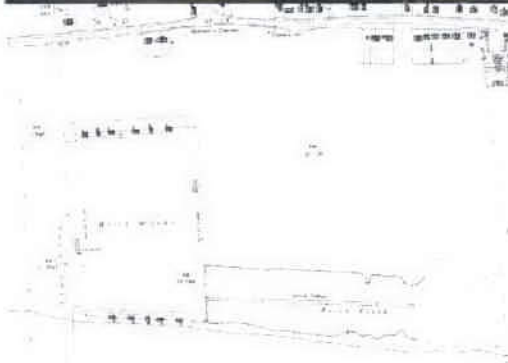


A desk-based assessment of the former brickworks at Star Lane, Great Wakering, Essex



**Report prepared by Chris Lister BA
commissioned by Taylor Wimpey**

CAT project ref.: 14/10f
NGR: TQ 934 872 (centre)



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1 Summary

This is a desk-based assessment targeted at the former Star Lane brickworks and its associated quarry areas in Great Wakering, Essex. This DBA forms the first stage of an archaeological investigation ahead of the proposed development. A general desk-based assessment has already been completed for the remainder of the development area (Bourn, 2012).

2 Introduction (Illustrations 1-2)

- 2.1 This is a desk-based assessment of the remains of the former brickworks at Star Lane at Great Wakering, Essex. It was commissioned by Mr Warren Sparkes (Taylor Wimpey) and produced by Colchester Archaeological Trust (CAT) in February 2015.
- 2.2 The Application Site is on the eastern side of Star Lane, the B1017, between Great Wakering and North Shoebury, and is in the parish of Great Wakering. The site is centred on NGR TQ 934 872. It is bounded by an industrial estate to the north and lakes associated with quarrying activity to the east, with agricultural fields to the south.
- 2.3 Current land use: the site is currently derelict with large areas of concrete hard standing and a few small areas of grass (Illustration 1). To the east of the former brickworks the area associated with quarrying of the brickearth is an overgrown wilderness of small man-made hillocks and fishing lakes (Illustration 2).
- 2.4 The proposed development comprises the construction of a residential dwellings, access roads, infrastructure and landscaping.
- 2.5 The former site of the Star Lane brickworks was extant until 2012, after which it was levelled. Prior to an application for the redevelopment of the site, the Historic Environment Team of Essex County Council recommend that the standing buildings of the brickworks be recorded prior to their demolition. The site was cleared without this work being carried out and the following condition was recommended to the local Planning Authority and applied to the planning application:

Recommendation: Archaeological desk-based research and excavation.
- 2.6 A brief was prepared by the Historic Environment Advisor, Place Services, ECC outlining the work required, archaeological Desk-Based Assessment targeted at the brickworks themselves. Subsequent archaeological excavation to characterize the brickworks will be determined by the findings of this DBA.
- 2.7 This report follows the standards set out in the Chartered Institute for Archaeologists' *Standard and guidance for archaeological desk-based assessment* (CIfA 2012).
- 2.8 The survival of below ground remains associated with the brickworks is difficult to predict. This assessment is based on *available evidence*. However, without further below-ground investigation of the site, there can be no absolute certainty as to the presence/absence, form, date or condition of any archaeological remains discussed here.



Illustration 1: view north-east across site, showing extensive concrete hard standing, all that remains of the former brickworks.



Illustration 2: view north-east across wilderness and fishing lake created from former quarry areas.

3 Aims

This report has two aims:

- (1) to inform the client of the archaeological remains associated with the former brickworks within the Application Site.
- (2) to inform the client (Section 6 of this report) if it is likely that archaeological work will be required on this site prior to development, and (if so) what form it is likely to take. It should be pointed out here that the decision on whether archaeological work is

required is solely the concern of the LPA (Rochford Borough Council) and their advisors at ECC. This report aims to inform, but it cannot dictate policy on behalf of the client.

4 Methods

4.1 A study was made of the application site (the 'Search Area'). This coincides with the area outlined in red shown on Figure 1 (back of report).

