- 6.9.1. Design intervention is mitigation embedded into the design of the Proposed Scheme and is achieved through an iterative process.
- 6.9.2. Sensitive design of planting of vegetation along the route corridor has been applied to mitigate potential impacts to the setting and location of heritage assets within the study area. The planting design is presented in chapter 7 Landscape and Visual (**TR010040/APP/6.1**).
- 6.9.3. The proposed planting layout would reduce the predicted adverse impacts of the new proposed junctions and traffic on the setting of nearby heritage assets including the Grade I listed Church of St Andrew (1051522), Grade II listed Church of St Peter, North Burlingham (1304547), Grade II listed Owls Barn and House at Owls Barn (1304603, 1372653), Grade II listed Lingwood Lodge (1051527), Beighton House (BLO26), Oaklands Former rectory (BLO27), Poplar Farm (MNF12283) and the former North Burlingham Park (MNF61984). The majority of these impacts are not significant and are reported in Appendix 6.1,

Table 5 (**TR010040/APP/6.2**). Specific mitigation to help reduce significant impacts is discussed below.

- 6.9.4. The landscape and planting design has been developed to provide texture screening and avoids block planting. This is in keeping with the current character of the immediate setting of the existing A47 and surrounding area with open fields bordered by dispersed tree lines. This will reduce potential impact on the historic landscape as well as the setting of built heritage.
- 6.9.5. The contextual link between The Old Post Office (BLO10) and the existing A47 has been maintained by keeping the existing A47 route as a local link road, with a pavement. This preserves the relationship of the asset to the road and reinstates lost pedestrian access. Amenity of pedestrian journeys in this area has been steadily eroded with historic changes in traffic type and speed over the last 100 years.
- 6.9.6. The working plans for the Proposed Scheme boundary around the milestone on Yarmouth Road (MNF62994) have been amended to make sure the asset is excluded from the works area.
- 6.9.7. Drainage south-west of Waterlow, which would have an effect on the setting of the Grade II Owls Barn and the House at Owls Barn (1304603, 1372653) as well as the setting of the possible barrow cemetery (MNF12781, MNF12782, MNF12783, MNF55681) has been removed.
- 6.9.8. Design of the footpath, fence lines and planting between Main Road and the A47/Acle Road junction has taken the location of the Milepost (MNF62995) into account and will ensure the asset is visible from the path. This will have the effect of restoring some of the asset's original context and enhancing public perception of the mile post and, by extension, all other mileposts on the former Yarmouth Road turnpike and the former turnpike itself.
- 6.9.9. An opportunity for enhancement through provision of information has been identified. The new layby on the proposed eastbound carriageway west of Main Road would create new views and spaces where the setting of the former parkland (MNF61984) could be appreciated by the public. Alternatively, the proposed footpath adjacent to the Milepost on Main Road may be a suitable location. An information board in this location could include information on the cultural heritage of the area. The need for, location and design of the board would be developed in consultation with NCCES, following the results of other archaeological mitigation as part of agreement of appropriate publication and dissemination of those works.

- 6.9.10. In addition, the proposed new layby would be named “Burlingham Park Layby” to extend the reach of the information to more road users. Discussion with Highways England central team and several county advisors on other projects suggest this may have other benefits, such as decreased fly tipping, easier reporting of issues, improved wayfinding for emergency services and emergency refuge use. These benefits are by no means proven but, the scheme presents an opportunity to study the potential benefits on a small scale with little cost.

