

Folkestone & Hythe District Heritage Strategy

Appendix 1: Theme 5e Defence – Second World War

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5e Defence Heritage – Second World War

1 Summary

Folkestone & Hythe district contains a wide collection of Second World War heritage assets, including sites associated with air defence, coastal defence, troop support and supply, anti-invasion works, and civil defence. Together these assets help to tell the storey of Britain's changing fortunes in the war, from initial preparations, through the dark-days of the Battle of Britain and a time of very real invasion threat after the Dunkirk evacuation, and eventually to a period of offensive planning leading ultimately to the Normandy Landings and Victory in Europe. As a group the Second World War heritage assets in the district are of considerable importance.

2 Overview

2.1 Background

The twentieth century was one of rapid technological advance – telephony, radio and radar brought new means of communication, long-range detection and directing gun-fire; whilst cross-Channel guns, powerful battle tanks and flying rockets brought new threats to military and civilian targets. Following the outbreak of the Second World War in 1939 Kent, and this district in particular, was once again literally and symbolically on the front-line.

At the outbreak of war, a German invasion of Britain was not thought to be an immediate threat with the main concern initially seen as being attack from the air. The Gotha bombings of WWI, which resulted in 113 deaths 285 injuries in Folkestone and Shorncliffe in one raid alone, meant that people of the district were already well aware of the terrible impact of aerial warfare. The initial focus on the home-front was therefore to counter the aerial threat through a system of layered air defence and provision of systems for civilian protection. This was to all change following the retreat, and subsequent evacuation, of the British Expeditionary Force from the continent in May 1940.

Following the Dunkirk evacuation Germany fully expected Britain to seek a peace agreement but should this not materialise plans were also put in place for invasion and in July 1940 Hitler issued Directive 16 – codenamed *Unternehmen Seelöwe* (Operation Sea Lion) – with the aim being to “eliminate the English Motherland”. To achieve his aims, it was identified that a prerequisite of any invasion would be air and naval supremacy over the channel and Hitler tasked his navy and air force with securing these objectives. The district's fighter interceptor bases at Hawkinge and Lympne would play a key role in the resulting Battle of Britain, whilst frenetic efforts were also made to enhance coastal defences through the construction of a series of Emergency Coastal Batteries along the district's coastline.

It was expected that in any future invasion German forces would deploy the type of blitzkrieg tactics that had been practised on the continent. To counter this threat British defences initially took the form of a defended ‘coastal crust’, supported by a layered system of fortified stop-lines. In the district a major southern stop-line was created along the line of the Royal Military Canal, whilst extensive anti-invasion defences were also established along the

district's vulnerable shingle beaches. In land defences were initially focussed on the defence of main roads, interceptions and strategic places (nodal points). As an important Channel port substantial defences were established around Folkestone which was declared a prohibited area, with Sellindge, Burmarsh, St Mary in the Marsh, New Romney and Lydd also defended.

By mid September 1940 it was becoming clear to the German military command that an invasion that year was looking increasingly unlikely. The Luftwaffe (German air force) had failed to establish aerial dominance; the Kriegsmarine (German navy) was numerically far inferior and could not hope to dominate the Channel, much of the required specialist landing equipment was not ready and winter was approaching. On 17 September 1940 Operation Sea Lion was to be postponed and after the German focus shifted to the Russian front plans to invade Britain were never resumed.

The substantial losses suffered by the Luftwaffe during the Battle of Britain led to a change in focus, from targeting RAF Fighter Command, to large-scale night-time bombings against British cities and industrial sites. The district, particularly Folkestone, being so close to the French coast would not only face the terror of aerial bombing, but also shelling from German cross-Channel Guns. Towards the end of the war new threats came in the form of the V1 Flying Bomb (an unmanned jet-powered missile) and the V2 Rocket. The district's air defences were remodelled as part of Operation Diver in early Summer 1944 to provide a screen of defensive fire along the Kent coast.

With the German Army having suffered heavy losses during the failed invasion of Russia in 1941 their forces were stretched across many fronts. During 1941 British forces launched several offensives in North Africa and in 1942 had been joined by American troops. By mid-1943 the campaign in North Africa had been won by the Allies, whose troops moved swiftly to Sicily and thence onto mainland Italy. At the same time Russian troops had turned the tide and were on the offensive. The Allied forces agreed that the time was now right to undertake a cross-Channel invasion and planning for what would become the D-Day landings commenced.

Normandy was quickly identified as the chosen landing site and preparations commenced. One limitation of landing in Normandy was the relative lack of port facilities along this stretch of coast. To overcome this the system of temporary, portable Mulberry Harbours were developed. These consisted of prefabricated sections of artificial harbour that could be constructed in the UK and towed across the Channel for deployment. A small number of Mulberry Harbour sections did not make it across the Channel however and one such example can be seen off the coast at Littlestone.