4.2 Sources consulted were:

- Essex Historic Environment Record (EHER) held by Essex County Council.
- English Heritage's *Heritage Gateway* website, containing information on Scheduled Ancient Monuments and Listed Buildings.
- OS editions 1939, 1961, 1971, 1989 (Illustrations 4-7).
- Archaeological journals, books and reports held by CAT.

A walkover survey was undertaken by the author.

5 Results (Illustrations 3-13)

5.1 Historic Environment Character Report

The historic landscape character of the Rochford area has been described in the *Rochford District Historic Environment Characterisation Report (RDHECP)*. There are a number of distinct ways in which the Historic Environment is described.

Below is the most relevant of those descriptions – the *Historic Environment Character Zone* description. The Search Area coincides with HECZ 7 (south of Great Wakering). In particular the HECZ makes reference to the historic quarrying of the brickearth in the zone.

5.1.1 HECZ 7: Land south of Great Wakering (RDHECP pages 67-9)

Summary: This zone is situated on the southern boundary of Rochford District, on an extensive area of brickearth covered gravel terrace and is mostly cultivated. Large parts comprise restored landscape following brickearth quarrying. The built-up areas of North Shoebury and Southend lie immediately to the south and southwest whilst Great Wakering village forms the northern border. This zone is characterised by a rectilinear pattern of land boundaries of ancient origin. The zone contains extensive archaeological deposits of multi-period date.

Historic Landscape Character: The zone retains elements of a distinctive rectilinear field pattern of ancient origin. It is part of a wider area of such fields which although generally regular, lack uniformity and distinct blocks with their own varying orientation which can be identified.

Archaeological Character: Major excavations to the south of the zone at North Shoebury and recording during brick earth extraction within the zone have demonstrated continuous settlement from at least the Middle Bronze Age. It is apparent that a reorganisation of the landscape took place in the later Iron Age and the layout became orientated roughly north south to east west. This layout survived and developed throughout the Roman period, and into the early Saxon. The early Medieval Settlement and field system was laid out on different lines. Major elements of the Early

Medieval landscape influenced the layout of the rectilinear pattern of land divisions, which survives in small part in this zone today.

There is high potential for further archaeological remains to be identified in those areas not previously subject to quarrying. The zone also contains a number of important military remains dating from World War 1 and II including pillboxes, and anti-aircraft batteries.

5.2 Archaeological and historical evidence (Illustrations 3-13)

The results of the assessment are presented here as Illustrations 3-13, Fig 1 (back of report), and the discussion below.

Prior to the 1860s Wakering had a few small, family-owned brick yards. These usually had a horse-driven pug mill where the brickearth was mixed with water and lime and a small bench where the bricks were moulded (Illustration 3).



Illustration 3: a late Victorian brick yard in Chelmsford, with young workers (possibly related family members) standing in front of a horse-driven pug mill and with a barrow of hand-made bricks in the foreground. Similar scenes would have been found around the brick fields of Wakering.

By the start of the 20th century the brick-making industry in Wakering employed more people than all other forms of local employment. Census information shows that Wakering's population increased nearly three-fold over the 19th century, whilst surrounding parishes stagnated or declined. This had much to do with the employment opportunities in the parish's brick fields. Situated on the coast, Wakering was ideally situated to supply London's ever increasing demand for brick. Prior to World War Two (when lorries took over) bricks were transported to London by local barges. Known as 'brickies' these were loaded with up to 45,000 bricks at a time, about one week's production. The return cargo for these barges was sand dug out of the sandbanks at Leigh. This was used in the brick moulds to prevent wet clay from sticking in the moulds (Wiseman, 1999).

The Star Lane Brickworks were opened in 1932 and operated by the Milton Hall (Southend) Brick Company Limited until 1984, when it was taken over by the London Brick Company (EHER 15369). The manufacture of stock bricks commenced in 1933, initially fired in a clamp and later in kilns. By 1970 there were four pairs of oil-fired downdraught intermittent kilns in use, with one chimney for each pair of kilns. Each of

the eight kilns held 100,000-110,000 bricks. In January 1995 the fuel for firing the bricks was changed from oil to gas. By 1997 only six of the kilns were still in use. There was a large Deboer B.V. brick-making plant from Holland, producing 240,000 bricks per week and one Berry brick-making machine producing 10,000 bricks per week. The gas-fired drying process took 60 hours (Corder-Birch, 1997).

