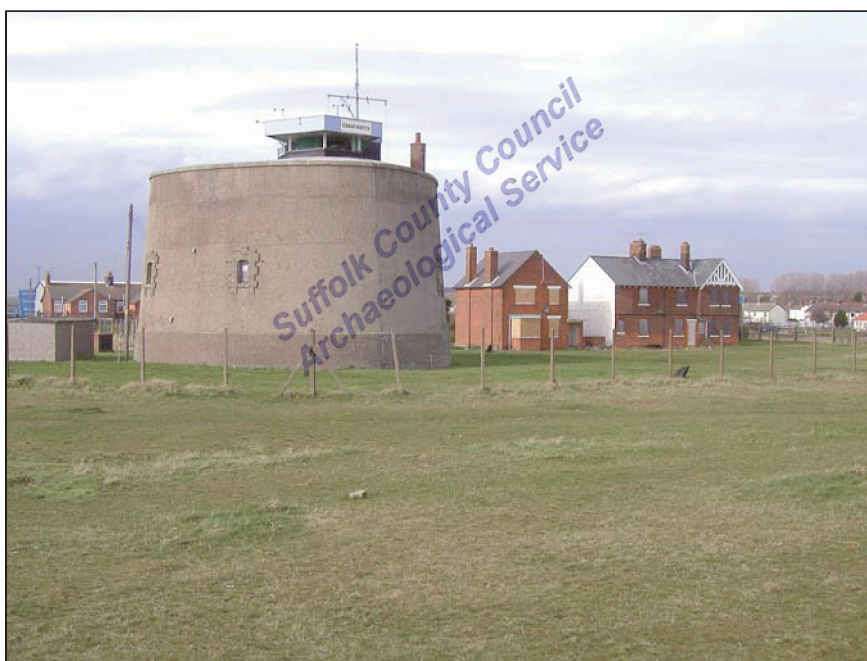


ARCHAEOLOGICAL DESK-BASED ASSESSMENT

FELIXSTOWE, SOUTH SEAFRONT & MARTELLO TOWER 'P' (HER Ref. FEX 278)

**INCLUDING THE GEOPHYSICAL SURVEY REPORT OF
THE MILITARY ZONE AROUND MARTELLO TOWER 'P'
BY GSB PROSPECTION LIMITED**



Martello Tower 'P' with Coastguard Cottages (right)

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©November 2008

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HER Information

Plan application no.	C/05/1723/FUL
Grid Ref.	TM 2929 3308
Funding Body	Bloor Homes
OASIS Ref.	suffolke1-51371

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1. Introduction

Planning permission for the construction of a large housing development in an area known as the South Seafront, Felixstowe has been granted but with an attached archaeological condition. The site lies between Langer Road and the coast in an area c. 1800m southwest of Felixstowe town centre (see figure 1). It comprises former car parks and open grassland but also incorporates a Scheduled Monument, Martello Tower 'P' and its associated military zone. The Martello tower is one of a line of towers built along the Essex and Suffolk coast during the early 19th century as a defence against foreign invasion. Each tower stood within a defined military zone marked with boundary stones, and later fences and ditches, within which associated structures such as gun batteries, boathouses, stores etc. may have stood. Martello 'P' is recorded on the County Historic Environment Record (HER) under the reference FEX 063 and is recorded on the Schedule of Ancient Monuments (SAM) under the reference SF105.

The site covers an area of approximately 55900 square metres and is bounded by Orford Road to the north, Langer Road to the west, Manor Road to the south and a concrete sea defence to the southeast. The site is relatively level and lies at a height of c. 3.5m OD. The National Grid Reference for the approximate centre of the site is TM 2929 3308.



Figure 1: Location Plan

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The Suffolk County Council Archaeological Service (SCCAS) has been commissioned by the developer, Bloor Homes, to undertake an archaeological evaluation and this report details the results of the initial stage of the evaluation, a desk-based assessment. It also includes as an appendix the results of a geophysical survey of the military zone around the Martello tower (Appendix II).

This desk-based assessment is being undertaken as a component of an archaeological evaluation which is the first part of a programme of archaeological works imposed on the development as a condition of the planning consent (application no. C/05/1723/FUL). The evaluation is to consist of three components; a desk-based

assessment, a geophysical survey of the defined military zone around the Martello tower and the excavation of trial trenches located to sample the entire development area. A Brief and Specification has been issued by Mr R. Carr of the Suffolk County Conservation Team detailing the works required for the evaluation (Appendix I), the results of which will be used to assess the need for any further archaeological works.

This work has been recorded on the County HER under the reference FEX 278, and on the OASIS online archaeological database, reference suffolkc1-51371

2. Methodology

To assess the archaeological potential of the site the following sources were consulted:

- The Historic Environment Record (HER) held by Suffolk County Council Archaeological Service
- The List of Buildings of special architectural and historic interest
- Documentary evidence including cartographic sources held in the local Public Record Office

To undertake a documentary survey, including a search and analysis of historic cartographic sources, an experienced freelance historian (Mr A.M. Breen) was commissioned to carry out research in the Suffolk Record Office the results of which comprise Section 3.3 of this report.

3. Results

3.1 HER data

The Historic Environment Record for the county is maintained by the Suffolk County Council Archaeological Service and is held at their Bury St Edmunds office. For this study HER entries within an approximate 250m radius of the centre of the site have been included and are summarised in Table 1 below; the locations are marked in Figure 2.

HER No.	Location	Nature of Evidence
FEX 063	Langer Road	Martello Tower 'P', built 1810-1812
FEX 139	beach	World War II anti-invasion defences. Visible along the beach and seafront in Felixstowe on photographs taken in 1944. The defences consist of a line of anti-tank cubes and a stretch of beach scaffolding that runs roughly parallel. The scaffolding is located inland of the anti-tank cubes, mainly on the landscaped area of the promenade. The scaffolding branches off inland at TM 29213281. Other anti-invasion defences are also visible in the breakers, running parallel to the scaffolding and cubes. These include two stretches of what are probably 'dragon's teeth', iron spikes set in concrete, running from TM 29353298 to TM 29303289 and from TM 29233279 and TM 29153270. By 1946 all the anti-invasion defences have been removed apart from one stretch of scaffolding which is still visible in the sea.
FEX176	Langer Road	A World War II road block is visible as a structure, located at the southern end of Langer Road, Felixstowe on aerial photographs taken in the 1940s. The road block consists of a series of slots in the road, into which a barrier could be inserted, and two short rows of anti-tank cubes, one at each side of the road block slots.

FEX 184	Seafront area	World War II anti-invasion defences are visible as structures on aerial photographs taken in 1941 and 1944, running across streets near the seafront in Felixstowe. The defences run roughly parallel to the seafront beginning with a scaffolding road block on Micklegate Road at TM 29453348. The final stretch begins to the east at TM 29313333, crosses Orford Road, and terminates at TM 29233323.
FEX 190	Landguard Marshes	World War II anti-invasion defences are visible as structures on aerial photographs taken from 1944 onwards, on Landguard Marshes and to the south of the railway branch line. The defences consist of stretches of barbed wire obstruction running from TM 27953347 and terminating at TM 29073305. From where the barbed wire terminates scaffolding is visible running southwards to join up with the beach defences and an anti-tank ditch is visible running north-west, preventing access across the marshy ground next to the railway line. These defences would have been positioned in order to protect the military bases on Landguard Point from enemy forces advancing from the north.
FEX 241	Langer Road	World War II military features are visible surrounding Martello Tower 'P' on aerial photographs taken in 1944, centred on TM 29263302 in Felixstowe. The features include two rectangular concrete buildings measuring 4.5m by 1.5m located at TM 29283311 and TM 29323306. To the south of the Martello Tower rows of small circular mounds appear sometime between July 6th and August 4th 1944. The function of these mounds is unclear. Also to the south of the Martello Tower a length of barbed wire obstruction is visible running from TM 29233302, crossing Manor Road and running parallel with Manor Terrace until it terminates at TM 29163285. Two small slit trenches are also visible close to the barbed wire at TM 29233306 and TM 29233297 (see Figure 3).

Table 1: Summary of HER data

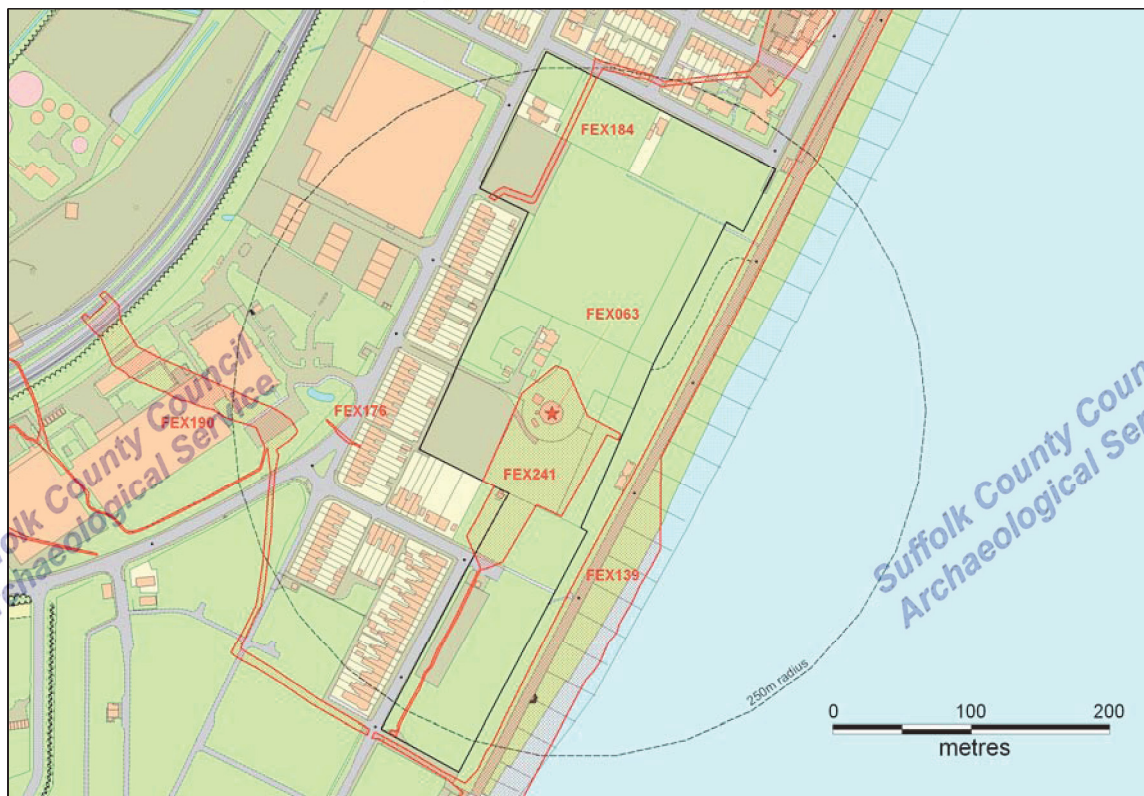


Figure 2: HER Locations

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Other than the Martello tower itself all the sites recorded on HER in the vicinity to the development site are related to World War II defences that have been identified from aerial photographs taken during or immediately after the war. The majority of these comprised scaffolding and barbed wire obstructions that lay outside the development area. Only the southern end of the scaffold obstruction (FEX 184) and the features recorded under the reference FEX 241 lie within the development area (Figure 3). The FEX 241 features are of some interest as it is possible that physical evidence relating to these may be identified by trial trenching. They are the two concrete structures, the slit trenches and the small circular mounds noted to the south of the tower. It is also possible that some evidence relating to the obstruction lines could also be identified by trial trenching.



Figure 3: World War II defences

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With regard to earlier activity in the general area, the site of a late Roman shore fort and a substantial settlement lies *c.* 3km to the northeast but no evidence for Roman or Saxon activity has been recorded in this area of Felixstowe.

3.2 Listed Buildings

Other than the Martello tower there are no listed buildings within the proposed development area and there are none present in the immediate vicinity (the nearest is Peewit Cottage, c. 1km to the northwest). The listing text for the Martello tower is as follows:

<p><i>Coastguard Station</i> LBS Number: 286271 Grade: II Date Listed: 10/02/1986 NGR: TM2927633082</p>	<p>Martello tower used as coastguard station. Circa 1810-12. Gault brick, cement rendered stone dressings. Round tower with flat roof upon which sits coastguard building. 3 stages. Middle stage doorway and loop openings have stone quoins and keystone, the doorway with cambered head, the loops beneath flat arches. Interior: Original musket racks and powder stores.</p>
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3.3 Documentary Survey

by A.M. Breen 2008

Introduction

The research for this report has been carried out that the Suffolk Record in Ipswich. This site is situated to the southwest of Orford Road. At the northwest corner the site frontage begins at the junction of Langer Road with Orford Road and continues to the southwest behind the properties fronting Langer Road to the corner of the car park to the west of the tower, it then turns to the east before continuing in a line opposite and parallel to the houses fronting Manor Terrace before turning back to the sea front along the northern side of the track way opposite the caravan park. Along the sea front the boundary follows existing property boundaries that probably date from 1809 back to the northeast to joint the junction of Orford Road and Sea Road. The line of nearly all the roads in this area were laid out in the 1870's. The only road to predate the 1870's is Langer Road itself. When the tower was originally built the area was open coast grassland, know as Benthills and the isolated nature of this site is shown on Henry Davy's 1837 etching of the tower (Figure 4).