Key to the success of Operation Overlord, the Allied invasion of Normandy would be ensuring a sufficient supply chain could be maintained. The supply of fuel was of particular concern, with oil tankers being especially vulnerable to delays from bad weather and attack by German submarines. Many of the Allies oil tankers were also required in the Pacific to support the war effort there. The ingenious solution was the creation of a secret pipeline – PLUTO –

the **Pipe-Line Under The Ocean**. The initial cross-Channel pipeline ran from the Isle of Wight to Cherbourg (later 4 lines), but as fighting progressed towards Germany a further 17 lines were laid between Dungeness to Ambleteuse in the Pas-de-Calais. The pipeline that ran across Romney Marsh to Dungeness and then across the Channel to France was codenamed **Dumbo**. A number of pumping stations and other support buildings were constructed at Dungeness in support of **PLUTO**.

Installations such as the Mulberry Harbours and **PLUTO** were great feats of engineering and played a key role in the success of the Allied invasion of Normandy in June 1944 which eventually led to Victory in Europe being declared in May 1945.

2.2 Key Components

<i>Name</i>	<i>Description</i>	<i>Survival</i>
Anti Aircraft Batteries	Heavy Anti Aircraft (HAA) Batteries were erected at a number of sites across the district including at Hope Farm, Folkestone (D11); Ridge Row, Densole (D12); Copt Point, Folkestone (D13); Coolinge, Folkestone (D14), Pedlinge Court, near Hythe (D15); and Arpinge Farm, near Hawkinge (D16).	No significant above ground remains appear to survive of the district's HAA batteries, although there may be some surviving features visible at Pedlinge. A number of Light Anti-Aircraft positions were likely also established, for example for airfield defence, but again no significant survivals are currently recorded in the district.
Airfields and Airfield defence	The principal airfields in the district were at RAF Lympne and RAF Hawkinge and both played a significant role in providing air support to the British Expeditionary Force whilst fighting in France as well as during the evacuation of BEF and allied troops from Dunkirk. During the Dunkirk evacuation French Air Force fighters were temporarily based at Lympne. Both airfields would go on to play an active role during the	<p>The temporary nature of the airfield at Westenhanger and the ALGs on Romney Marsh & Swingfield means that little if anything survives above ground at these sites. Below ground archaeological remains might however be present.</p> <p>As would be expected it is at the district's principal airfields at RAF Lympne and RAF Hawkinge where the majority of surviving assets can be found. Neither airfield is well preserved, having both been partly redeveloped (an industrial estate at Lympne and for housing at Hawkinge). However a number of features</p>

	<p>Battle of Britain and again during the D-Day landings.</p> <p>A number of Advanced Landing Grounds (ALGs) were established in the district during latter stages of the war to support the proposed Allied liberation of Europe. These airfields provided a temporary base for short-range fighter aircraft close to the Channel coast. Their construction also gave the military useful experience in the development, construction and engineering of such forward airstrips that would be required to be built as the fighting front advanced across France.</p> <p>RAF Brenzett was operational from September 1943 until closure in December 1944 by which point it was no longer required and any salvageable elements removed for re-use on the continent. Another ALG was established on the boundary of the district at</p> <p>RAF Newchurch (the main part of the site falling within the borough of Ashford). RAF Newchurch was operational from July 1943 to December 1944.</p>	<p>relating to the airfield and airfield defences can be found at both sites. Remains include derelict accommodation huts, decontamination block, hanger bases and air raid shelters at Lympe. There are also a number of surviving airfield defence pillboxes, including a retractable Picket Hamilton Airfield Defence Fort.</p> <p>At Hawkinge a number of the former airfield buildings survive, converted into new uses; the petrol storage facility for the airfield remains intact as well as a few shelters on the airfield perimeter and the airfield Battle HQs.</p> <p>Part of the Hawkinge site is now occupied by the Kent Battle of Britain Museum, whilst the Romney Marsh Wartime Collection (incorporating Brenzett Aeronautical Museum Trust) have a museum close to the site of RAF Brenzett ALG.</p> <p>To the north of Hawkinge at Reinden Wood, Densole is the dispersed site for RAF Hawkinge. The dispersed site reflects a common practice of sighting domestic accommodation to off-site locations to avoid damage if the airfield was attacked. The site consisted of a variety of temporary barrack huts, now gone, and other buildings connected by roads. The most obvious remains are the air raid shelters and gas decontamination building.</p>
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	<p>RAF Lydd (Midlay) was the first operational ALG on Romney Marsh and was located on the site of an abandoned WW1 airstrip. The airfield was operational from June 1943 until October 1943 from which date it was placed into reserve. The district's final ALG was RAF New Romney which was operational from July 1943 until October 1944.</p> <p>RAF Swingfield lies largely in the adjacent District of Dover, with a small part of the ALG site extending into the District. Swingfield closed in April 1945.</p> <p>RAF Westenhanger was a decoy airfield located at Folkestone Racecourse where a number of dummy aircraft were strategically placed so as to look like an active airfield. In April 1944 however RAF Westenhanger found itself in genuine use when a squadron of liaison aircraft were based there for use in practice operations with the army. By June 1944 RAF Westenhanger was abandoned and the site returned to its former use.</p>	
<p>Air raid shelters and civil defence</p>	<p>Numerous air raid shelters would have been established across the district, ranging from the small domestic shelters for individual</p>	<p>Much of the civil defence infrastructure would have been temporary, being in place only for the duration of the war. Other sites such as air raid shelters were sealed and forgotten and</p>