The earliest cartographic evidence for the Star Lane brickworks is the 1939 edition of the Ordnance Survey (Illustration 4). This shows the brickworks on the east side of Star Lane as a rectangular site with two rows of buildings, one at the north end of the site, comprising six structures, and one at the south end of the site, comprising five structures, each accessed by a drive leading from Star Lane. Two additional structures are shown, one to the east of the site, one to the west. These may have a connection to the aerial cables that run around the perimeter of the site and extend eastwards into the brick field. These aerial cables were supported on pylons and conveyed clay in buckets from the quarry sites in the brick field. As the aerial cables pass above each of the eleven structures at the brickworks it is logical to assume that each structure represents a brick-making shed, presumably with a kiln attached.

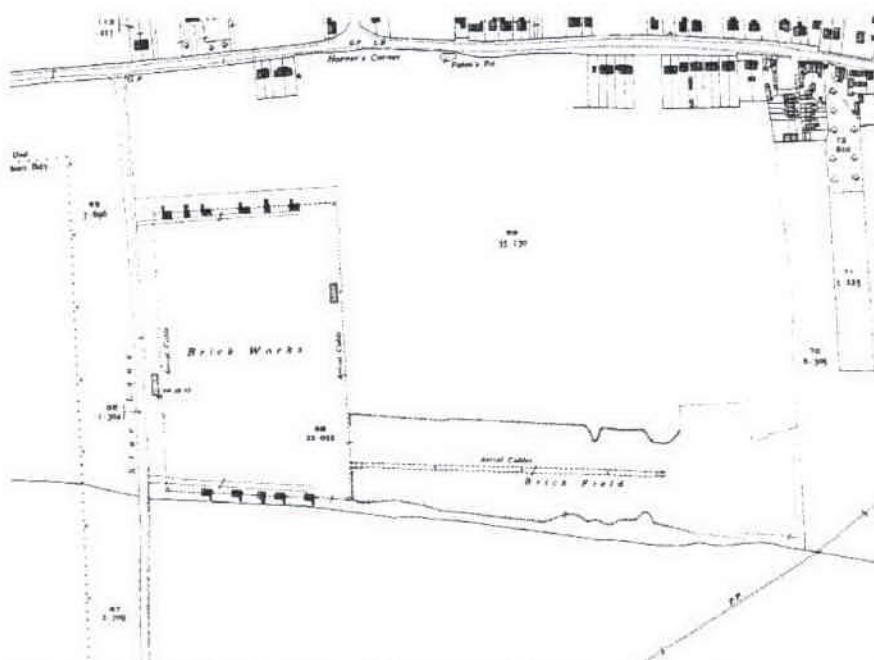


Illustration 4: 1939 edition Ordnance Survey, showing the two rows of structures at the brickworks and the brick field to the east.

The 1939 layout represents the earliest phase of the brickworks. The next available mapping is the Ordnance Survey of 1961 (Illustration 5). By this time the southern row of structures has been replaced by a large, north-south aligned building and there are additional structures along the west perimeter fence. The brick field to the east has expanded to the north somewhat and the aerial cable system appears to have been scrapped, although one of the pylons adjacent to Star lane is reputed to have survived until the site was levelled.