Figure 4: Davy's 1837 sketch of the tower

The general area was described in 1844 in relation to Languard Fort as 'the tongue of land, on the point of which its stands [i.e. the fort], consists of a common and marshes, which have been called Langer from time immemorial, and are supposed to

have been recovered from the ocean at some remote period, as it is evident that the estuary of the Orwell and Stour once extended about two miles more northward than it does now, to the cliffs of Walton and Felixstow'. In relation to this specific site, the land is far more recent and it is necessary to carefully measure the earlier maps and plans of the site to determine when the land was formed and what parts of the site existed before 1734. Extremely detailed plans exist for the site of the present and former forts. Two plans dated 1734 and 1797 were copied in 1861 to determine the then Department of Defence's property rights to lands in this area (Figures 5 and 6). The accompanying report mentions a dispute between the lord of the manor of Walton cum Trimley and the department over the rights to the soil that was settled in favour of the lordship in 1797. A deed was drawn up in settlement of this dispute and the then coastline was marked on later plans. The later plans were produced partly in relation to further disputes between the two parties over the rights to the foreshore. These disputes were finally settled in 1876.

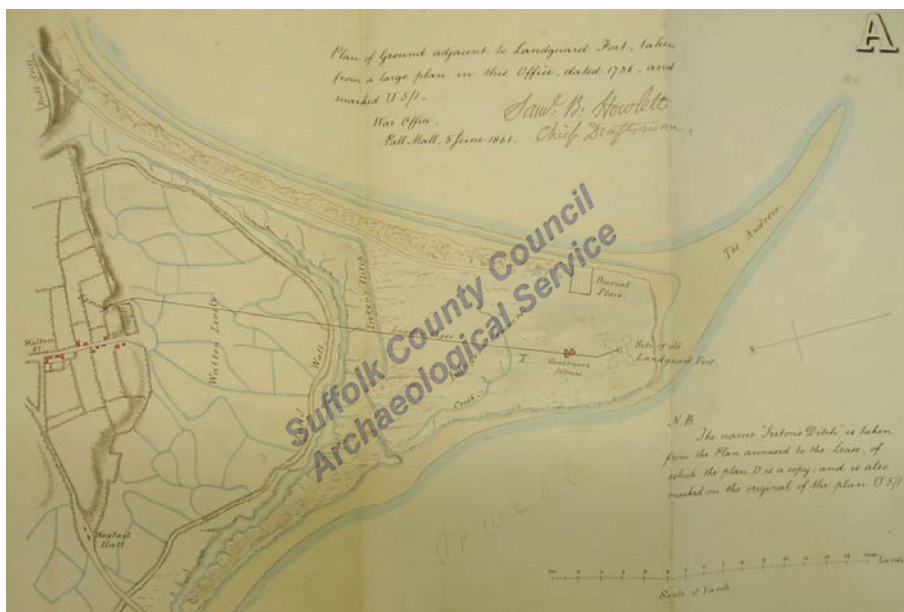


Figure 5: Plan of 1734 (1861 copy)

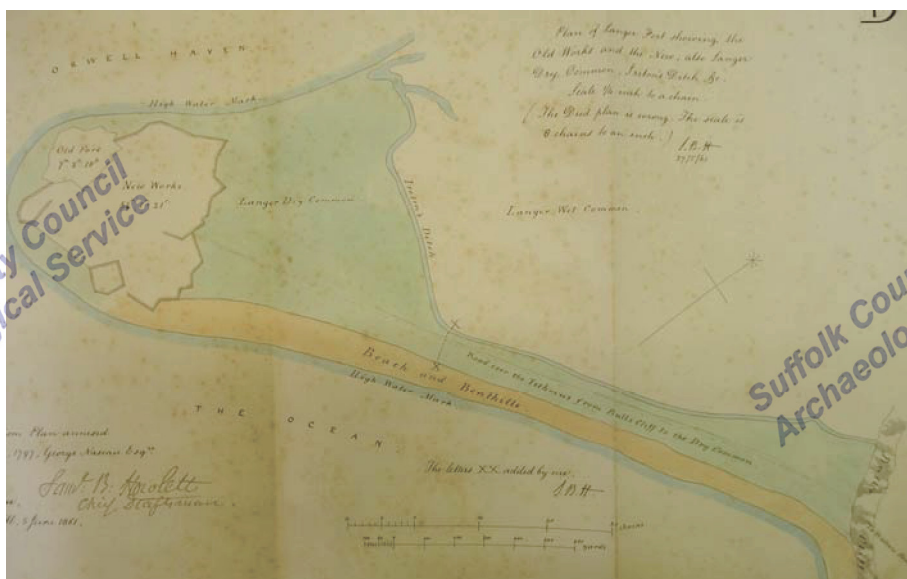


Figure 6: Plan of 1797 (1861 copy)

On a plan originally surveyed in 1834, then printed in 1867 on a scale of 1:2500 and further revised in December 1874, the progression and regression of the coast is shown (Figure 7). The high water mark of 1797 coastline would have been just to the east of the tower with the remaining area of the grounds then situated between high and low tides. When the tower was constructed circa 1810 the entire area would have been above the high water mark, however it is important to note that unlike other towers built along this coast, there was no forward battery built in association with this site. This suggests that it was then built on the water's edge. In the construction of these towers, the then Board of Ordnance paid so little attention to the movement of the coastline that they allowed Tower 'O' to be positioned at a point that was lost to the sea by 1838 or in the words of the 1861 report it had 'gone to sea'. By 1874 most of this site was land though apart from the Martello tower and a life boathouse the only other feature of the site where the rifle butts then in use. This plan shows an earlier boundary to the east but not continued to the site of the Martello tower. What this line represent is not defined on the plan, however it appears to be based on the earlier plan of 1734 copied into the 1861 report. The 1734 plan shows the line of Langer Road crossing the narrow isthmus between the cliffs and Languard Point with the sea to the east and the Walton Marsh to the west. If this interpretation of the line is correct then all the land from the rear of the gardens attached to the properties on the eastern side of Langar Road has been accumulated since 1734.

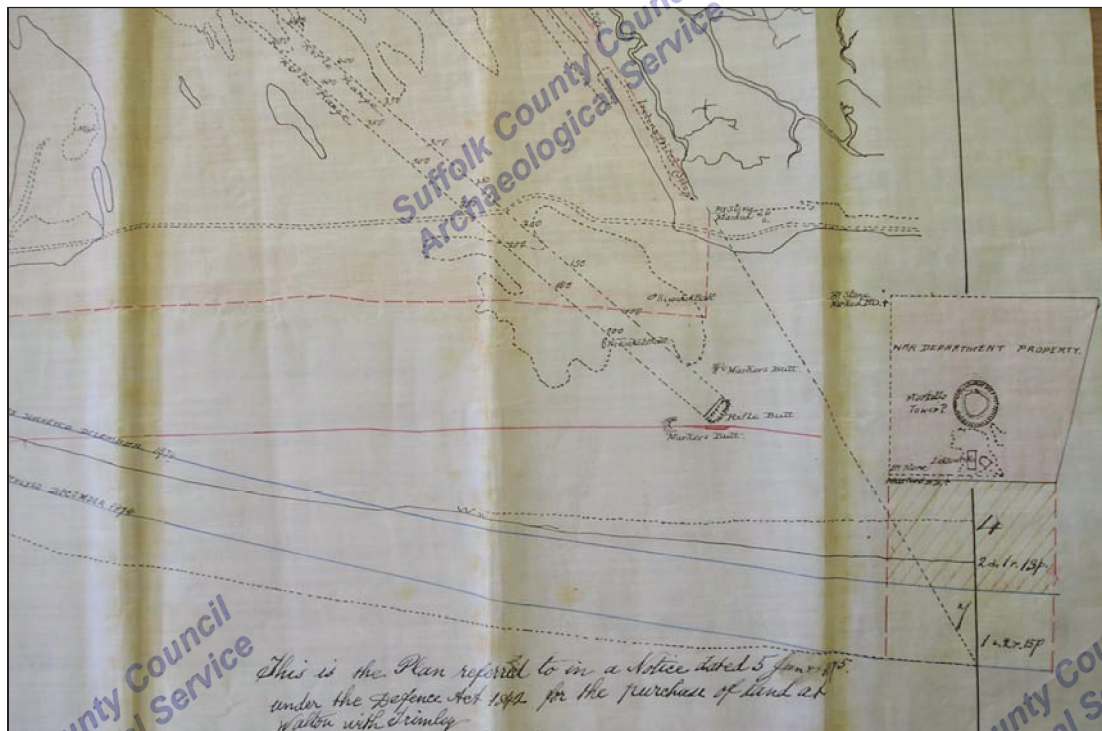


Figure 7: Plan of Langer Marshes 1867, revised 1874 (extract)

By 1876, the various property disputes had been settled and following the opening of Felixstowe's railway station in Beach Station Road in 1877 this became a prime area for development. The lands were then sold as building plots with various covenants as to the future use attached to the deeds of conveyance. For some reason not instantly obvious from the surviving records a larger number of these houses were never built (Figure 8) although the property with diagonal shaping was built and became the

Manor House Hotel. Marine Parade was never constructed but the street to the west does exist as the present day Manor Terrace.

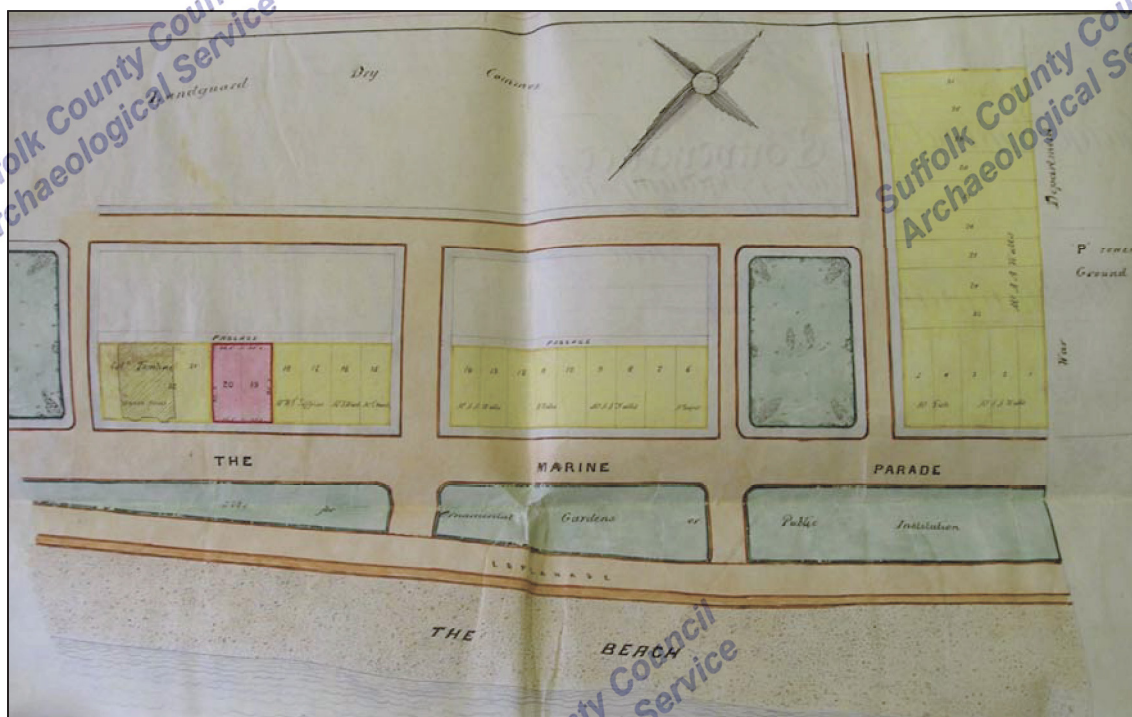


Figure 8: Proposed building plots (from an 1876 deed)

Legal Disputes

The 1867 plan has been described in detail in the introduction to this report (ref. HA119: 50/3/204). It would be highly desirable to have this plan properly scanned for further studies of the general area of Languard Point. The various progressions of the coastline have been discussed. Within the boundary of this study area in a position to the east of the houses in Manor Terrace, there were in 1867 a rifle butt and marker's butt. The rifle range extended 900 yards to the southwest across Languard Common with two 'ricocket' butts set before the 100-yard markers. Further to the south this plan marks the site of the remnant of the fort's graveyard, but not the former position of Martello Tower 'O'. The 1797 coastline at the end of the point had then regressed at least 180 yards by 1874.