	<p>families to large communal shelters at schools, air fields and places of work. Public buildings would have been protected by sandbagging, emergency water tanks established to assist with fighting fires, local Air Raid Warden posts would have been established, air-raid sirens erected and homes, halls and other buildings requisitioned.</p>	<p>have been lost to memory. From time to time cut and cover type shelters come to light during development work, such at the Harvey Grammar School and at Folkestone football ground. Much probably survives across the district, albeit poorly recorded or awaiting rediscovery.</p>
<p>Coastal Batteries</p>	<p>A number of Emergency Coastal Batteries were rapidly erected to protect the Channel and the Channel Coast during the invasion scare of 1940, although in reality these were not ready until the following year. Batteries were erected at Dungeness (two – East and West), Greatstone, Littlestone, St Mary’s Bay, Dymchurch, Hythe and Folkestone (three – Mill Point, Folkestone West and Folkestone East (Copt Point)).</p> <p>A new permanent coastal battery was constructed at Capel, which of much more substantial construction the Emergency Coastal Batteries. The site now lies partially within the district, with the remainder of the site within Dover District.</p>	<p>Many of the Emergency Coastal Batteries along the District’s coastline have been removed and there is nothing above ground to indicate their locations. Dymchurch Battery was built-into Dymchurch Redoubt where there is an array of WWII period features superimposed onto earlier gun positions, including gun emplacements, observation posts and associated magazines and shelters. Dymchurch Redoubt is designated as a Scheduled Monument and the WWII period features remain well preserved. The site remains in military use.</p> <p>The Battery at Copt Point also survives relatively well. The two covered gun positions survive. The magazine for the two guns adjoins the No 1 (western) gun position. Also surviving is the Battery Observation Post (now used as a lookout by the Coast watch charity). The nearby Martello Tower has been modified, with a Royal Naval Mine Observation Post having been built onto its roof.</p> <p>Part of the Capel Battery lies under the Battle of Britain</p>

		<p>Memorial, with two of the three gun positions being marked at the memorial by two earth mounds. The owner of the remainder of the site (outside of the memorial) has recently been undertaking investigations and excavations to expose now buried parts of the site. The third gun position, crew shelter, gun store and compressor house as well as the underground operation room, plotting room and medical dressing station are all understood to survive relatively intact or as below ground remains.</p>
<p>The Royal Military Canal stop line</p>	<p>The Napoleonic period Royal Military Canal formed a ready-made stop-line that separated the vulnerable landing braches along the Romney Embayment from the high-ground of the Kent Downs. The Germans saw the canal as an obstacle to be overcome, whilst the British recognised the need to refortify and reinforce the stop-line. The canal was refortified with pillboxes positioned at each flank (stagger). Barbed-wire entanglements surrounded the pillboxes, while bridges were either demolished or prepared for demolition. At each bridge road-blocks were also set, with minefields surrounding them.</p>	<p>There are a number of WWII pillboxes, roadblocks and gun emplacements that still survive along the course of the Royal Military Canal.</p>
<p>Folkestone's anti-invasion defences</p>	<p>Folkestone's strategically located harbour and strong military presence led to it being classified as a</p>	<p>Sections of anti-tank ditch can be clearly seen on aerial photographs along the edge of the high-ground surrounding Folkestone. Along this line there</p>