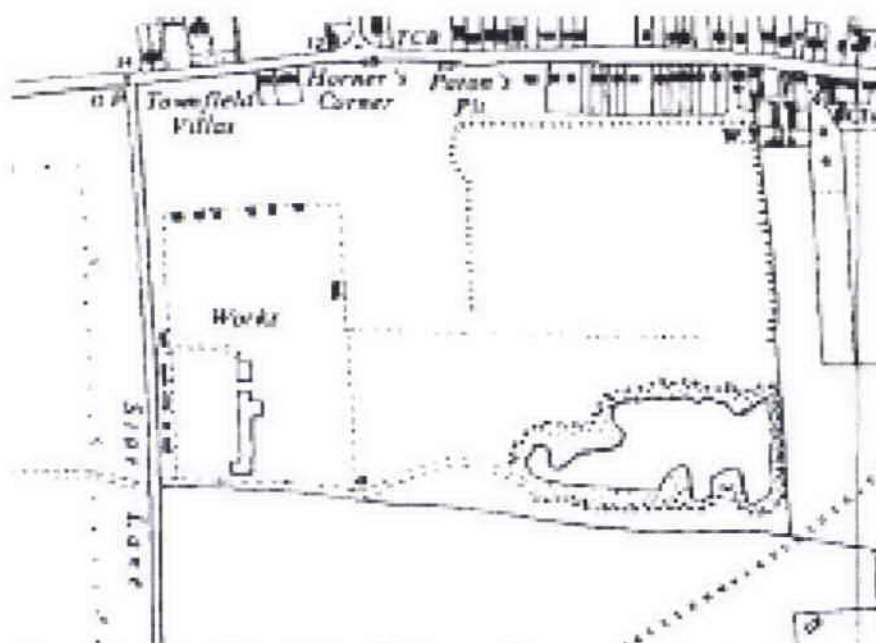


Illustration 5: 1961 edition Ordnance Survey, showing the large north-south aligned structure in the south part of the site and the expanded brick field to the east.

The most significant amount of change appears to have taken place between 1961 and 1971. The Ordnance Survey mapping for 1971 (Illustration 6) shows no trace of the 1939 layout and the northern part of the site has been disposed of, reducing the area of the brickworks by approximately one quarter. New buildings have been erected and the eight downdraught kilns installed. The quarrying of the brick field to the east has expanded and reflects the increased output of the modern brick-making machines.

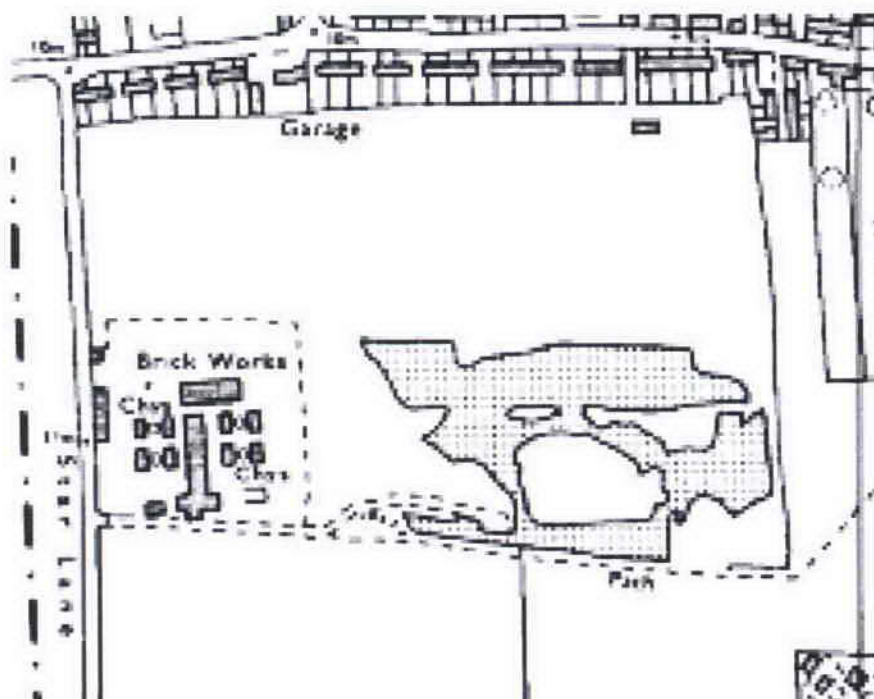


Illustration 6: 1971 edition Ordnance Survey, showing the new layout of the brickworks and the increasing quarrying activity in the brick field to the east.

The final mapping consulted was the 1989 Ordnance Survey (Illustration 7). The only significant change is the addition of a large east-west aligned structure on the southern edge of the site. Star Lane Industrial Estate is shown built up against the northern boundary of the brickworks. This has been constructed over the site of the northern row of brick sheds identified from the 1939 mapping.