The rifle butts had been dug in about 1869. In his statement to the War Office dated 10 July 1874, Colonel Tomline the then lord of the Manor of Trimley cum Walton stated 'Rifle butts were erected on Colonel Tomline's land (say) five years since and the Sandhills were cut into for the purpose of establishing these'. He then required 'the restoration of the soil to its original surface and the removal of the butts'. The position of the butts is shown on another plan by his land agent James Beal within the area of this study. The area is divided into lots later sold at auction with the then intended overall design of the area. The plan (ref. HA119: 50/3/154) is dated 1876 and has the printed inscription or legend 'Languard Common and Adjacent Lands: As Proposed to be taken by the War Office' (Figure 9). In further notes written in ink in the top left corner, it mentions the case 'In the High Court of Justice Exchequer Division, Queens Remembrancer Office' though not the date of the proceedings. The case is stated 'In the Matter of certain sandhills and foreshore in the Parish of Walton

with Trimley in the county of Suffolk lately belonging to George Tomline of Orwell Park near Ipswich ... taken for public service by or on behalf of Her Majesty's Principal Secretary of State for the War Department'. 'This plan is marked 'A' referred to in the Affidavit of James Beal sworn before me this twenty third day of February 1876'.

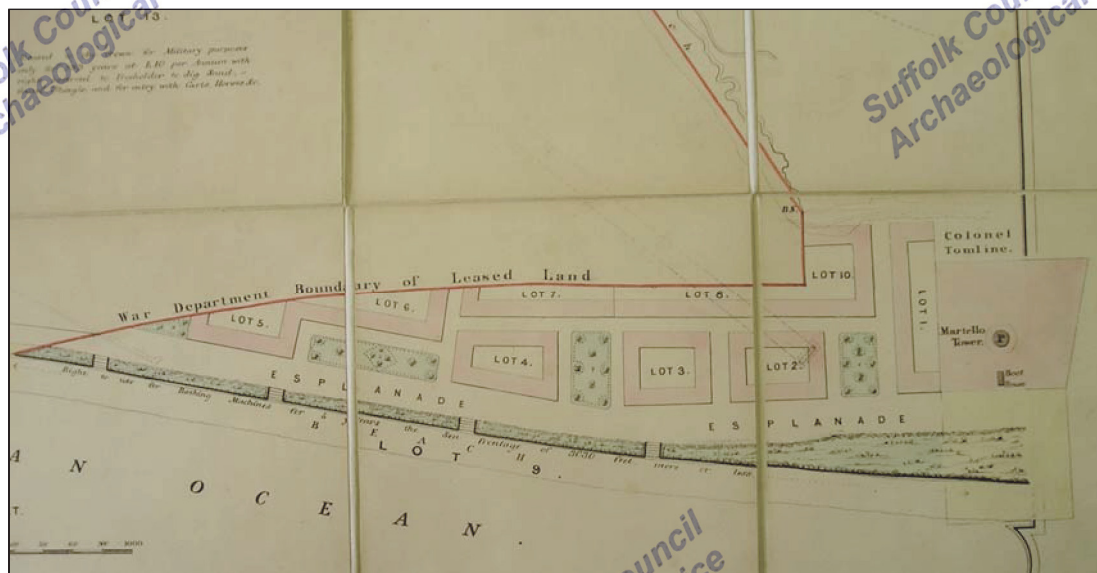


Figure 9: 'Langard Common and Adjacent Lands: As Proposed to be taken by the War Office' (extract) 1876

The nature of Tomline rights as lord of the manor are set out in a collection of case papers (ref. HA119: 50/3/214). He was 'absolutely and solely entitled to the shingle, sand, soil, stone materials, etc seaweed, flotsam, jetsam, copperas, coprolites and wreckage'. Also he was owned the fees from 'groundage of boat vessels etc salvage & rent of the Bathing Machines etc on the Beach and Common'. His steward had searched the manorial court's books and found evidence to support his claims to 'shingle, sand, pebbles, seaweed, wreckage, foreshore rights, rights of turbary and other rights over the said common'. In June 1749, the highway surveyor of the parish of Bucklesham had paid 10s 6d to take shingle 'off the shore ... for repairing the roads of the said parish' and again in the following year. In 1752 the surveyor of Walton paid the same for shingle. In 1806, a James Passiful had paid 4s 6d for shingle taken as ballast for two small vessels. In 1807 the surveyor of Falkenham had taken shingle for road repairs. The entries continue in the same manner over 27 pages. They include the seemingly strange payment of £2 from Garrod Toakely for 'eringo roots' (Sea Holly *Eryngium maritimum*) taken in April 1750.

In the same bundle of documents there is a copy of James Beal's printed statement dated 5 January 1875. In this document, he mentions the terms of the 1797 lease. The Old Fort was a freehold property in the possession of the Crown, the remaining lands leasehold. The lease confirmed that rights of Lord George Nassau, the then lord of the manor 'undoubted and incontrovertible estate and interest and an absolute ownership upon and over the whole and every part of the said common called Langar Common as parcel of the said manor and into upon and over the Benthills and beach lands and soil against the salt water on every side thereof'. The deed also acknowledge that the 'waste land surrounding the Old Fort had been used by the Copyhold tenants having

rights of commonage for depasturing sheep and cattle' who enjoyed the rights of 'herbage'.

The War Department had encroached on these rights 'Soon after the encampment at Colchester was made Her Majesty's War Department picked upon this spot being accessible to Colchester for sending troops from there for rifle practice and this hitherto unusually quiet spot became a busy scene, troops succeeding troops, and the Fort was once more turned to use'. The department 'without any communication whatever with the Lord of the Manor ... broke up the surface of the soil and thereby destroyed the herbage by erecting earthworks or rifle butts... and subsequently erected a range of brick barracks capable of containing 250 men with the usual and necessary offices. They dug up the soil, stopped up a creek called Horse Shoe Creek ... and in fact exercised such acts of ownership constituting themselves freeholders rather than lessees, and trespassers, on the beach'. In strengthening Landguard Fort the department had 'dug up and taken for their own use a large quantity of soil'.

The lordship's claims were further supported by the erection of the Martello tower on the waste of the manor and by the fact that the Government had been paying rent for the boathouse, they had built within the enclosure.

The papers appear to have been prepared not for the restoration of the various rights but as a means to settle a claim for compensation and to set a price for the sale of the freehold of the land to the department.

The Development of the Area

Once the case against the war department had been settled Tomline was free to carry on with the development of the remaining area as part of the growing seaside resort. Orford Road is not shown on the first edition of the 1:2500 Ordnance Survey map surveyed in 1879-80. The main area of this site was then still covered with coarse coastal grassland. A little further to the northeastern Tomline, had begun to sell building plots for the construction of houses. In a deed dated 6 October 1876, he leased to Oliver Thomas Gibbons 'All that piece or parcel of ground situate in Felixstowe ... forming part of Langar Common containing in the whole half an acre'. The piece is shown on a plan entered into the margin of the deed. It was to the north of Langar Road at its junction with Station Road (now Beach Station Road). The station known as 'Felixstow Station' on the Ordnance Survey map had been open in 1877. A condition of the lease was that Gibbons would 'within three years from the twenty ninth day of September One Thousand eight hundred and Seventy Seven erect upon the said piece or parcel of ground and according to plans and elevations first approved by the said lessor ... four and not more than ten good and substantial dwelling houses and shops'. A further condition stated that Gibbons would 'so soon as a Gas Company is formed to supply the neighbourhood take and consume gas in each said dwelling and pay fair share of the lighting rate for lighting the roads to be settled by the surveyor' (ref. HA119/1645/56/2).

The lands forming this site are shown on another series of deeds dated July 1876. These conveyances of 'plots of building land' mention that the lands had been divided into 32 lots and had been offered for sale at a public auction held at the Golden Lion Hotel, Ipswich (Figure 8). Each deed contained a covenant clause set out in a schedule to each deed. The clause included the following restrictions as to the future use

'4 Trades &c prohibited- No building shall be erected or used as a shop, workshop, warehouse, or factory, nor shall any trade of manufacture be carried on, nor any operative machinery be fixed or placed nor any obnoxious or offensive process be carried on or made upon any lot. No hut, shed, caravan, house on wheels, or other chattel adapted or intended for use as a dwelling or sleeping apartment, shall be erected, made placed, or used or be allowed to remain upon any lot' (ref. HA119/1645/56/1).

Martello Tower 'P'

The background to the construction of Martello tower 'P' and other defences along the east coast is explained in Peter Kent's 'Fortifications of East Anglia',

'Apart from one small battery armed with three 32-pounders at the foot of Bull's Cliff, all the main defences of Harwich harbour were concentrated about the entrance until 1798, when it was proposed to build three masonry towers along the cliffs at Felixstowe to prevent an enemy landing and attacking Landguard Fort from the rear. This scheme came to nothing but was revived five years later with the addition of a strong fort on Shotley Point to cover the interior of the harbour and to stop armed boats going up stream to attack Ipswich and Manningtree.

It took a further five years before the plans were realised and ten Martello towers and six batteries were built. Three towers and three batteries were sited on the banks of the harbour, with the rest along the coast from the tip of Landguard Point to the mouth of the river Deben. All the towers were of standard east coast design, armed with three guns and all but towers O, P, S and U supported small batteries. Towers L and M with attendant batteries were placed on Shotley Point instead of the planned fort, crossing their fire with the Bathside Battery at Harwich and tower N at Walton. All ten towers and attendant batteries were completed and armed by 1811, but almost as soon as the Napoleonic Wars had ended in 1815 some became redundant or were threatened by erosion. Tower P was handed over to the coastguard in 1816 and O and S were abandoned to the sea in the eighteen-thirties'.

The condition of each tower was described in two reports in 1816 and 1818. These records are now held at the National Archives (ref. WO 44/53). A number of towers were then already encountering problems with damp, mildew and the rotting of timber. It is highly recommended that copies of the sections of these reports relating to Martello Tower 'P' should be obtained before any restoration work begins.

War Office Records

Though the main collection of War Office records are held at the National Archives in Kew a collection of solicitors records originally numbered 35, 36 & 38 relating to the War Office's title to lands in Suffolk and including plans of each site have been deposited at the record office in Ipswich. These include 'Title to lands belonging to the War Department at the Towers on the Coasts of Essex and Suffolk' numbered 38 (ref. IV 400/3). Samuel B. Howlett was the author of this report dated 1864. It follows the report on the Cavalry Barracks in Ipswich numbered 35 (ref IV 400/1) and Landguard Fort numbered 36 (ref. IV 400/2) both prepared in 1861.

The Landguard report is relevant for its detailed description of the area surrounding this site. The position of Bull's Cliff is shown on Plan A described as 'Plan of Ground Adjacent to Landguard Fort, taken from large plan in this Office, dated 1734' (Figure

5). It is notable that on this plan there are no buildings or other structures on Languard Point other than the site of the then fort and governor's house, though the burial ground is marked to the east of the house. The line of the roadway from Bull's Cliff to the area of the fort is also shown. This roadway was later Langer Road. In the report Bull's Cliff is first mentioned in relation to the site of the village of Walton. 'Walton stands in rather high ground, having, on the South, steep hills, in one part quite precipitous, called Bull's Cliff'. The description continues 'At the foot of the hills, marsh lands, called Walton Levels, are enclosed from the sea by a land-wall, below the wall is a wide creek, with impassable mud lands, overflowed at Spring Tides, which are separated from the southern part of the promontory by a ditch called Ireton's ditch, which, in wet seasons, shows itself a long way to the north'. 'From Ireton's ditch, to the southern point of the triangle, measures about 1200 yards. The lands here is called Langer Common; and is approached by a road from Bull Cliff, running by the Eastern Coast, along which there are mounds of Beach called Benthills, terminating on the Andrew Sands'. 'The Ocean, on the East, is encroaching largely on the promontory; and has thrown up a long point of shingle from opposite the fort, bearing westward to such an extent, that it threatens to obstruct the entrance to the Harbour of Harwich'. The former positions of the 'old fort' and governor's house are marked on plan B. 'This old fort was demolished prior to 1730 and the house used as a canteen in 1785 but then omitted from later plans'. Plan 'D' was copied from a deed of 1797 drawn up in settlement of a legal dispute and again shows the absence of any features between Bull Cliffs and Languard Common (Figure 6). The 'Old Fort' built in 1627 replaced earlier defences at Languard (Leslie, 1898)

The report contains details of the dispute over the Crown's title to the area of Landguard Common. In 1629, the crown had granted the manor of Walton Cum Trimley by Letters Patent to Edward Ditchfield. The text of the original grant would have been written in Latin. In the grant there was 'an exception in favour of the Fort, but in 1797, a dispute arose between the Ordnance and the Lord of the Manor, as to the meaning of the words in the exception. One side contended that the words 'Toto illo solo et Fundo' meant no more than the land occupied by the Fort, while the other side argued, that the exception contemplated the whole flat ground, from the Walton hills to Andrew Point. It appears that after discussions that lasted two or three years, after the Attorney General had been consulted, and after the Master General of the Ordnance had viewed the ground, that the Lord of the Manor should grant a lease to the Ordnance of the land from the Fort to Ireton's Creek'. This was the legal position in the 1870's when Colonel Tomline the then lord of the manor claimed the rights of soil and to the foreshore.