Construction mitigation measures

- 6.9.11. Construction would be carried out using industry best practice and in accordance with implementation of an Environmental Management Plan (EMP) to minimise potential adverse effects from noise and vibration as well as dust and accidental damage. Compliance with the Environmental Management Plan (EMP (TR010040/APP/7.7)) will be secured by a requirement in the DCO. No specific measures outside these best-practice measures are recommended for temporary effects on heritage assets.
- 6.9.12. In addition to the identified Proposed Scheme design mitigation measures, historic building recording of the structures within Poplar Farm group would be carried out to Level II of Historic England’s guidance for investigating and recording historic buildings (Historic England, 2016). The works will include recording of the setting of the building as well as the physical condition of the northernmost structures. This is required due to the loss of rural setting.
- 6.9.13. During construction, Poplar Farm will be monitored for vibration which may affect the structures. Protocols will be established following best practice guidance to ensure vibration levels are kept within acceptable tolerances to avoid damage and to halt or alter works methodology should tolerances be exceeded. This is not strictly necessary, as no physical impacts are predicted but is prudent, following the precautionary principle and the relatively low cost of monitoring.
- 6.9.14. The milestone on Yarmouth Road (MNF62994) will be protected from the works site with fencing and conserved and restored. An appropriate specialist will be consulted on the methodology to conserve and restore. The asset will then be proposed for listing to Grade II to enhance its future protection. Conservation actions may require temporary removal of the milepost from site.
- 6.9.15. The milestone at the junction of Main Road and the A47 (MNF62995) will be protected from the works site with fencing and conserved and restored. An appropriate specialist will be consulted on the methodology to conserve and restore. The asset will then be proposed for listing to Grade II to enhance its future protection. Conservation actions may require temporary removal of the milepost from site.

- 6.9.16. The guidepost on Acle Road (BLO21) will be removed from the works site and conserved to ensure its safety. At an appropriate point during works, it will be reinstated as close as possible to its original location. An appropriate specialist will be consulted on the methodology to remove, conserve or restore, store and reinstate the asset. The asset will then be proposed for listing to Grade II or incorporation into the Norfolk HER to enhance its long-term protection.
- 6.9.17. The heritage value of the known and potential archaeological resource within the footprint of the Proposed Scheme lies in its potential to contribute to the regional research framework objectives. Preservation by record would be an appropriate method to mitigate adverse effects. Identified remains are not of such complexity and sensitivity that preservation in situ would be necessary. However, good practice dictates that where remains need not be disturbed, they should be protected to ensure they are preserved for the future. Throughout detailed design development at PCF stage 5, design proposals for temporary structures, services, haul routes, storage methods etc should have regard to this and preserve remains where reasonably practicable by excluding open areas from works with appropriate fencing.
- 6.9.18. All zones will be subject to archaeological excavation and recording by various methods. The precise scope of this work will be agreed with Norfolk County Council Environmental Services (NCCES). Archaeological methods may need to adapt to changing conditions and discoveries throughout the works. Recommendations are set out below but, these should be seen as a strategy and a starting point for agreement.
- Pre-construction excavation for zones 1, 5, 7 and 8. These zones contain the main locations of sensitive remains and will likely require the most time to excavate appropriately. Sampling levels should be agreed in advance of works but, will require flexibility to adapt to the emerging archaeological remains in consultation with NCCES. Advance excavation will limit the risk to the subsequent construction phase programme.
 - Construction-integrated recording for zones 2, 3 and 6. These zones are less archaeologically dense and complex than zones 1, 5, 7 and 8. The time required for adequate recording will be less and it may be more efficient to schedule the works during topsoil stripping for construction. This could take the form of archaeological monitoring of topsoil stripping by the civils contractor with programme allowance for recording of exposed remains before further earth-moving.
 - Construction-integrated recording for Zone 4. This zone is potentially as complex and densely packed with archaeological remains as zone 5 but, the presence of multiple services means that it would be difficult to design pre-construction works that can be undertaken safely and in a manner which allows coherent recording of the fragmentary archaeological remains. Archaeological recording here should be undertaken after the

removal/deactivation of buried and overhead services and before the main civils engineering works. This may require multiple phases of work as individual services are taken offline and clearances granted.

- Archaeological monitoring with potential construction integrated recording in all other parts of the scheme save for the exclusions set out in section 6.5 above. This work should focus on the mapping of archaeological features related to zones 1-8 and recovering dating evidence to clarify the results of previous excavation in those areas. The monitoring will also provide a safety net to catch any unexpected remains of archaeological value. The monitoring would be targeted on areas of impact defined during detailed design of temporary works at PCF stage 5.
- 6.9.19. During construction, a protocol for unexpected archaeological discoveries will be developed as part of the EMP (**TR010040/APP/7.7**). This protocol will be agreed with Historic England and NCCES and is likely to include:
- Toolbox talks or other instruction methods to allow operatives to identify potential archaeological remains
 - Protocols for protection, recording, and archiving of relevant finds
 - Protocols and communications plans for temporarily halting works and consulting with the relevant stakeholders in the event of unexpected remains of high or very high value / sensitivity
- 6.9.20. All recording and conservation measures will be secured through DCO requirements and captured within a Written Scheme of Investigation (WSI) which will be agreed with Historic England, NCCES and the Broadland District Council Conservation Officer as appropriate.