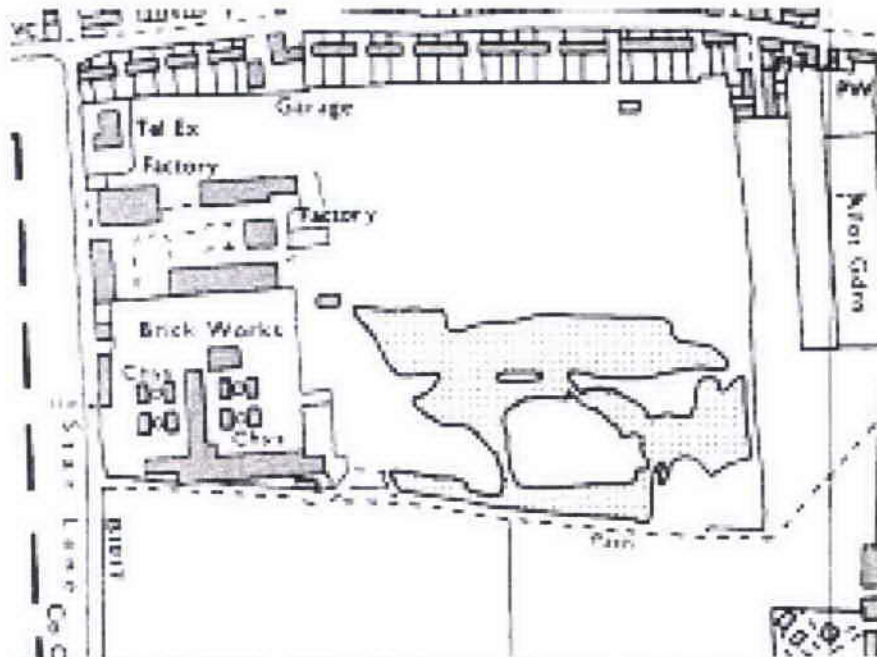


Illustration 7: 1989 edition Ordnance Survey, showing the final layout of the brickworks with Star Lane Industrial Estate to the north, constructed on the site of the 1939 brick sheds.



Illustration 8: Google Earth satellite image, showing the levelled brickworks surviving only as a concrete slab with the wilderness of the former brick field to the right.

Although the site has been levelled (Illustration 8), photographs taken by amateur enthusiasts of industrial archaeology give some indication of what the buildings at Star Lane brickworks would have looked like. Illustration 9 shows two of the chimneys standing between the massive downdraught kilns.



Illustration 9: chimney stacks between the pairs of downdraught kilns.

© Julianne Savage <http://www.yourlocalweb.co.uk/essex/great-waking/pictures/450149-star-lane-brickworks/>

Amateur enthusiasts have also shed light on how the raw clay was transported from the brick field after the decommissioning of the aerial cable system. Star Lane brickworks was equipped with a 2-foot narrow gauge railway that linked the clay pits to the complex, running alongside the agricultural land to the south of the brickworks. This crossed the track separating the brickworks from the fields and entered a tipping shed located against the perimeter fence (Illustration 10). This was one of the last working railways serving a brickworks in England. Traces of the railway can still be seen in places, hidden beneath dense undergrowth (Illustration 11).

The area east of the brickworks, associated with the quarrying of the brickearth, has been allowed to turn into wilderness. Lakes formed by the extraction of the clay are used as fishing ponds by the local angling society and the entire area bears little resemblance to its earlier industrial function.



Illustration 10: narrow gauge railway bringing weathered clay to the tipping shed at the south side of the brickworks. The chimneys for the downdraught kilns can be seen in the background. © Steve Thomason <http://www.inqr.co.uk>



Illustration 11: remains of the narrow gauge railway running along the south side of the brickworks.

Although the site has been levelled of all upstanding remains, the reinforced concrete slabs that formed the bases of the buildings and the hard standing between them has been left in place. From these remains (combined with the map evidence) it is possible to locate individual buildings and deduce function. In particular, the flue pits for the kilns survive as rubble-filled pits (Illustration 12). At the south end of the brickworks, on the site of the large east-west aligned building, there are 30 pairs of iron rails set into the concrete, divided into 10 bays by brick walls (Illustration 13). These must represent a form of rolling floor, allowing pallets of bricks to be moved around the complex.