Amongst the plans in the report on the Martello Tower, there is a cross section of the original tower at Martella 'in the Bay of San Fiorenzo, on the North West part of the Island of Corsica' together with a brief description of the British attack on this 'formidable' defence in 1794. 'As the power and efficiency of a tower... was proved, it was determined to construct towers, upon the same principle, all along the coasts of Sussex, Kent, Essex and Suffolk, at points where it was considered favourable for the landing of troops'. Another plan shows 'the general construction of the towers in the Eastern District, except Aldborough tower which is larger than the rest'. The carefully measured dimensions of the buildings and other details shown on the plan are further explained in the references in the corner of the plan. The original scale was 4 feet to an inch. There was a small difference between towers that had been built on shingle as

opposed to those built on clay. The rain and surface water from the towers built on shingle drained to below the structure and not away from the building (Figure 10).

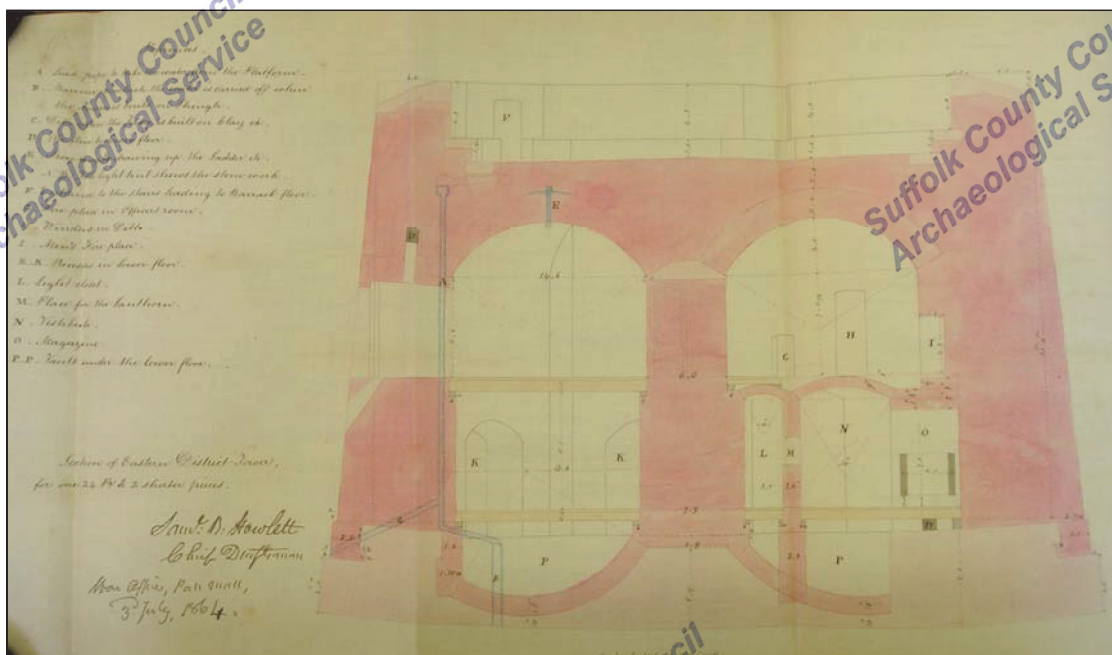


Figure 10: 'the general construction of the towers in the Eastern District (except Aldborough tower which is larger than the rest)'

In the Eastern District the towers were lettered 'consecutively from A to Z, and then continued to AA, BB, and CC, the first being at St Osyth, the last at Aldborough'. The responsibility for these towers fell under the control of the then Board of Ordnance whose solicitors reported in October 1831 that 'the titles of the property in question are, from the absence of original documents and plans which ought properly to be in the possession of the Department, involved in much difficulty and uncertainty'. It was Howlett's role to discover what title deeds and property records existed for each site. He reported:

'Towers N, O, P, T and U

The lands of these towers were bought of George Nassau Esq for £300, by deed, dated 31 October 1809, in which they are described as follows:

N Release of part of the Manor of Walton or Walton with Trimley containing 7 acres bounded on the East by the road to Walton and on the West by the Sea Beach

O Also all other square piece of Waste containing 4 acres on the Sea Shore near Landguard.

This tower was situated a little to the south of the Grave Yard, near Landguard Fort: but the sea has made such inwards at this part of the coast, that when, the tower became partly washed away it was sold, by order of the Master General, dated 7 March 1838. The land too, as well as nearly the whole of the Grave Yard are, as the natives call it, "gone to sea".

P Also all that other square piece of land containing 4 acres on the Sea Shore near the last piece

T Also all that other piece of Waste containing 6 acres on the Sea Shore near the influx of the River Deben, near Eastend Farm?

U Also that square piece of Waste containing 4 acres near the last piece. All which 5 pieces of land have been lately marked out as stations for erecting thereon 5 Martello Towers'.

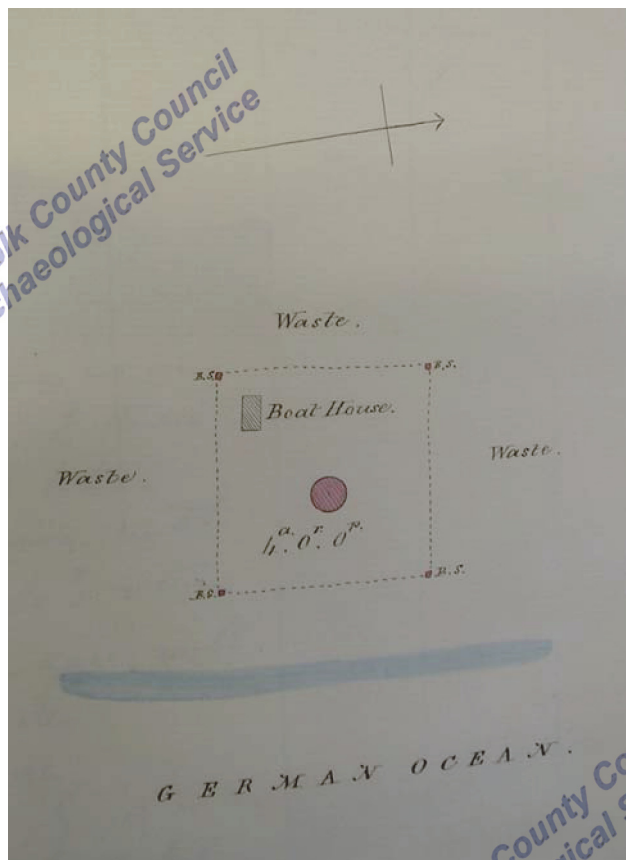


Figure 11: Plan of Tower 'P'

There are also separate site plans for each of the towers in this book. The plan of Tower 'P' is very simple in form, with only the tower and boathouse shown with the four boundary stones at each corner of the site. The surrounding lands are simply marked as waste (Figure 11).

On an undated mid nineteenth century 'Copy Plan of the Waste Lands situate within the Manor belonging to his Grace the Duke of Hamilton and Brandon' (ref. HA 49/52/2/1) the 'High and Low Water Marks' are shown. This plan was produced before 1865 as in that year the 12th Duke of Hamilton sold the manor to Colonel Tomline. The plan emphasises that the grounds of Martello Tower 'P' ended at the high water mark when the tower had originally been constructed.

Second World War Defences

At the end of the Second World War much of the land that had been acquired by the military for defence purposes was restored to its previous owners, who were compensated for the use of their land during the war. There were also payments for the restoration of land and the removal of defences. In a Felixstowe Urban Council file (ref. EF12/1/8/3), there are details of this restoration work in the area between the 'Pier and Manor House (sites of gun emplacement & 3 blockhouses)'. The file is mainly concerned with the costs of removal of defences and restoration included details of 'Sea Wall at south-west end Promenade adjoining Manor House (site gone Blockhouse). Under making good it states 'Rebuild & make good damaged to sea wall caused by collapse of blockhouse, including removal of debris, driving steel sheet piling, constructing mass concrete toe, mass concrete wall, with necessary shuttering'. Also 'Sea Wall at southwest end of promenade 75 yards east of Manor House' 'rebuild & make good damage to sea wall, including removal of debris'. Evidently the damage was caused by 'thrust of anti-tank blocks'.

The forms are linked to correspondence files that may contain a few additional details.

Earlier Maps

Though the site of this tower was in the ecclesiastical parish of Walton it is omitted from the 1840 tithe map. The sites of tower N numbered 298 on the map and Q, 178 on the map are shown, that of tower 'P' and the site of the former tower 'O' were within a general area marked on the map as 'Langer Common' (ref. P461/270) and outside of the titheable area of the parish. This is partly explained in a description of

Languard Fort printed in White's 1844 'Directory of Suffolk', 'Camden, who wrote before the first fort was erected here, says, that "The shore is very well defended by a vast ridge, called Langerston, which for about two miles, lies all along out of the sea, not without great danger and terror to mariners. Tis, however, of use to fishermen for drying of their fish, and does in a manner fence the spacious harbour of Orwell". Its name is a corruption of Langer Fort, and the tongue of land, on the point of which it stands, consists of a common and marshes, which have been called Langer from time immemorial, and are suppose to have been recovered from the ocean at some remote period, as it is evident that the estuary of the Orwell and Stour once extended about two miles more northward than it does now, to the cliffs of Walton and Felixstow'.

In 1784 the Woodbridge Surveyor Isaac Johnson completed a volume of plans of the various manors then held by George Nassau based on the earlier survey of John Kirby completed in the years 1740 & 1741 (ref. HA119/435/26). The volume includes a reduced plan dated 1823 showing the general boundaries of the manors. Langer Common with part of Felixstow Common is shown as part of the manor of Walton. The larger scale plan (Table VIII) shows Langer Common joining Wadgate Common, the position of Bull's Clift and the roadway crossing the commons to Languard Fort. The purpose of these plans is to indicate the positions of the manorial properties not the areas of common.

Additional plans and illustrations of the fort were included in Major John Henry Leslie's 'The History of Languard Fort in Suffolk' published in 1898. These include the 'Plan of the Fort and Defence Works – 1785'. At that time the burial ground was complete and protected from the sea by outworks leading from 'Rainham Redoubt'. This plan was evidently used in the preparation of the 1864 report with details copied on to plan 'B'. Again the 1785 plan though not of immediate relevance is a good indicator of the changes in the coastal at the fort. His work also includes a 'Landscape view of the Fort – 1753'. The artist has positioned himself on Bull's Cliff and the view to the south shows the area of coarse grass in front of the fort depicted in the distance. Only significant feature of the foreground is the roadway leading to the fort. Leslie describes something of the earlier history of the site (see below).

There is a copy of Henry Davy's print in the Woolnough Collection (ref. Vol 75, p 3). He sketched the view on 28 June 1837 and states 'The Martello Towers are used by the Preventive Men'. The flag had been lowered 'for the Death of His Majesty King William IV' (Figure 4).

Earlier History of the Site

Though there are a few minor errors in Major Leslie's work, such as the association of the name Languard with the Domesday manor of Langestuna, in general his is an authoritative and comprehensive study of the fort. He writes

'Great Diversity of opinion appears to have existed as to whether Languard has always been situated in Suffolk, or whether it was not at one time in Essex. I incline to the opinion that it has always been, as it now is, in Suffolk, though I think there is no doubt that it was formerly detached from the mainland, and was – at any rate at high water – an island'.

He provides the evidence for this opinion,

'A survey of the county of Suffolk, made in the year 1587, speaks of the ground at the point (i.e. where the fort now stands) thus:-

"Defended by the cominge in of the water at everye floode, ys asloe devyed from the maine lande, and so for tyem ys made (in effecte) an Iland".

Silas Taylor says "It is generally believed that the Stour did formerly in a straighter current (than now it doth) discharge itself into the Sea about Hoasley Bay, under the Highlands of Walton-Coleness and Felixstowe, in the county of Suffolk, betwixt which and Landguard Fort are, as they reputed, certain remains of the old Channel which the neighbouring inhabitants still call Fleets, retaining at this day the tradition of the Course of Water, and the Entrance into this Haven to have heretofore been by and through them".

Silas Taylor was the 'keeper of the King's at Harwich from 1665 to 1678' and wrote a history of the town in 1676 which was published in 1730.

The first defences were built shortly after 1544 and the first description of the defences appears in 'A Brief of the charge of the Block-houses in Essex' dated February 1547.