	<p>Garrison Town and Restricted Area. Coastal Gun Batteries and beach defences were erected along the Channel, whilst in-land Folkestone was encircled by an anti-tank ditch, with pillboxes strategically located along the slope of the downs. Road-blocks and anti-tank pimples were positioned on key routes into and out of the town.</p>	<p>are a number of extent pillboxes which supported the defensive line surrounding Folkestone.</p>
<p>The Coastal Crust</p>	<p>Coastal defences made use of a range of obstacles and obstructions – these ranged from lightweight and temporary scaffold lines and barbed wire entanglements, to hardened concrete obstructions including road blocks, anti-tank pimples, cylinders and blocks as well as the ubiquitous pillbox. Petroleum Warfare sites and minefields would have provided a deadly obstruction to any invading force.</p>	<p>The majority of the district’s defences were rapidly removed following the war, particularly in the popular coastal resorts where holidaymakers were encouraged to return, whilst more recent coastal improvement and sea defence schemes have seen the shoreline remodelled. Some elements do survive either as upstanding remains or as below ground archaeology. At Dungeness for example it is still possible to trace the position of former minefields where craters in the shingle mark the location of now removed mines.</p>
<p>Inland defences</p>	<p>The district’s inland defences were designed to restrict movement of any enemy troops by defending key transport routes, junctions and strategic places (nodal points), The defences were similar to those employed on the coastal crust, with barbed wire entanglements, road blocks, anti-tank pimples, cylinders and blocks and pillboxes all being deployed. In the event of a successful</p>	<p>Much of the anti-tank ditch surrounding Folkestone can still be clearly traced on the ground, whilst there are numerous surviving pillboxes dotted across the district’s landscape. It is likely that much more survives, not currently recorded, perhaps buried in vegetation, forgotten and awaiting rediscovery. A number of well-preserved secret bases for auxiliary units survive in the district, including two designated examples on Romney Marsh.</p>

	<p>enemy invasion secret cells of saboteurs were to operate behind enemy lines, based in hidden auxiliary units.</p>	
<p>Railway Guns</p>	<p>Powerful railway guns were located at strategic positions on the district's rail network to provide mobile offensive fire as well as being capable of targeting inland locations in case of invasion. Guns were stationed at Folkestone, Littlestone, Lyminge, Elham, Hythe and Sellindge. The Romney Hythe & Dymchurch Railway was even equipped with its own special armoured train.</p>	<p>Their mobile rail-based nature meant that the heavy railway guns have left little physical trace. At Westenhanger a concrete structure adjacent to the present HS1 railway line is purported to be the former munitions store for the Sellindge gun. A replica of the armoured military train can be found at New Romney Station.</p>
<p>PLUTO and D-Day preparations</p>	<p>The pipe line under the ocean or PLUTO was a novel and innovative solution to the problem of supplying fuel to units operating in north west Europe. It involved the pumping of fuels from the Thames to Dungeness from where it was pumped in special pipelines under the Channel. Off the coast of the district giant concrete caissons were 'parked' awaiting D-Day when they would be towed across the Channel to form temporary artificial harbours. Numerous troops and much equipment was also marshalled in the district before being transported to the continent.</p>	<p>The line of PLUTO can still be traced in places across the Marsh, such as at Five Watering Sewer west of Snargate, whilst a number of the pumping station and support buildings survive at Dungeness, now much altered and converted for residential or other use. One of the massive Phoenix Caissons that would have been used to form the Mulberry Harbours could not be re-floated and remains marooned off the coast of Littlestone and is now designated as a scheduled monument.</p>

Airfields and air defence

Expansion of the RAF in the mid 1930s had led to a restructuring with the formation of Bomber Command, Coastal Command (transferred to the Royal Navy prior to the outbreak of WW2), Training Command and Fighter Command. The period also marked a time of rapid developments in technology, including in radar, which allowed for the sufficiently early detection of enemy bombers to allow fighter planes to intercept them before they reached their target. Fighter Command's greatest test came during the summer of 1940 when the German air force attempted to gain air superiority of the Channel to facilitate the German invasion of Britain (Operation Sea Lion). The district's airfields at Lympne and Hawkinge would play an important role in the Battle of Britain.

RAF Hawkinge and RAF Lympne both had their origins as stations for the Royal Flying Corps in WW1 and were to play an important part in the Battle of Britain. Hawkinge was the nearest major fighter base to mainland Europe, which made it both strategically important but vulnerable to attack. Due to its geographical position on the Channel coast Hawkinge's early role in the war was to provide air liaison between the RAF and the British Expeditionary Force (BEF) who were then fighting in France. During the subsequent evacuation of the BEF (along with French & Belgian Forces) from the beaches of Dunkirk both Hawkinge and Lympne were to play a vital role in support of the rescue mission, being ideally placed to provide air support. Aerial cover was of great importance to the evacuation effort and the role that Hawkinge and Lympne played as forward airbases should not be underestimated.

During the Battle of Britain Lympne was used as a satellite airfield and forward staging base it was severely damaged during raids, especially those of 12 and 15 August 1940 that destroyed much of the airfield's facilities. Following these savage attacks Lympne was evacuated and was available only as an Emergency Landing Ground until the middle of September 1940. The airfield at Hawkinge was also bombed in raids on the 12 and 15 August when much damage was done. Hawkinge however continued to operate as a forward air base and refuelling station and played a major role in keeping fighter aircraft re-fuelled and in the air during the Battle of Britain.