Illustration 12: rubble-filled flue pit, all that remains of the downdraught kilns.



Illustration 13: iron rails set into the concrete floor of the east-west aligned building at the south end of the site.

6 Assessment of the archaeological remains of the Star Lane brickworks

The specific aim of this section is to inform the client if there will be a requirement for further archaeological work prior to development, and (if so) the reasoning behind that requirement.

The local planning authority (RBC) buys in advice on archaeological and heritage matters from the ECC Historic Environment Management team (now 'Place Services'). It is, of course, impossible to predict what ECC will advise. The issue here is whether the character of the former brickworks has been adequately ascertained from the surviving archaeological remains or if further work is necessary to do so.

There are two considerations in deciding this issue. First, is it likely that there will be buried remains related to the earliest phase of the brickworks? Second, would archaeological excavation add to the record of the brickworks?

To answer the first point, intrusive archaeological works are unlikely to reveal evidence associated with the earliest phase of the brickworks as the northern section is beneath the Star Lane Industrial Estate and the southern range of buildings has been replaced by concrete hard standing. The wider archaeological desk-based assessment commissioned in 2011 concluded that there was between 0.1m – 0.7m of reinforced concrete and made ground across the entire site, with the south-east corner having a depth of concrete 1.8m below ground level (Bourn, 2012). Evidence for the earliest phase of the brickworks is, therefore, either outside of the proposed development or likely to have been destroyed by the construction of the later brickworks.

With regard to the second point, archaeological excavation of the remains would surely be limited to the removal of the rubble from the flue pits of the downdraught kilns. It should be emphasised that the remains do not comprise demolished buildings sealed by later layers of archaeological stratigraphy, but are the *in situ* bases of buildings shown on the Ordnance Survey mapping. It is possible that stripping the site of accumulated soil/debris and vegetation where this has built up might provide a clearer picture of the brickworks and the mapping of features such as the iron rails may help explain the processes involved with brick manufacture in the mid-late 20th century better.

Therefore, RBC, taking ECC advice, will probably take the view that intrusive archaeological evaluation of the brickworks will be of limited use in adding to the record of the brickworks.

Should further archaeological work be required, this will probably take the form of targeted evaluation trenches or a mapping exercise as outlined above.

There would be a cost implication for this further archaeological work and any follow-up reporting/publication which RBC/ECC may require.

7 Acknowledgements

CAT would like to thank Mr Warren Sparkes (Taylor Wimpey) for commissioning this report.

8 References

Bennett, A	2014	<i>Brief for Archaeological Desk-Based Assessment of the Star Lane Brickworks Site, Great Wakering</i>
Bourn, R	2012	<i>Star Lane, Great Wakering, Essex Archaeological Desk-Based Assessment 2012: CGMS report</i>
ClfA	2012	<i>Standard and Guidance for historic environment desk-based assessment. October 1994, revision of November 2012.</i>
Corder-Birch, A	1997	<i>Survey of Brickworks in Essex</i>
Marriage, J	1982	<i>Chelmsford, A Pictorial History</i>
Scrutton, S	2006	<i>Rochford District Historic Environment Characterisation Report</i>
Wiseman, G	1999	<i>History of the Wakering and Barling Barges</i>

Websites consulted include:

<http://www.ingr.co.uk>

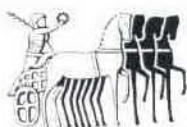
<http://www.rochforddistricthistory.org.uk>

<http://www.yourlocalweb.co.uk>

9 Glossary

CAT	Colchester Archaeological Trust
DoE	Department of the Environment
ECC	Essex County Council
EH	English Heritage
EHF	Essex Historic Environment Record, Essex County Council
ERO	Essex Record Offices, Chelmsford and Colchester
feature	an identifiable thing like a pit, a wall, a drain, can contain contexts
modern	period from the 19th century to the present day
OS	Ordnance Survey
RBC	Rochford Borough Council
SMR	Sites and Monuments Record (now EHF)
WW2	Second World War

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Fig 1 Site location.