Summary From Historical Sources

The land around Martello Tower 'P' is a shingle ridge that has developed over the last four hundred years. The survey of 1587 describes the site of Landguard Fort as an 'Island' or at least as such at high tide. Due to the high number of landscape accurate plans of the area it is possible to detail the changes in the coastline between 1734 and the present. In the area of this site, the coastline has progressed, that of 1734 was probably just to the rear of the houses in Langer Road, by 1797 the coastline would have been just to the east of the later tower, shortly after 1809 the ground marked out by the Board of Ordnance, later War Department, boundary stones to the east of the tower was above the high water mark. The high water mark pre 1865 is shown on an undated plan. The coast had moved further to the east by 1874 when the boundary between the Department of Defence's land and that of the then lord of the manor of Walton cum Trimley was finally settled. At the same time, the coast at Landguard Point has regressed with the loss of the position of the graveyard established in 1627 and the site of Martello Tower 'O'.

Though various deeds of 1876 suggest a detailed over design for this area, the evidence of the later Ordnance Survey maps shows that this was never completed.

There are a number of important recommendations. The 1867 plan produced at the scale of 1:2500 (ref. HA119:50/3/204) should be properly scanned as it appears to be a very reliable depiction of the area and includes a number of changes of the coastline as well as some minor features around this site.

The file of reports on the describing the Martello Towers in 1816 and 1818 now held at the National Archives (ref. WO 44/53) should be examined in relation to the descriptions of Martello Tower 'P' or at least the relevant pages copied in advance of any restoration of the building. Finally the general plan of the 'East Coast' Martello Towers included in the 1864 report (ref. IV 400/3) should be copied in advance of the restoration

3.4 Geology

The underlying geology of the Felixstowe peninsular comprises chalk overlain by London clay which is in turn overlain by deposits of crag. The actual area of the South Seafront development is formed from a sand and gravel ridge and a complex sequence of shifting shingle ridges and valleys. Since the construction of substantial sea defences this shifting shingle has become stable and a poor thin sandy topsoil has developed giving rise to the grasslands that form the greater part of the site.

3.5 Geophysical Survey

As part of the evaluation of the development area the Brief and Specification issued by the County Conservation Team called for a geophysical survey of the military zone around the Martello tower. This was discussed with Mr R. Carr of the County Conservation Team who confirmed that this should comprise a magnetometry survey. In order to undertake this work a specialist firm, GSB Prospection, was commissioned and the results of their work is detailed in their report (Appendix II), the summary is as follows:

Summary

The concentration of ferrous metal within the survey area severely influenced the results. It has not been possible, with any confidence, to comment on the findings with regards to subtle archaeological anomalies. However in the few locations where the background levels are 'low' ($\pm 5nT$) there are no anomalies which could represent a moat or ditch.

Surface features (manhole covers, anchorage points and fences) can account for most of the strong ferrous responses. Some of the responses have no obvious visible source but are presumed to be similar artefacts or scrap metal. An interpretation diagram of these "unknowns" has been included in the hope that it will assist in the investigation of the site.

Project Co-ordinator: I. Wilkins BSc MSc (August 2008)

3.6 Site Visit

The site walkover was undertaken prior to the commissioning of the geophysical survey. The Martello tower appears to be good condition. It is still used for coastguard monitoring and is kept locked. The military zone is apparent with the remains of an iron railing fence along the south, west and northern sides. Boundary stones were visible in the southwest and northwest corners and others may be present elsewhere on site.

In the northeast corner of the military zone around the Martello tower a Royal Observers Corps (ROC) monitoring post is present. This is a Cold War monument and is likely to date from the early 1960s. It comprises an underground room and toilet constructed from concrete and marked by a low mound upon which the entrance, a vent and sealed monitoring tube are present (Plate I).

A series of domestic houses, known as the Coastguard Cottages formerly stood to the west of the tower, these have since been removed although these were photographically recorded by SCCAS prior to demolition. A small selection of photographs can be found in Appendix III.

All areas of the site should be accessible for trial trenching with no substantial vegetation or insurmountable obstacles present.



Plate I: ROC post

4. Conclusions

The available documentary evidence suggests that the site has a **very low** potential for deposits relating to all periods prior to the post-medieval period as it would appear that the greater majority of the site has only been in existence since the early 18th century. A strip along the northwestern edge may be slightly earlier but the documentary evidence suggests this area comprised sand dunes (Benthills) and shifting shingle and was consequently unlikely to have been occupied.

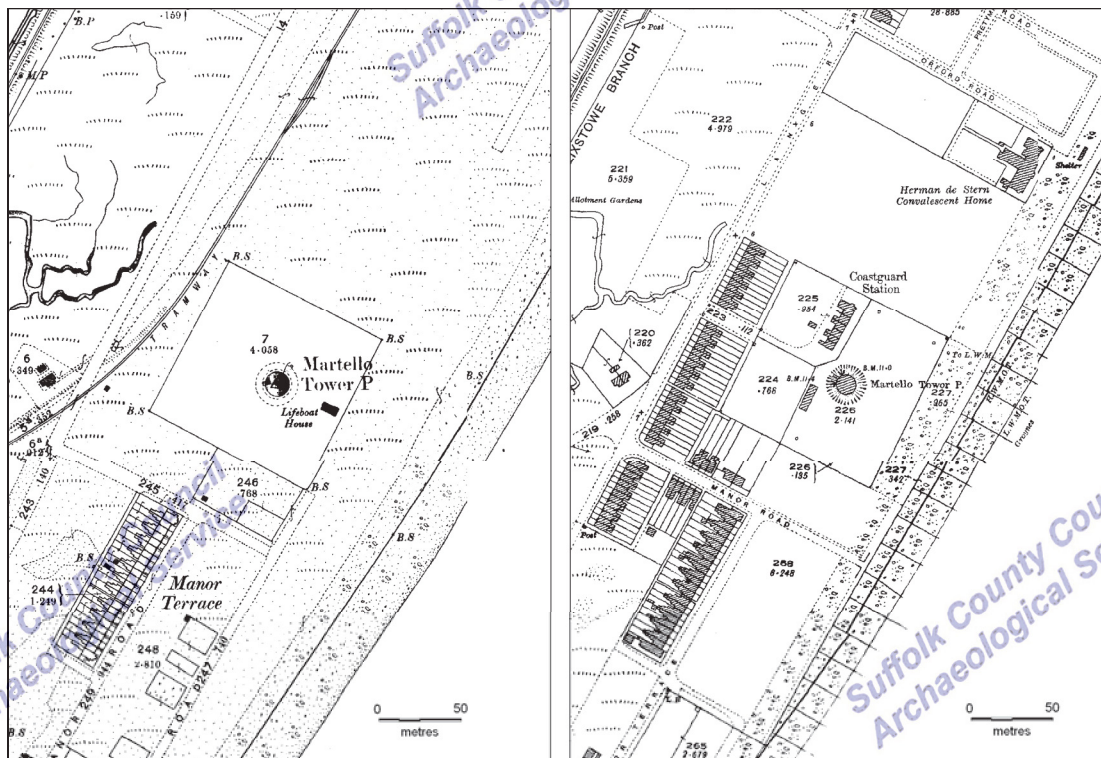


Figure 12: 1st (left) and 3rd (right) Edition Ordnance Survey 1:2500 scale sheets (extracts)

The post-medieval period, from the construction of the tower onwards, has a **very high** potential for archaeological remains to be present. These could comprise evidence for structures related to the early history of the tower, such as the boathouses marked on early plans, although the most likely deposits/features to be encountered

are those relating to World War II defences with particular reference to the concrete structures, slit trenches and ‘mysterious’ mounds noted on 1940s aerial photographs. Although no record of World War I defences were identified it is likely that some forms of defence would have been erected along this part of the coast evidence for which could exist as buried features or deposits.

Many of the Martello towers are surrounded by a substantial sheer sided, brick faced, ditch. No positive evidence for such a ditch surrounding the tower was noted during the site visit or from any of the plans studied in the Record Office although on the 1st and 3rd Edition Ordnance Survey Maps of c. 1880 and 1925 respectively (Figure 12) there is a suggestion of a circular depression around the tower. The 1st edition also indicates the site of a boathouse (the tower is not marked on the 2nd Edition map, presumably for ‘security’ reasons).

5. Recommendations

The documentary survey has identified a potential for archaeological remains dating to the post-medieval through to modern periods within the site. In order to establish the levels of survival of and the threat to any buried archaeological remains it would be prudent to continue with the proposed trenched evaluation as detailed in the original Brief and Specification to answer the following questions:

1. To confirm the fluctuation of the coastline as suggested in the earlier plans.
2. Is there any evidence for structures relating to the earlier history of the tower?
3. Is a ditch present around the Martello tower?
4. Is there any significant evidence for defences relating to World War I and/or II?

Mark Sommers
Suffolk County Council Archaeological Service
Field Projects Team

14th November 2008

6. References

Suffolk Record Office, Ipswich

Pretyman-Tomline Collection

HA119/435/26 ‘A Plan of the Parishes of Felixstow, Walton, Trimlies St Martin and St Mary, Stratton & Part of the Parishes of Falkenham, Kirton & Levington in Suffolk lying within the Lordships of the Hon George Nassau Esq’, ‘Drawn from the Actual Survey of John Kirby made in the Years 1740 & 1741’ Isaac Johnson 1784

HA119: 50/3/204 Plan Landguard Fort re purchase of land under Defence Act 1875 surveyed 1834

HA119: 50/3/154 Plans, Languard Common and Lands in Walton and Trimley to be taken by War Office, James Beal 1876

HA119: 50/3/214 Case Papers Tomline and War Department, Court of Exchequer 1876

HA119: 1645/56/1 Deeds Site Langar Road and Station Road, Felixstowe 1876

HA119: 1645/56/2 Deeds Building Plots Manor Road 1876

Tithe Map

P461/270 Tithe Map Walton 1840

War Office Solitictor’s Papers

IV 400/2 'Titles to Lands belonging to the War Department at Languard Fort' No 36, Samuel B. Howlett, War Office 1861
IV 400/3 'Titles to Lands belonging to the War Department at the Towers on the Coasts of Essex and Suffolk' No 38, Samuel B. Howlett, War Office 1864

Felixstowe Urban District Council

EF12/1/8/3 Removal of War Time defences and Restoration of Sea Front

Woolnough Collection

Volume 75 page 3 Henry Davy Print of Martello Tower 'P' 1837

Published Works

Kent, P. (1988)

'Fortifications of East Anglia', Terence Dalton Ltd, Lavenham

Leslie, Maj. J.H. (1898)

'The History of Languard Fort in Suffolk; published with the sanction of the Secretary of State for War' London

White, W. (1844)

'History, Gazetteer and Directory of Suffolk' Sheffield

Any opinions expressed in this report about the need for further archaeological work are those of the Field Projects Team alone. The need for further work will be determined by the Local Planning Authority and its archaeological advisors. Suffolk County Council's archaeological contracting service cannot accept responsibility for inconvenience caused to clients should the Planning Authority take a different view to that expressed in the report.

APPENDIX I

SUFFOLK COUNTY COUNCIL ARCHAEOLOGICAL SERVICE - CONSERVATION TEAM

Brief and Specification for an Archaeological Evaluation

SOUTH SEAFRONT, MARTELLO 'P', FELIXSTOWE

The commissioning body should be aware that it may have Health & Safety and other responsibilities, see paragraphs 1.7 & 1.8.

This is the brief for the first part of a programme of archaeological work. There is likely to be a requirement for additional work, this will be the subject of another brief.

1. Background

- 1.1 An application [C/05/1723/FUL] has been made for redevelopment of land between Orford Road, Langer Road and Manor Terrace as Maritime Park and 158 dwellings.
- 1.2 The Planning Authority has been advised that any consent should be conditional upon an agreed programme of work taking place before development begins (PPG 16, paragraph 30 condition). An archaeological evaluation of the application area will be required as the first part of such a programme of archaeological work; decisions on the need for, and scope of, any further work will be based upon the results of the evaluation and will be the subject of additional briefs.
- 1.3 The development area lies on the seafront and includes Martello Tower 'P' (Scheduled Ancient Monument Suffolk 105) which lies within a defined military zone which is believed to have included an external battery and boat-house. Although the site is on a shingle bank assumed to have been laid down by marine processes there is some potential for earlier archaeology on the site.
- 1.4 All arrangements for the field evaluation of the site, the timing of the work, access to the site, the definition of the precise area of landholding and area for proposed development are to be defined and negotiated with the commissioning body.
- 1.5 Detailed standards, information and advice to supplement this brief are to be found in *Standards for Field Archaeology in the East of England*, East Anglian Archaeology Occasional Papers 14, 2003.
- 1.6 In accordance with the standards and guidance produced by the Institute of Field Archaeologists this brief should not be considered sufficient to enable the total execution of the project. A Project Design or Written Scheme of Investigation (PD/WSI) based upon this brief and the accompanying outline specification of minimum requirements, is an essential requirement. This must be submitted by the developers, or their agent, to the Conservation Team of the Archaeological Service of Suffolk County Council (Shire Hall, Bury St Edmunds IP33 2AR; telephone/fax: 01284 352443) for approval. The work must not commence until this office has approved both the archaeological contractor as suitable to undertake the work, and the PD/WSI as satisfactory. The PD/WSI will *provide the basis for measurable standards* and will be used to establish whether the requirements of the planning condition will be adequately met.
- 1.7 Before any archaeological site work can commence it is the responsibility of the developer to provide the archaeological contractor with either the contaminated land report for the site or a written statement that there is no contamination. The developer should be aware that investigative sampling to test for contamination is likely to have an impact on any archaeological deposit which exists; proposals for sampling should be discussed with this office before execution.
- 1.8 The responsibility for identifying any restraints on field-work (e.g. Scheduled Monument status, Listed Building status, public utilities or other services, tree preservation orders, SSSIs, wildlife sites &c.) rests with the commissioning body and its archaeological contractor. The existence and content of the archaeological brief does not over-ride such restraints or imply that the target area is freely available.