In 1941 Lympne was poised to play an important role in a daring plot to kidnap Adolf Hitler. British military intelligence had been given information that the Führer's personal pilot, Hans Bauer, intended to defect in Hitler's aircraft whilst he was on-board. British military intelligence took the reported defection seriously and Lympne was selected as the airfield to receive the defecting aircraft and was duly prepared for Hitler's arrival. In the event there was no defection and Bauer would continue to serve as the Führer's personal pilot for the duration of the war.

Later in the war both Hawkinge and Lympne were used as bases for squadrons of fighters that acted as escorts for aircraft of Bomber Command. The bases also acted as Emergency Landing Grounds for damaged bombers returning from raids and due to their proximity to the Channel in air sea rescue missions. Both Hawkinge and Lympne also played important roles in the

preparations for D-Day and during the Normandy Landings by keeping air routes open and countering any U-Boat activity in the Channel. Towards the end of the war fighter aircraft based at Hawkinge and Lyminge were used against V1 missiles.

A large number of aircraft on both sides were lost over the skies of the district as well as off the district's coast in the Channel. All military aircraft crash sites as are designated as 'Protected Places' under the Protection of Military Remains Act'. It is illegal to interfere with the wreck of a crashed military aircraft unless licensed to investigate by the Ministry of Defence. The location of these aircraft crash sites is not always accurately known however, which can make protection difficult. A recent project by Kent County Council's Heritage Conservation Group working with volunteers has focussed on improving the quality of records for aircraft crash sites in the Kent Historic Environment Record, so that these sensitive sites can be better managed and protected.

In the later stages of the war a number of Advanced Landing Grounds (ALGs) were established in the district to support the proposed Allied liberation of Europe. These airfields provided a temporary base for short-range fighter aircraft close to the Channel coast and were built in Kent prior to invasion and following the Normandy Landings in north-west Europe to support troops on the continent. These airfields were of a much more temporary nature, the intention being that they could be rapidly set up to provide tactical air support to the advancing ground troops. Their nature meant that they were often established on rough unimproved land and so use was made of various prefabricated airfield surfaces, those in the district employing Somerfield Tracking, a type of lightweight mesh that could be literally unrolled and fastened to the ground.

In the district Advanced Landing Grounds were established at Swingfield and on Romney Marsh at Brenzett, Newchurch and Lydd. Their construction also gave the military useful experience in the development, construction and engineering of such forward airstrips that would be required to be built as the fighting front advanced across France. The airstrips in the district comprised two runways, each around 3,000 feet (915m) long arranged at right angles to each other. The airfields by their nature had limited ground facilities, although those at Lydd, New Romney and Newchurch were equipped with four over blister type hangers, whilst Swingfield had two hangers. Due to their temporary nature and short lives they have left little trace above ground, with many of the salvageable components being lifted and re-used on the continent.

Folkestone Racecourse was reputedly requisitioned by the army for use as a decoy airfield, with dummy aircraft and other features placed at the site to deceive German aircrews. Later in the war the racecourse was briefly used for in April 1944 for a combined practice operation between an RAF Air Observation Post squadron and local army units in advance of the Squadron being deployed in France.

The need to improve the nation's ground-based air defence capabilities was recognised before the outbreak of the Second World War and air defences were enhanced from the mid 1930s onwards. The outbreak of the Second World War however hastened this process and led to a frantic expansion of air defences. All arms of air defence were linked into a central command structure and a number of fixed and mobile anti-aircraft batteries were established at key locations in the district.

Artillery Anti-Aircraft defences are split into two classes, Heavy Anti-Aircraft (HAA) and Light Anti-Aircraft (LAA). Guns of .303-inch calibre up to 3 inches are identified as LAA; whilst 3-inch upwards as HAA. Most HAA batteries made use of the new 3.7 inch and 4.5-inch calibre guns. The HAA batteries usually comprised four gun emplacements with the guns controlled from a single command post. The positions for the mobile weapons would have been fairly ephemeral, comprising earth and sandbag emplacements. Heavy Anti-Aircraft Batteries established in the district included examples at Hope Farm (D11) to the north-east of Folkestone, at Densole (D12), Copt Point (D13), Coolinge (D14), Pedlinge (D15), Arpinge (D16), Dibgate (FO5).

Airfields were also protected by their own defences, including pillboxes and light anti-aircraft guns (such as machine guns and the 40 mm Bofors gun), along with shelters to provide protection for airmen and support staff on the ground. Similar defences were provided at other strategic sites, however such Light Anti-Aircraft emplacements, as their name suggests, were generally much less substantial in their construction. The positions often took the form of little more than a sandbag or concrete-block revetted gun emplacement and as such nothing above ground survives at most Light Anti-Aircraft positions. Type 23 Pillboxes which took the form of a square covered pillbox included open integral annexe for a light anti-aircraft gun are more durable and an example survives in the district at St Mary's Bay adjacent to the Romney, Hythe & Dymchurch Railway. Mobile Light Anti-Aircraft guns were also deployed in the district, but by their nature leave little or no archaeological trace.