6.10. Assessment of likely significant effects

- 6.10.1. This section details the likely significant adverse or beneficial residual effects predicted with mitigation described in section 6.9 in place. For an assessment of all cultural heritage, including those where no likely significant effects have been reported, refer to Appendix 6.1, Table 5 (**TR010040/APP/6.2**).
- 6.10.2. There are no assets identified where no residual impacts can be mitigated. However, there are some assets where some effects cannot be mitigated fully, such as the loss of part of Burlingham Park and the severing of the route between Oaklands Former Rectory and its church. Measures have been proposed to soften these impacts in character but, the matrix approach set out in DMRB LA104 and LA106 produces the same magnitude and significance of effect

Construction temporary effects

6.10.3. The predicted effects are short term and reversible and therefore will cause no permanent change. Therefore, no residual effects arising from temporary effects are predicted for the Proposed Scheme.

Construction permanent effects

6.10.4. The predicted residual beneficial and adverse significant permanent effects predicted on heritage assets are reported in Table 6-2. Only potentially significant effects are reported below. For all impacts before mitigation, please refer to Appendix 6, Table 5 (**TR010040/APP/6.2**).

Table 6-2 : Beneficial and significant adverse construction effects

NHLE / HER / BLO Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation proposals	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect
MNF12283 Poplar Farm, North Burlingham	None	Low	<p>Construction activities are not predicted to have an effect on the buildings through vibration or other ground movement. However, as the barn buildings at the northern edge of the farm are much altered and potentially fragile, it would be prudent to take a precautionary approach and monitor the building for vibration during construction.</p> <p>The proposed carriageway will be 60m closer than currently, removing a large part of the agricultural setting of the asset and adding an urbanising element. The change in access from Lingwood Road removes an historic transport link from the setting. Landscape screening planting on the verge will soften the urbanising effect of the road structures.</p>	Major adverse	Moderate adverse	Slight adverse
MNF61984 Parkland associated with Burlingham Hall	None	Low	<p>The proposed grade separated junction will introduce new urbanising elements into the setting of the parkland in the south-western corner. This part of the heritage asset is not readily identifiable with the wider parkland character, through historic removal of plantations. This impact will be softened in character by the use of sympathetic landscape planting design, but this would not change the magnitude of the impact due to physical boundary change.</p>	Moderate adverse	Moderate adverse	Slight adverse
			<p>The proposed layby will create a new viewpoint from which the asset will be visible. This will not have an appreciable negative effect but, with appropriate information presented at those viewpoints, will enhance the asset through increased public awareness and appreciation. A sign naming the layby as "Burlingham Park Layby" will be installed. The location will include an interpretation board for heritage but, the need for and content of this will be determined in consultation with NCCES following the results of mitigation excavations across the Proposed Scheme. This positive effect does not cancel out the negative effects.</p>		Minor beneficial	Slight beneficial