2. Brief for the Archaeological Evaluation

- 2.1 Establish whether any archaeological deposit exists in the area, with particular regard to any which are of sufficient importance to merit preservation *in situ* [at the discretion of the developer].
- 2.2 Identify the date, approximate form and purpose of any archaeological deposit within the application area, together with its likely extent, localised depth and quality of preservation.
- 2.3 Evaluate the likely impact of past land uses and natural soil processes. Define the potential for existing damage to archaeological deposits. Define the potential for colluvial/alluvial deposits, their impact and potential to mask any archaeological deposit. Define the potential for artificial soil deposits and their impact on any archaeological deposit.
- 2.4 Establish the potential for waterlogged organic deposits in the proposal area. Define the location and level of such deposits and their vulnerability to damage by development where this is defined.
- 2.5 Provide sufficient information to construct an archaeological conservation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.
- 2.6 Evaluation is to proceed sequentially: the desk-based evaluation will precede the field evaluation. Examination for surface features and geophysics will precede trenching. The results of the desk-based work and the survey work are to be used to inform the trenching design. This sequence will only be varied if benefit to the evaluation can be demonstrated.
- 2.7 This project will be carried through in a manner broadly consistent with English Heritage's *Management of Archaeological Projects, 1991 (MAP2)*; all stages will follow a process of assessment and justification before proceeding to the next phase of the project. Field evaluation is to be followed by the preparation of a full archive, and an assessment of potential. Any further excavation required as mitigation is to be followed by the preparation of a full archive, and an assessment of potential, analysis and final report preparation may follow. Each stage will be the subject of a further brief and updated project design, this document covers only the evaluation stage.
- 2.8 The developer or his archaeologist will give the Conservation Team of the Archaeological Service of Suffolk County Council (address as above) five working days notice of the commencement of ground works on the site, in order that the work of the archaeological contractor may be monitored.
- 2.9 If the approved evaluation design is not carried through in its entirety (particularly in the instance of trenching being incomplete) the evaluation report may be rejected. Alternatively the presence of an archaeological deposit may be presumed, and untested areas included on this basis when defining the final mitigation strategy.
- 2.10 An outline specification, which defines certain minimum criteria, is set out below.

3. Specification A: Desk-Based Assessment

- 3.1 Consult the County Sites and Monuments Record (SMR), both the computerised record and any backup files.
- 3.2 Examine all the readily available cartographic sources (e.g. those available in the County Record Office). Record any evidence for historic or archaeological sites (e.g. buildings, settlements, field names) and history of previous land uses. Where permitted by the Record Office make either digital photographs, photocopies or traced copies of the document for inclusion in the report.
- 3.3 Undertake documentary search to establish the potential content of the military zone of the site, e.g. the potential and location of any structures ancillary to the Martello - such as defensive lines, battery and boat-house. This information is to be used to inform the field evaluation.
- 3.4 Assess the potential for detailed documentary records which could be used to provide an in depth report on the military use of the site, including the Martello. A detailed report is likely to be required as part of the full mitigation, and will be defined in a subsequent brief.

4 Specification B: Field Evaluation

- 4.1 Examine the area for earthworks, e.g. banks, ditches or platforms. If present these are to be recorded in plan at 1:2500, with appropriate sections. A record should be made of the topographic setting of the site (e.g. slope, plateau, etc). The Conservation Team of SCC Archaeological Service must be consulted if earthworks are present and before proceeding to the excavation of any trial trenches.
- 4.2 Provide geophysical survey of the defined military zone.
- 4.3 Trial trenches are to be excavated to cover 5% of the square military zone and any external features identified by the documentary survey (e.g. the potential battery); one trench is to run radially from the Martello Tower to identify and typify the Martello ditch. In the areas outside the square military zone two transects at right angles to the sea front are to be excavated to check the nature of the shingle bank and depth to marine deposits below it and potential for the pre bank archaeology. Standard evaluation trenches covering 3% of these areas outside the military zone is to be provided with a contingency for an increase to 5% if any archaeology is present. Linear trenches are thought to be the most appropriate sampling method. Trenches are to be a minimum of 1.8m wide unless special circumstances can be demonstrated. If excavation is mechanised a toothless 'ditching bucket' must be used. The trench design must be approved by the Conservation Team of the Archaeological Service before field work begins.
- 4.4 The topsoil may be mechanically removed using an appropriate machine fitted with toothless bucket and other equipment. All machine excavation is to be under the direct control and supervision of an archaeologist. The topsoil should be examined for archaeological material.
- 4.5 The top of the first archaeological deposit may be cleared by machine, but must then be cleaned off by hand. There is a presumption that excavation of all archaeological deposits will be done by hand unless it can be shown there will not be a loss of evidence by using a machine. The decision as to the proper method of further excavation will be made by the senior project archaeologist with regard to the nature of the deposit.
- 4.6 In all evaluation excavation there is a presumption of the need to cause the minimum disturbance to the site consistent with adequate evaluation; that significant archaeological features, e.g. solid or bonded structural remains, building slots or post-holes, should be preserved intact even if fills are sampled.
- 4.7 There must be sufficient excavation to give clear evidence for the period, depth and nature of any archaeological deposit. The depth and nature of colluvial or other masking deposits must be established across the site.
- 4.8 The contractor shall provide details of the sampling strategies for retrieving artefacts, biological remains (for palaeoenvironmental and palaeoeconomic investigations), and samples of sediments and/or soils (for micromorphological and other pedological/sedimentological analyses. Advice on the appropriateness of the proposed strategies will be sought from J Heathcote, English Heritage Regional Adviser for Archaeological Science (East of England). A guide to sampling archaeological deposits (Murphy and Wiltshire 1994) is available.
- 4.9 Any natural subsoil surface revealed should be hand cleaned and examined for archaeological deposits and artefacts. Sample excavation of any archaeological features revealed may be necessary in order to gauge their date and character.
- 4.10 Metal detector searches must take place at all stages of the excavation by an experienced metal detector user.
- 4.11 All finds will be collected and processed (unless variations in this principle are agreed with the Conservation Team of SCC Archaeological Service during the course of the evaluation).
- 4.12 Human remains must be left *in situ* except in those cases where damage or desecration are to be expected, or in the event that analysis of the remains is shown to be a requirement of satisfactory evaluation of the site. However, the excavator should be aware of, and comply with, the provisions of Section 25 of the Burial Act 1857. "Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England" English Heritage and the Church of England 2005 provides advice and defines a level of practice which should be followed whatever the likely belief of the buried individuals.
- 4.13 Plans of any archaeological features on the site are to be drawn at 1:20 or 1:50, depending on the complexity of the data to be recorded. Sections should be drawn at 1:10 or 1:20 again

depending on the complexity to be recorded. Any variations from this must be agreed with the Conservation Team.

- 4.14 A photographic record of the work is to be made, consisting of both monochrome photographs and colour transparencies.
- 4.15 Topsoil, subsoil and archaeological deposit to be kept separate during excavation to allow sequential backfilling of excavations.

5. General Management

- 5.1 A timetable for all stages of the project must be agreed before the first stage of work commences, including monitoring by the Conservation Team of SCC Archaeological Service.
- 5.2 The composition of the project staff must be detailed and agreed (this is to include any subcontractors).
- 5.3 A general Health and Safety Policy must be provided, with detailed risk assessment and management strategy for this particular site.
- 5.4 No initial survey to detect public utility or other services has taken place. The responsibility for this rests with the archaeological contractor.
- 5.5 The Institute of Field Archaeologists' *Standard and Guidance for Archaeological Desk-based Assessments* and for *Field Evaluations* should be used for additional guidance in the execution of the project and in drawing up the report.

6. Report Requirements

- 6.1 An archive of all records and finds must be prepared consistent with the principles of English Heritage's *Management of Archaeological Projects*, 1991 (particularly Appendix 3.1 and Appendix 4.1).
- 6.2 The data recording methods and conventions used must be consistent with, and approved by, the County Historic Environment Record.
- 6.3 The objective account of the archaeological evidence must be clearly distinguished from its archaeological interpretation.
- 6.4 An opinion as to the necessity for further evaluation and its scope may be given. No further site work should be embarked upon until the primary fieldwork results are assessed and the need for further work is established.
- 6.5 Reports on specific areas of specialist study must include sufficient detail to permit assessment of potential for analysis, including tabulation of data by context, and must include non-technical summaries.
- 6.6 The Report must include a discussion and an assessment of the archaeological evidence. Its conclusions must include a clear statement of the archaeological potential of the site, and the significance of that potential in the context of the Regional Research Framework (*East Anglian Archaeology*, Occasional Papers 3 & 8, 1997 and 2000).
- 6.7 Finds must be appropriately conserved and stored in accordance with *UK Institute of Conservators Guidelines*. The finds, as an indissoluble part of the site archive, should be deposited with the County HER if the landowner can be persuaded to agree to this. If this is not possible for all or any part of the finds archive, then provision must be made for additional recording (e.g. photography, illustration, analysis) as appropriate.
- 6.8 The site archive is to be deposited with the County HER within three months of the completion of fieldwork. It will then become publicly accessible.
- 6.9 Where positive conclusions are drawn from a project (whether it be evaluation or excavation) a summary report, in the established format, suitable for inclusion in the annual 'Archaeology in Suffolk' section of the *Proceedings of the Suffolk Institute for Archaeology*, must be prepared. It should be included in the project report, or submitted to the Conservation Team, by the end of the calendar year in which the evaluation work takes place, whichever is the sooner.

- 6.10 County HER sheets must be completed, as per the county HER manual, for all sites where archaeological finds and/or features are located.
- 6.11 At the start of work (immediately before fieldwork commences) an OASIS online record <http://ads.ahds.ac.uk/project/oasis/> must be initiated and key fields completed on Details, Location and Creators forms.
- 6.12 All parts of the OASIS online form must be completed for submission to the SMR. This should include an uploaded .pdf version of the entire report (a paper copy should also be included with the archive).

Specification by: R D Carr

Suffolk County Council
 Archaeological Service Conservation Team
 Environment and Transport Department
 Shire Hall
 Bury St Edmunds
 Suffolk IP33 2AR

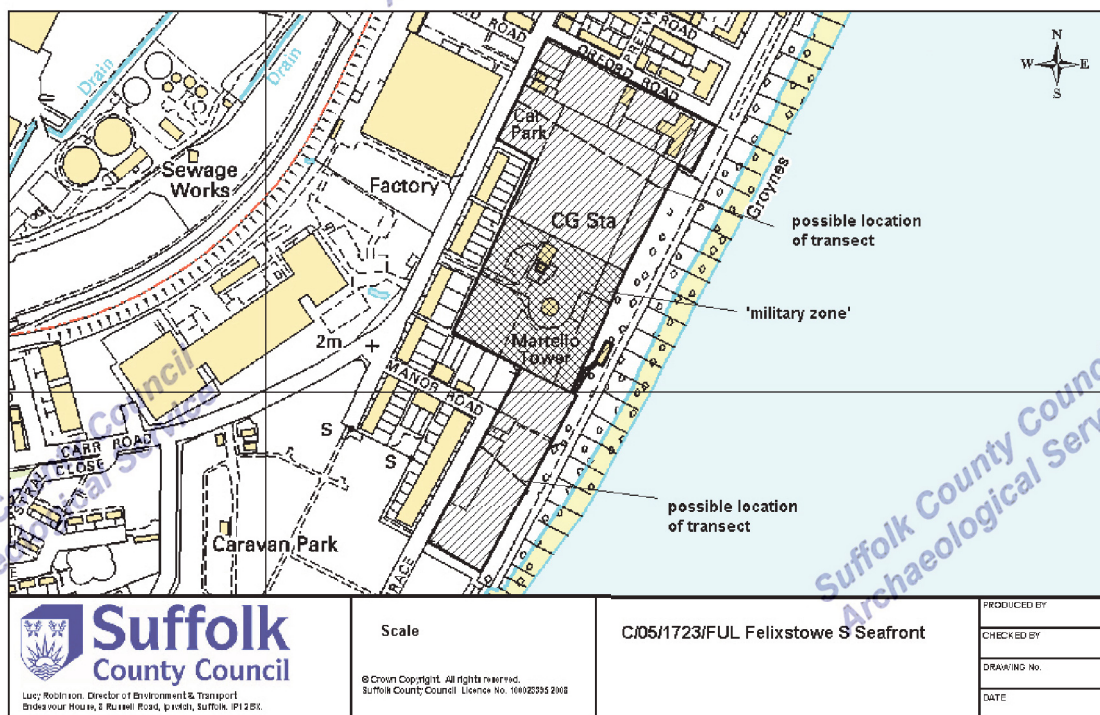
Tel: 01284 352441

Date: 19 May 2008

Reference: /South Seafront, Martello 'P'

This brief and specification remains valid for 12 months from the above date. If work is not carried out in full within that time this document will lapse; the authority should be notified and a revised brief and specification may be issued.