In addition to regular anti-aircraft guns use was also made during the war of projectile rockets arranged for salvo firing. What these weapons lacked in accuracy they made up for in coverage relying on density of fire rather than accurate targeting. Such rocket batteries came into use from late 1940/early 1941. The launchers themselves had multiple barrels (between 2 and twenty) and were arranged in blocks and could be either ground or mobile mounted. The emplacements and facilities at such rocket batteries were generally light and no above ground remains are known to survive in the district.

The development of the German V1 flying bomb brought with it a new aerial threat from June 1944. In response to this new threat Britain's aerial defences were re-organised as part of Operation Diver. The diver plan was conceived in early 1944 and involved the use of layered anti-V1 defences, employing bomber, fighter aircraft, searchlights, radar and anti-aircraft positions. Air-defences were redeployed with guns formed into a series of blocks or cordons. A 'Coastal Gun Belt' was established running from St Margaret's all

the way to Newhaven in East Sussex. New heavy gun positions employed in the coastal belt were of relatively light-weight construction, involving the use of simple 'pile-type' platforms constructed using railway sleepers bedded in a shallow pit/trench. Accommodation took the form of tents, Nissan huts, scaffold structures and trench shelters. As such even the heavy gun positions for operation diver were relatively light-weight sites and any remains would be ephemeral. No above ground remains are known in the District, although buried remains may survive.

Coastal defence

The Emergency Coastal Battery plan of September 1939 called for construction of a series of batteries around the coast of Britain. The plan was accelerated following the Dunkirk Evacuation and the withdrawal of the British Expeditionary Force from mainland Europe. With much weaponry having been abandoned on the continent the batteries made use of guns raided from storehouses, often WWI vintage ex-Naval guns from decommissioned warships.

Emergency Coastal Batteries were established along the district's coastline. There were two batteries at Dungeness – east with three 6-inch guns and west with two 4.7-inch guns. Further along the coast a further two 6-inch guns were installed at Greatstone and a battery of three 6-inch guns at Littlestone. At St Mary's Bay there were two 6-inch guns located adjacent to the Sands Hotel. The hotel itself was requisitioned and acted as the Battery Headquarters.

At Dymchurch the Napoleonic period redoubt was modified with two 6-inch gun positions mounted on top of the redoubt overlying earlier gun positions. Other structures added to the redoubt include observation posts and associated magazines and shelters. The redoubt remains in military use and is designated as a Scheduled Monument. Further along the coast at Hythe a battery was established close to the Imperial Hotel initially for two 6-inch guns, with a third added later in the war.

Folkestone itself was well provided for, with three batteries established in the town to control the Channel and defend the harbour. At Mill Point four 5.5-inch naval guns were sited on the Leas on the western side of the harbour. The guns had previously been used on *HMS Hood*, but were removed during a refit and re-used for coastal defence. Folkestone West battery was located immediately above the harbour and was provided with two 6-inch naval guns, while a little further along the coast at Copt Point was Folkestone East battery which again provided with two 6-inch guns. The two covered gun emplacements and Battery Observation Post survive. The observation post is currently used by the volunteer Coast watch organisation. The adjacent Martello Tower No 3 was modified during the war when a Royal Naval Mine Observation Post was added to the tower's roof.

The most easterly battery in the district was located at Capel-le-Ferne, with the battery site crossing the boundary into the neighbouring district of Dover. Capel Coastal Battery was equipped with three 8-inch guns each served by its

own magazine and controlled from a buried reinforced concrete command and plotting room. Surface accommodation was provided adjacent to the battery and an underground deep shelter and medical dressing station were provided. The battery at Capel was a later construction, being built in 1941 and took an offensive role, actively targeting enemy shipping in the Channel.

Railway Guns

Military thinking envisaged a scheme of layered artillery fire, with the coastal guns in their fortified positions being supported by heavy railway guns to act as mobile offensive fire. The preparation of these railway guns was an integral part of the Emergency Coastal Battery plan. The railway guns were moved to a number of strategic points on the railway network. In the Folkestone area two 9.2-inch guns were positioned in Littlestone to provide fire cover over Folkestone Harbour and the Hythe embayment and landing beaches; a single 9.2-inch gun was located at Hythe to provide fire cover over Dover harbour, or the beaches in the Littlestone, Greatstone and New Romney areas. Fire over this area was also supplied by a second 9.2-inch gun at Folkestone West junction sidings.