NHLE / HER / BLO Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation proposals	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect
MNF62994 Early 20th century milestone marking Norwich 7 miles and Yarmouth 15 miles	None	Medium	<p>Asset is within the Proposed Scheme boundary. The asset will be appropriately conserved, restored and protected during works. It will then be proposed for listing to Grade II.</p> <p>The magnitude of impact is assessed being on the individual asset as well as on the setting and group value of all remaining milestones on the former turnpike and the turnpike itself. This could lead to an assessment of either moderate or major significance. In this case, moderate was chosen to not overstate the effect.</p>	No change	Major beneficial	Moderate beneficial
MNF62995 20th century milestone marking Norwich 9 miles and Yarmouth 13 miles	None	Medium	<p>Asset is within the Proposed Scheme boundary. The asset will be appropriately conserved, restored and protected during works. It will then be proposed for listing to Grade II. Layout of paths, fences and planting will re-instate the general visual context of the asset, enhancing its setting.</p> <p>The magnitude of impact is assessed being on the individual asset as well as on the setting and group value of all remaining milestones on the former turnpike and the turnpike itself. This could lead to an assessment of either moderate or major significance. In this case, moderate was chosen to not overstate the effect.</p>	No change	Major beneficial	Moderate beneficial
BLO10 The Old Post Office	None	Low	<p>Asset within the ZVI. Construction activities may have temporary effects on setting through lighting, noise and changes to traffic on Main Road and the A47. These will not be significant.</p> <p>Elements of built structures will be visible from the asset and in views of the asset from Main Road. This impact will be softened by appropriate landscape planting</p> <p>The proposed maintenance of access along the existing A47 will preserve the most important part of the setting of this asset and reinstate the link to Blofield, but on a new course.</p>	Slight adverse Slight beneficial	Negligible adverse Minor beneficial	Neutral Slight beneficial

NHLE / HER / BLO Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation proposals	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance of Effect
BLO21 Guidepost	None	Medium	<p>Construction activities will remove the guidepost and change its context by making a crossroads from the existing T-junction as well as altering the directional flow of traffic to the destinations on the fingers.</p> <p>The asset will be appropriately removed, stored, conserved and replaced as close to its original location and context as possible and proposed for listing to Grade II or incorporation into the Norfolk HER</p> <p>The significance of effect could be given as neutral or slight. Slight has been chosen to reflect that changes are material to our understanding of the asset and its long term condition</p>	Slight adverse Slight beneficial	Minor adverse Minor beneficial	Slight adverse Slight beneficial
BLO27 Oaklands Former Rectory	None	Low	Construction works will remove part of the historic link to the church of St Andrew, a part of the context of the asset. The link is well recorded through existing mapping and no mitigation is proposed.	Moderate adverse	Moderate adverse	Slight adverse
Archaeological assets zones 1-8	None	Medium	<p>Construction works will physically remove large parts of these assets. A programme of archaeological recording will be agreed with NC CES to preserve the assets by record and contribute to regional research framework objectives.</p> <p>The significance of effect could be given as neutral or slight. Neutral has been chosen to reflect that recording and dissemination of archaeological information will add to our understanding of the archaeology of the region.</p>	Major adverse	Negligible	Neutral
Known and Potential archaeological remains outside of zones 1-8	None	Low	Construction works will physically remove large parts of these assets. A programme of archaeological recording will be agreed with NC CES to preserve the assets by record and contribute to our understanding of the remains in zones 1-8.	Major adverse	Negligible	Neutral

Operational effects

6.10.5. The predicted residual beneficial and significant adverse effects on heritage assets during operation are reported in Table 6-3. For non-significant adverse effects, please refer to Appendix 6.1, Table 5 (TR010040/APP/6.2).

Table 6-3 : Beneficial and significant adverse operational effects

NHLE / HER / BLO Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance
1051522, MNF8523 Church of St Andrew	Listed Building Grade I	High	Traffic on the new road will be visible and audible, and this will change with season and weather. As the traffic on the new carriageway will be further away to the south than the current A47 alignment, and landscape planting will be designed to be in keeping with the current screening, this is considered a positive effect overall.	No change	Minor beneficial	Moderate beneficial
1304547, MNF8524 Church of St Peter	Listed Building Grade II	Medium	Traffic on the new road will be visible and audible, and this will change with season and weather. As the traffic on the new carriageway will be further away to the south, and landscape planting will be designed to be in keeping with the current screening, this is considered a positive effect overall.	No change	Minor beneficial	Slight beneficial
MNF12283 Poplar Farm, North Burlingham	None	Low	The proposed carriageway will be 60m closer, increasing the effect of noise and lighting from the road and traffic. Landscape screening planting on the verge may soften the urbanising effect of the lighting, but this will not lessen vehicle noise.	Major adverse	Moderate adverse	Slight adverse
MNF61984 Parkland associated with Burlingham Hall	None	Low	Light and noise from traffic on the proposed junction, as well as road lighting will introduce further urbanising elements to the south-western corner of the parkland. This impact will be softened in character by the use of sympathetic landscape planting design. The proposed layby will create a new viewpoint from which the asset will be visible. This will not have an appreciable negative effect but, with appropriate information presented at those viewpoints, will enhance the asset through increased public awareness and appreciation. This positive effect does not cancel out the negative effects.	Moderate adverse	Moderate adverse Minor beneficial	Slight adverse Slight beneficial