If the work defined by this brief forms a part of a programme of archaeological work required by a Planning Condition, the results must be considered by the Conservation Team of the Archaeological Service of Suffolk County Council, who have the responsibility for advising the appropriate Planning Authority.



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APPENDIX II

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GEOPHYSICAL SURVEY REPORT

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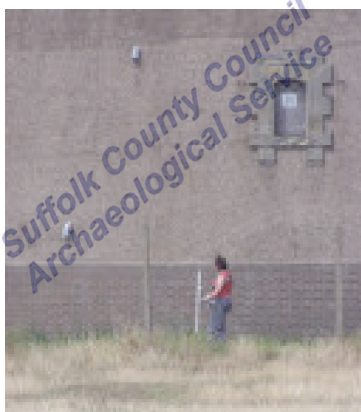
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PROSPECTION Ltd

GEOPHYSICAL SURVEY REPORT 2008/43

Martello 'P', Felixstowe (South Seafront), Suffolk



Client:

Suffolk County Council Archaeology Service

on behalf of

BLOOR HOMES

Cowburn Farm, Market Street, Thornton, Bradford, West Yorkshire, BD13 3HW

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Web: www.gsbprospection.com

Specialising in Shallow and Archaeological Prospection

GSB Survey No. 08/43

Martello ‘P’, Felixstowe

NGR	TM 292 338		
Location	Southeastern outskirts of Felixstowe (South Seafront) off Langer Road (continuation of A154).		
County	Suffolk.		
District	Suffolk Coastal.	Parish	Felixstowe CP.
Topography	Level.		
Current land-use	Industrial – Disused.		
Soils	Sands and Gravels.		
Geology	Oligocene and Eocene marine deposits.		
Archaeology	Martello ‘P’ (Scheduled Monument Number SF105) built in the 19 th century to defend against a Napoleonic invasion.		
Survey Methods	Detailed Magnetic (fluxgate gradiometer)		

Aims

To locate any detectable archaeological remains, specifically a moat or buildings associated with the Martello Tower, within the area of the proposed development. This work forms part of a wider archaeological investigation being carried out by **Suffolk County Council Archaeological Service** on behalf of **Bloor Homes**.

Summary of Results*

The concentration of ferrous metal within the survey area severely influenced the results. It has not been possible, with any confidence, to comment on the findings with regards to subtle archaeological anomalies. However in the few locations where the background levels are ‘low’ ($\pm 5\text{nT}$) there are no anomalies which could represent a moat or ditch.

Surface features (manhole covers, anchorage points and fences) can account for most of the strong ferrous responses. Some of the responses have no obvious visible source but are presumed to be similar artefacts or scrap metal. An interpretation diagram of these “unknowns” has been included in the hope that it will assist in the investigation of the site.

Project Information

Project Co-ordinator: I Wilkins BSc MSc
Project Assistants: E Collier, R Green and J Tanner
Date of Fieldwork: 30th – 31st July 2008
Date of Report: 30th August 2008

***It is essential that this summary is read in conjunction with the detailed results of the survey.**

Survey Specifications

Method

The survey area was set out and tied in to the Ordnance Survey (OS) mapping using tapes; see Figure T1, tie-in information, Archive CD.

Technique	Traverse Separation	Reading Interval	Instrument	Survey Size
Magnetometer - Scanning (Appendix 1)	-	-	-	-
Magnetometer – Detailed (Appendix 1)	1.0m	0.25m	Bartington Grad 601-2	0.7 ha
Resistance – Twin Probe (Appendix 1)	-	-	-	-
Ground Penetrating Radar (GPR) (Appendix 1)	-	-	-	-

Data Processing

	Magnetic	Resistance	GPR
Zero Mean Traverse	Yes	-	-
Step Correction	Yes	-	-
Interpolation	Yes	-	-
Filter	Low Pass	-	-

Presentation of Results

Report Figures (Printed & Archive CD): Location plots, data plots and interpretation diagrams on base map (Figures 1-4).

Reference Figures (Archive CD): Data plots at 1:500 - for reference and analysis (Figures A1 – A2). Tie-in information (Figure T1)

Plot Formats: See Appendix 1: Technical Information, at end of report.

Photos of site: Included on Archive CD only.

General Considerations

Ground conditions were good for data collection; being flat with close-cropped grass for most of the area. Figure 1 shows the extent of the investigation, which covered most of the intended survey area, with the exception of a bunker to the north of the Martello, which was overgrown.

The geophysical survey area contained numerous artefacts, either metal (anchorage points, flood gates, manhole covers and pipes) or with metal reinforcement (sea defence wall and fence posts); see archive photographs.

Results of Survey

1. Magnetic Survey

- 1.1 Figure 2 shows the greyscale for the site at a level of $\pm 10\text{nT}$. At this plotting level subtle archaeological anomalies would not be identified but more substantial anomalies, such as a moat or building foundations might be detected. However, no geophysical responses have been identified as potential archaeology within the survey block.
- 1.2 Strong ferrous responses along the eastern edge of the survey area correspond with the reinforced concrete sea wall. The edge of the survey began 2m from the wall but the magnetic halo extends a good 10m into the survey area. To the north and south, the metal boundary fence also produced a strong ferrous response masking any more subtle anomalies.
- 1.3 Reinforced concrete poles, 10-15m from the base of the tower, combined with manhole covers, additional buildings and what was interpreted as metal anchorage points (see archive photographs) effectively masked a 20-30m zone around the base of the Martello tower. It is possible that the moat, if present, may have contributed to this magnetic response but it would be impossible to isolate this from the more obvious ferrous anomalies.
- 1.4 Figure 3 shows a summary interpretation of the site in terms of strong ferrous responses, which could be accounted for by observed surface features and strong ferrous anomalies of an uncertain source.
- 1.5 For comparison, a series of greyscales at different plotting level is provided in Figure 4. None of these indicate obvious features of potential interest.

2. Conclusions

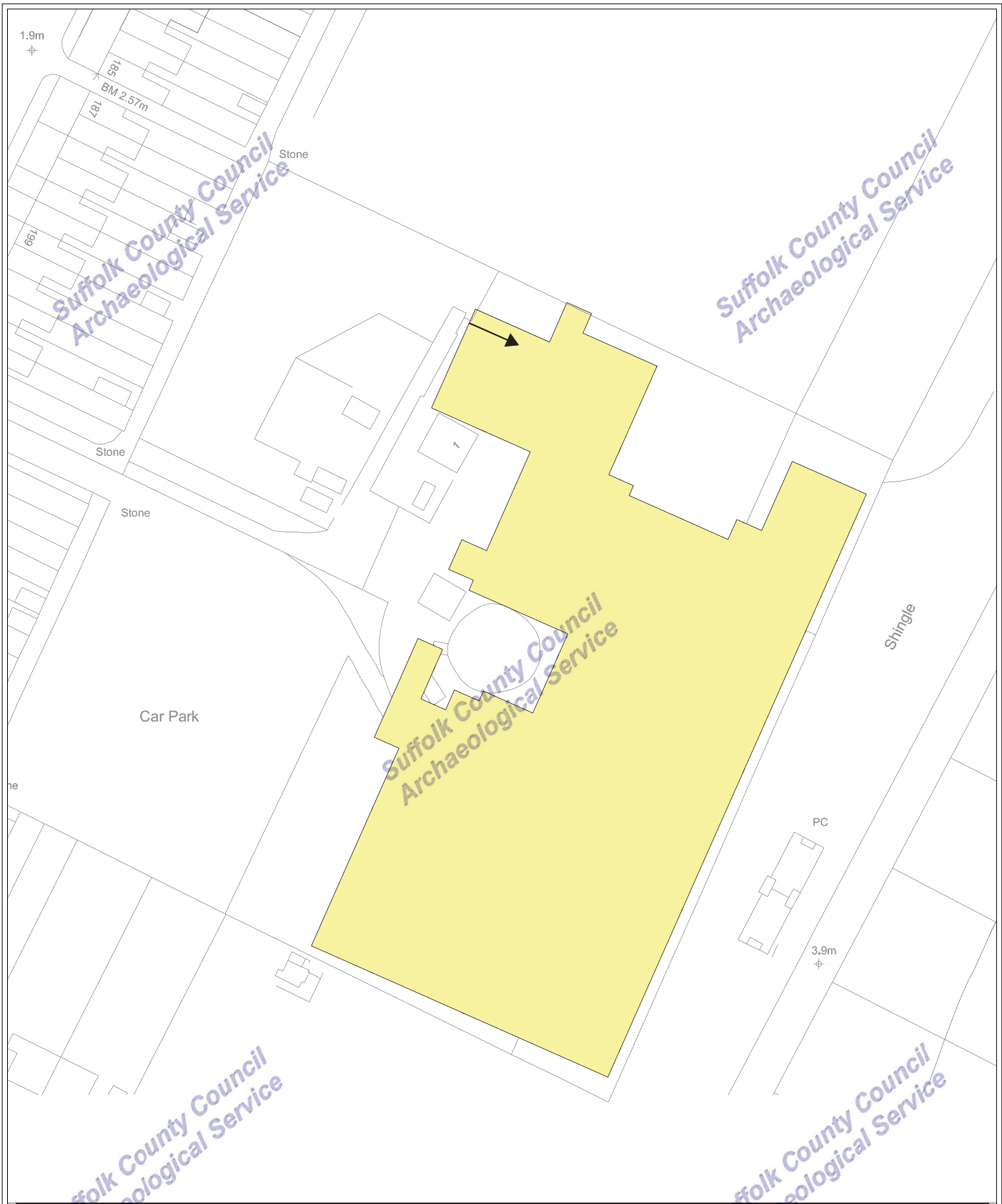
- 2.1 The strong magnetic response from surface artefacts has effectively masked any anomalies of archaeological potential.
- 2.2 Not all the strong ferrous responses can be matched to surface features. The location ‘*source uncertain*’ anomalies has been indicated as it is hoped that this may assist in the future investigation of the site.

List of Figures**Report Figures**

Figure 1	Location of Survey Areas	1:1000
Figure 2	Summary Greyscales	1:1000
Figure 3	Summary Interpretations	1:1000
Figure 4	Magnetic Data	1:1000

Reference Figures on CD

Figure A1	Greyscale Image	1: 500
Figure A2	XY Trace Plot	1: 500
Figure T1	Tie-in Information	1: 500



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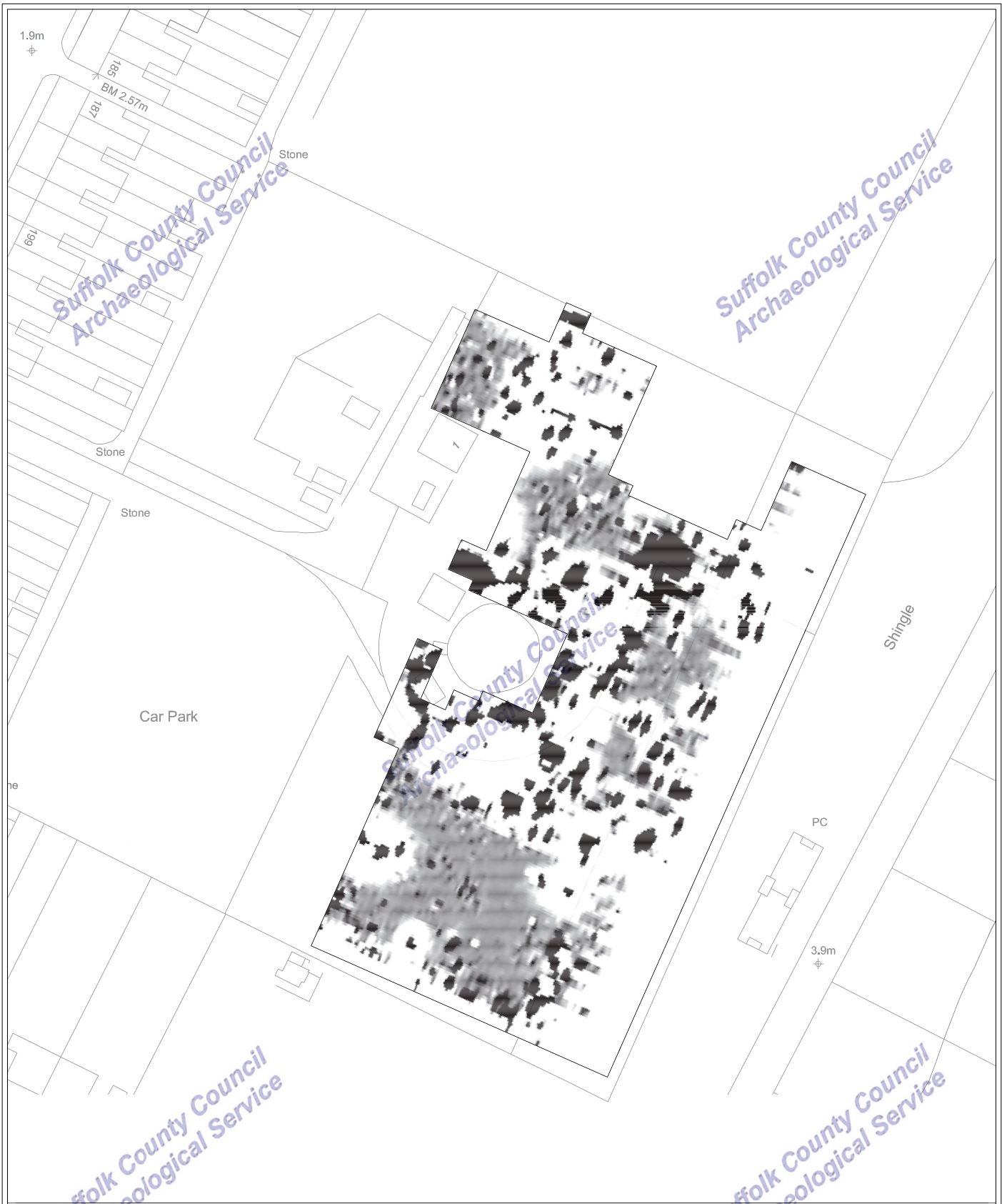
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- Gradiometer Survey
- Direction of First Traverse