The Elham Valley Railway Line was requisitioned for the war. The line, which was broadly aligned north – south, but with a number of meandering curves was ideal for housing mobile gun to cover and defend the long stretches of potential invasion beaches on this stretch of the Kentish coast. At Lyminge there were two 12-inch guns to provide fire cover over Folkestone harbour and Hythe Beach from Hythe to Dymchurch Redoubt and a further two 9.2-inch guns at Elham. The line was also home to the famous 18-inch gun *Boche Buster* which was stationed further to the north near Bishopsbourne.

A single 12-inch gun was located at Grove Bridge, Sellindge. The munitions store for the Sellindge gun is located nearby at Westenhanger. It is a rectangular building consisting of 4 concrete bays with an overhanging flat roof supported by concrete columns. It is believed that the building initially had a 'barn-like' superstructure as camouflage, but this has subsequently decayed and collapsed.

The gun at Folkestone West is the only railway gun recorded to have carried out action against a maritime target. In October 1940 a group of German E Boats was sighted in the Channel. The 9.2-inch gun was positioned on the Dover to London mainline on the heights above Folkestone and its gun targeted on the German flotilla. A single shot was fired which landed in the middle of the group, but also unfortunately caused the railway gun to jump off the rails. The enemy boats scattered and the gun had to be re-railed.

The Romney Hythe & Dymchurch Railway was also requisitioned by the War Department and remarkably even had its own armoured train – perhaps the smallest armoured train in the world! One of the railway's locomotives (Hercules) was fitted with armour plating and was coupled to two armoured bogie wagons. The train was armed with Boys anti-tank guns and Lewis guns and is reported to have brought down at least one enemy aircraft. The

RH&DR line was also used by the Petroleum Warfare Department during the construction of PLUTO (the PipeLine Under The Ocean).

Anti-invasion works

Following the evacuation of British and French troops from the beaches of Dunkirk it was widely thought that a German invasion of Britain was imminent. Anti-invasion defences were rapidly thrown up in preparation. On potential coastal landing grounds and beaches a range of defensive barriers were erected to form a 'coastal crust' and Pillboxes, wire and scaffold barriers and minefields were rapidly thrown up. To prepare for a Blitzkrieg type attack that had been so devastatingly employed by the Germans on the continent a series of inland defences revolving around defended 'nodal' points and stop-lines were established. The threat of invasion came not only from the sea, but also from the air. The earlier German advance into Scandinavia in April had highlighted the enemy tactic of using well organised air transport units for the landing of troops and supplies. Airfield defences were improved, and other potential landing sites were denied to the enemy by measures such as the excavation of 'anti-glider' ditches across large open fields, the use of obstacles and erection of anti-landing stakes and wires.

For any German invasion to succeed it would have been necessary to land both troops and equipment at locations along the coast. The emergency coastal batteries provided artillery protection at ports and likely landing locations and these were supported by a 'coastal crust' of defences designed to provide a physical barrier to the landing of troops. The Romney Marsh embayment and its sloping shingle beaches was identified as a prime invasion ground – both by the British in their strategic defensive thinking, as well as by their Germans in their plans for Operation Sea Lion.

On beaches and along the coast barbed wire entanglements and antipersonnel mines were laid. These were quickly cleared following the Second World War, especially in areas popular with tourists. Other coastal defences were erected to prevent the landing of tanks and amphibious vessels. These defences involved the use of scaffold fences erected at the low water mark, lines of anti-tank cubes and anti-tank mines. Pillboxes were erected along the coast overlooking beaches and landing points and sand-bagged positions were erected to provide cover for infantry defence.

In-land defensive thinking initially took the form of fixed layered defences in the form of Stop-Lines, later supported by defended 'nodal points' (defended localities) and anti-tank islands. The major stop line in the District followed the line of the Royal Military Canal. The Canal was refortified between June and August 1940 as a Division Stop Line. The Canal served as a rear stop-line with other defences erected to the fore across the marsh, within this forward area the towns of Burmarsh, St Mary in the Marsh, New Romney and Lydd were identified as Nodal points. Within the forward area there were a series of pillboxes, minefields, anti-tank obstacles and anti-tank ditches created from the existing marshland drains and sewers. The line of the canal itself was fortified through the addition of pillboxes on each of the canals staggered bends (or flanks), as well as at key crossing points. Existing bridges across

the canal were either demolished or prepared for demolition and extensive minefields were laid on the seaward side at potential crossing points. Fire positions for anti-tank rifles, mortars, and anti-tank guns were established on the higher ground to the rear of the canal where observation posts were set up and slit-trenches excavated.