NHLE / HER / BLO Ref Name	Designation	Value / Sensitivity	Description of impact and mitigation	Magnitude of Impact before mitigation	Magnitude of impact after mitigation	Significance
BLO10 The Old Post Office	None	Low	<p>Traffic on the new road will be visible and audible, and this will change with season and weather. As this the traffic on the new carriageway will be further away to the south, and landscape planting will be designed to be in keeping with the current screening, this is considered a positive effect overall.</p> <p>However, traffic on the proposed Yarmouth Road junction would be more visible, depending on season and time of day, especially at night due to vehicle lights. This effect will be lessened by the presence of safety barriers on the bridge and planting on the ramps and verges.</p>	Slight adverse Slight beneficial	Negligible adverse Slight beneficial	Neutral Slight beneficial
BLO27 Oaklands Former Rectory	None	Low	The proposed carriageway will be 60m closer, increasing the effect of noise and lighting from the road and traffic. Landscape screening planting on the verge may soften the urbanising effect of the lighting and the effect from vehicle noise is not predicted to be significant.	Slight adverse	Negligible adverse	Neutral

6.11. Monitoring

- 6.11.1. Due to the potential for significant adverse effects to archaeological remains and heritage assets, the monitoring of any protection measures would be undertaken during construction to ensure that they remain effective including regular inspections of temporary fencing. Monitoring measures and protocols for managing any disturbance or removal of archaeological remains and heritage assets would be detailed within the EMP (**TR010040/APP/7.7**) and compliance will be secured by a requirement in the DCO.

6.12. Summary

- 6.12.1. Landscaping and planting have been incorporated into the design of the Proposed Scheme to reduce adverse effects on the setting of several cultural heritage sites. Design intervention and mitigation has been included in the impact assessments for the heritage assets.
- 6.12.2. Likely significant impacts for unknown archaeological remains dating from the prehistoric and Roman periods have been identified and this assessment presents the most likely worst case. A programme of archaeological recording is proposed to mitigate these effects.
- 6.12.3. Minor residual adverse effects on setting have been identified as a result of construction and operation activities on the following assets:
- Poplar Farm (MNF12283)
 - The parkland associated with Burlingham Hall (MNF61984)
 - Guidepost (BLO21)
 - Beighton House (BLO26)
 - Oaklands Former Rectory (BLO27)
- 6.12.4. There are also slight beneficial effects on:
- The parkland associated with Burlingham Hall (MNF61984) due to increased public awareness and appreciation.
 - Old Post Office (BLO10) due to setting and reinstate the link to Blofield
 - Guidepost (BLO21) due to conservation actions
- 6.12.5. Significant beneficial effects of the Proposed Scheme during construction have been identified as a result of protection and conservation actions on two mileposts (MNF62994 and MNF62995).

- 6.12.6. In addition to this, some beneficial effects, have been identified for the Proposed Scheme during operation. These are due to moving the carriageway of the A47 further away from various assets:
- The parkland associated with Burlingham Hall (MNF61984)
 - Church of St Peter (1304547)
 - Church of St Andrew (1051522)
 - The Old Post Office (BLO10)
- 6.12.7. Of these, the beneficial effect on the church of St Andrew is significant (Moderate), largely due to the high sensitivity of the asset.
- 6.12.8. No significant effects are predicted for the historic landscape. Effects on the historic landscape types contiguous with Burlingham Hall have been assessed with reference to the HER asset (MNF61984).

6.13. References

- 6.13.1. For a full list of references and a glossary of terms, please refer to Appendix 6.1 (**TR010040/APP/6.2**).