0 40
metres

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2008/43 Martello 'P', Felixstowe
Location of Survey Area
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Figure 1

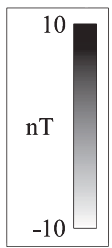


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Summary Greyscale
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Figure 2




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 Ferrous: source identified

 Ferrous: source uncertain



0 metres 40

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Summary Interpretation

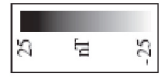
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Figure 3

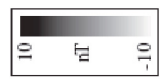
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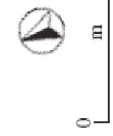
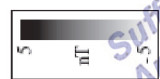
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Magnetic Data
Figure 4

Appendix 1: Technical Information

Instrumentation

Fluxgate Gradiometer: Geoscan FM36/256 and Bartington Grad601-2

Both the Geoscan and Bartington instruments comprise two fluxgate sensors mounted vertically apart; the distance between the sensors on the former is 500mm, on the latter 1000mm. The gradiometers are carried by hand, with the bottom sensor approximately 100-300mm from the ground surface. At each survey station, the difference in the magnetic field between the two fluxgates is measured in nanoTesla (nT). The sensitivity of the instrument can be adjusted; for most archaeological surveys the most sensitive range (0.1nT) is used. The fluxgate gradiometer suppresses any diurnal or regional effects. Generally, features up to 1m deep may be detected by this method. Having two gradiometer units mounted laterally with a separation of 1000mm, the Bartington instrument can collect two lines of data per traverse.

Resistance Meter: Geoscan RM15

This instrument measures the electrical resistance of the earth, using a system of four electrodes (two current and two potential.) Depending on the arrangement of these electrodes an exact measurement of a specific volume of earth may be acquired. This resistance value may then be used to calculate the earth resistivity. The most common arrangement is the Twin Probe configuration which involves two pairs of electrodes (one current and one potential): one pair remain in a fixed position, whilst the other measures the resistance variations across a grid. The resistance is measured in ohms and, when calculated, resistivity is in ohm-metres. The resistance method as used for standard area survey employs a probe separation of 0.5m, which samples to a depth of approximately 0.75m. The nature of the overburden and underlying geology will cause variations in this depth.

GPR: Sensors & Software Noggin Smartcart

The Noggin system includes an onboard digital video logger (DVL III), 250 MHz or 500MHz antenna, an odometer wheel and battery. It is, therefore, a fully integrated system. The built-in software uses the integrated odometer to provide an accurate distance measurement to the response. The data are recorded in digital format and can be processed to produce depth slice maps, 2D sections or 3D cubes.

Display Options

XY Trace

This involves a line representation of the data. Each successive row of data is equally incremented in the Y axis, to produce a stacked profile effect. This display may incorporate a hidden-line removal algorithm, which blocks out lines behind the major peaks and can aid interpretation. The advantages of this type of display are that it allows the full range of the data to be viewed and shows the shape of the individual anomalies. The display may also be changed by altering the horizontal viewing angle and the angle above the plane. The output may be either colour or black and white.

Greyscale

This format divides a given range of readings into a set number of classes. Each class is represented by a specific shade of grey, the intensity increasing with value. All values above the given range are allocated the same shade (maximum intensity); similarly all values below the given range are represented by the minimum intensity shade. Similar plots can be produced in colour, either using a wide range of colours or by selecting two or three colours to represent positive and negative values. The assigned range (plotting levels) can be adjusted to emphasise different anomalies in the data-set.

Relief Plot

This is a method of display that creates a three dimensional effect by directing an imaginary light source on a given data set. Particular elements of the results are highlighted depending on the angle of strike of the light source. This display method is particularly useful when applied to resistance data to highlight subtle changes in resistance that might otherwise be obscured.

3D Surface Plot

This is similar to the XY trace, but in 3 dimensions. Each data point of a survey is represented in its relative position on the x and y axes and the data value is represented in the z axis. This gives a digital terrain, or topographic effect.

Radargram

Radar data comprise a record of reflection intensity against the time taken for the emitted energy to travel from the transmitter down to the reflector and back to the receiver. The resultant plot is effectively a vertical section through the ground along the line of the traverse, with time (depth) on the vertical axis, displacement on the horizontal axis and reflection intensity as a grey or colour scale.

Time Slice

If a number of radargrams are collected over a grid, or in conjunction with GPS data, it is possible to reconstruct the entire dataset into a 3D volume. This can then be resampled to compile 'plan' maps of response strength at increasing time (or depth) offsets, thus simplifying the visualisation of how anomalies vary beneath the surface across a survey area.

Terms Commonly used in the Interpretation of Results

Magnetic

Archaeology	This term is used when the form, nature and pattern of the response are clearly or very probably archaeological. These anomalies, whilst considered anthropogenic, could be of any age.
? Archaeology	The interpretation of such anomalies is often tentative, with the anomalies exhibiting either weak signal strength or forming incomplete archaeological patterns. They may be the result of variable soil depth, plough damage or even aliasing as a result of data collection orientation.
Areas of Increased Magnetic Response	These responses show no visual indications on the ground surface and are considered to have some archaeological potential.
Industrial	Strong magnetic anomalies that, due to their shape and form or the context in which they are found, suggest the presence of kilns, ovens, corn dryers, metal-working areas or hearths. It should be noted that in many instances modern ferrous material can produce similar magnetic anomalies.
Natural	These responses form clear patterns in geographical zones where natural variations are known to produce significant magnetic distortions e.g. palaeochannels or magnetic gravels.
? Natural	These are anomalies that are likely to be natural in origin i.e. geological or pedological.
Ridge and Furrow	These are regular and broad linear anomalies that are presumed to be the result of ancient cultivation. In some cases the response may be the result of modern activity.
Ploughing Trend	These are isolated or grouped linear responses. They are normally narrow and are presumed modern when aligned to current field boundaries or following present ploughing.
Uncertain Origin	Often, anomalies (both positive and negative) will be recorded which stand out from the background magnetic variation yet show little to suggest an exact origin. This may be because the characteristics and distribution of the responses straddle the categories of “?Archaeology” and “?Natural” or that they are simply of unusual form.
Trend	This is usually an ill-defined, weak, isolated or obscured linear anomaly of unknown cause or date.
Areas of Magnetic Disturbance	These responses are commonly found in places where modern ferrous or fired materials are present e.g. brick rubble. They are presumed to be modern.
Ferrous Response	This type of response is associated with ferrous material and may result from small items in the topsoil, larger buried objects such as pipes, or above ground features such as fence lines or pylons. Ferrous responses are usually regarded as modern. Individual burnt stones, fired bricks or igneous rocks can produce responses similar to ferrous material.

Resistance

Archaeology	High or low res responses are clearly or very probably archaeological. These anomalies, whilst considered anthropogenic, could be of any age.
? Archaeology	The interpretation of such anomalies is often tentative, with the anomalies exhibiting either weak signal strength or forming incomplete archaeological patterns. They may be the result of variable soil depth, plough damage or even aliasing as a result of data collection orientation.
Natural	These responses form clear patterns in geographical zones where natural variations are known to produce significant magnetic distortions e.g. palaeochannels or magnetic gravels.
? Natural	These are anomalies that are likely to be natural in origin i.e. geological or pedological.
? Landscaping / topography	These are regular and broad linear anomalies that are presumed to be the result of ancient cultivation. In some cases the response may be the result of modern activity.
Vegetation	These are isolated or grouped linear responses. They are normally narrow and are presumed modern when aligned to current field boundaries or following present ploughing.
Trend	This is usually an ill-defined, weak, isolated or obscured linear anomaly of unknown cause or date.

GPR

Wall /Foundation/ /Vault /Culvert etc.	High amplitude anomaly definitions used when other evidence is available that supports a clear archaeological interpretation.
Archaeology	Anomalies whose form, nature and pattern indicate archaeology but where little or no supporting evidence exists. If a more precise archaeological interpretation is possible, for example the responses appear to respect known local archaeology, then this will be indicated in the accompanying text. As low amplitude responses are less obvious features it is unlikely that they would have a definitive categorisation.
? Archaeology	When the anomaly could be archaeologically significant, given its discrete nature, but where the distribution of the responses is not clearly archaeological. Interpretation of such anomalies is often tentative, exhibiting either little contrast or forming incomplete archaeological patterns.
Historic	Responses showing clear correlation with earlier map evidence.
?Historic	Responses relating to features not directly recorded on earlier maps but which appear to respect features that are. May form patterns suggestive of formal gardens, landscaping or footpaths.
Area of Anomalous Response	An area in which the response levels are very slightly elevated or diminished with respect to the 'background'. Where no obvious surface features or documentary evidence can explain this spread of altered reflectivity it is assumed to denote some kind of disturbance, though the origins could be of any age and either anthropogenic or natural. Possible explanations are changes in subsurface composition and groundwater 'ponding'.
Natural	Anomalies relating to natural sub-surface features as indicated by documentary sources, local knowledge or evidence on the surface.
?Natural	Responses forming patterns akin to subsoil/geological variations either attenuating or reflecting greater amounts of energy. An archaeological origin such as rubble spreads or robbed out remains cannot be dismissed.
Trend	An ill defined, weak or isolated linear anomaly of unknown cause or date.
Modern	Reflections that indicate features such as services, rebar or modern cellars correlating with available evidence (maps, communications with the client, alignment of drain covers etc.).
?Modern	Reflections appearing to indicate buried services but where there is no supporting evidence. Also applies to responses which form patterns, or are at a depth which suggests a modern origin. An archaeological source cannot be completely dismissed.
Surface	Responses clearly due to surface discontinuities, the effects of which may be seen to 'ring' down through radargrams and so incorrectly appearing in the deeper time-slices.

Data Processing

Zero Mean Traverse	This process which sets the background mean of each traverse within each grid to zero. The operation removes striping effects and edge discontinuities over the whole of the data set. It is usually only applied to gradiometer data.
Step Correction	When gradiometer data are collected in 'zig-zag' fashion, stepping errors can sometimes arise. These occur because of a slight difference in the speed of walking on the forward and reverse traverses. The result is a staggered effect in the data, which is particularly noticeable on linear anomalies. This process corrects these errors
Interpolation	When geophysical data are presented as a greyscale, each data point is represented as a small square. The resulting plot can sometimes have a 'blocky' appearance. The interpolation process calculates and inserts additional values between existing data points. The process can be carried out with points <i>along</i> a traverse (the x axis) and/or <i>between</i> traverses (the y axis) and results in a smoother greyscale image.
Despike	In resistance survey, spurious readings can occasionally occur, usually due to a poor contact of the probes with the surface. This process removes the spurious readings, replacing them with values calculated by taking the mean and standard deviation of surrounding data points. It is not usually applied to gradiometer data.
High Pass Filter	Carried out over the whole a resistance data-set, the filter removes low frequency, large scale spatial detail, such as that produced by broad geological changes. The result is to enhance the visibility of the smaller scale archaeological anomalies that are otherwise hidden within the broad 'background' change in resistance. It is not usually applied to gradiometer data.

APPENDIX III

Former Coastguard Cottages (demolished March 2008)