Folkestone was also heavily defended, with a substantial anti-tank ditch excavated around the town, including on the high ground on the edge of the downs. These works primarily consist of an anti-tank ditch with supporting pillboxes and roadblocks. It ran broadly north – south up the Seabrook Valley towards Danton Pinch, before turning to run east – west along the top of the downs ridge towards Castle Hill. At the Folkestone Water Works site near Cherry Garden Hill there was a Flame Projecting Installation. From Castle Hill it looped around the southern side of Caesar's Camp and then again following the ridge of the downs towards Creteway, before turning towards the coast at the Warren, meeting the cliffs just north of Martello No 1. At Sugarloaf Hill a branch of the defences turned south to run through what is now the Park Farm Industrial Estate towards Radnor Park. Another Branch runs from the clifftop near Martello No 1 south-westernly towards Folkestone East Railway Station. A number of pillboxes along with sections of anti-tank ditch survive. The pillbox at Cherry Garden Hill is designated as a Scheduled Monument by virtue of having been built onto the top of a Bronze Age Barrow.

The primary aim of the anti-invasion defences was to slow and restrict the movement of tanks. Experience on continental Europe had shown the German's preference for using main roads for their attacking thrusts and main road routes were also heavily defended. If, however a German invasion had been successful plans were also put in place for secret groups of volunteers who would operate behind enemy lines as guerrilla resistance units. Known as Auxiliary Units, each acted as a self-contained cell and was made up from men drawn from the local area who were familiar with the land.

The men of these Auxiliary Units received specialist training and were provided with their own secret concealed Operational Base from which they could undertake sabotage raids. At least three such units were operating across Romney Marsh – codenamed Mushroom, Truffle and Toadstool – with a fourth (Fungus) having its base just off the marsh near Lympne. The Operational Base for the Mushroom Patrol is located near Snargate and comprises a brick-built room with concrete floors and ceiling buried beneath the ground and accessed via two concealed hatches. A near identical hideout was provided for Toadstool Patrol near Chapel Farm to the north-west of Dymchurch, whilst the Operational Base for Truffle Patrol was located to the south of Hope Church to the west of New Romney. The Operational Bases at Snargate and Dymchurch are both designated as Scheduled Monuments, but that at New Romney is understood to have been destroyed. Other Auxiliary Units would have been operational elsewhere in the district, with bases recorded at Wintergate Farm, Elvington Manor and near Jacques Court.

Civil defence

The Air Raid Precautions (ARP) Act of 1937 provided the framework for civil defence in the District in the Second World War. The major threat to the civilian population was through aerial bombardment, both from bombs dropped by plane and through cross-Channel and coastal shelling. To protect the civilian population air-raid warning sirens and black-out provision was put in place under the control of local ARP Wardens. These Wardens operated from dedicated ARP Wardens posts. These posts were usually provided in adapted buildings, although purpose-built warden's posts were also constructed.

Air-raid shelters were provided both privately at home as well as publically, including at Schools and places of work. The ubiquitous Anderson Shelter was the most common type of purpose-built domestic shelter, although other proprietary designs existed. The Anderson Shelter was issued in huge numbers and there are likely to be a number of surviving examples in private gardens in the district. Private cellars and basements were also often used for shelter during air-raids, sometimes with rudimentary reinforcement. Public shelters were also constructed at factories, schools and in public open spaces for use by the general public. There are numerous examples of such shelters surviving in the District. Purpose built shelters generally took the form of either covered trenches at relatively shallow depth or surface shelters with reinforced concrete roofs. Such shelters were not designed to withstand a direct hit. An example of a brick-built surface shelter is located at Selsted Primary School, whilst subsurface air raid shelters archaeologically investigated adjacent to Folkestone Football Club.

Operation Overlord

Operation Overlord was the military codename given to the Allied operation that would result in the successful invasion of German occupied France in 1944. Plans for a return to Europe were being developed since 1943 when four sites for an invasion landing were under consideration – Brittany, the Cotentin Peninsula, Normandy, and at Pas de Calais. For strategic and practical reasons Normandy soon emerged as the preferred invasion site and preparations were started for the invasion operation.

One of the major disadvantages of any invasion landing on the Normandy coast was the near complete lack of any substantial port facilities. This would be overcome through the development of artificial harbours – known as Mulberry Harbours – formed in prefabricated sections that could be towed across the Channel and provide the facilities necessary to receive thousands of men, vehicles and tonnes of military supplies that would be required to support the operation. The prefabricated sections were built by a number of private contractors at locations around the country, with the massive Phoenix reinforced concrete caissons collected and taken to Dungeness and Pagham where they were sunk awaiting D-Day when they would be re-floated and towed across the Channel. One of the massive caissons survives off the coast at Littlestone-on-Sea where it was 'parked' prior to D-Day, but proved impossible to refloat. The caisson remains relatively intact having lost only its

anti-aircraft gun mounting and other metalwork. The caisson is rare, being one of only six in British waters and is designated as a Scheduled Monument.

The Allied command also identified that obtaining and supplying fuel for troops operating on the continent would be a significant logistical challenge that could restrict the progress of any invasion force. An engineering solution was again sought to this supply chain problem and led to the creation of the Pipe-Line Under The Ocean (PLUTO). The initial cross-Channel pipeline ran from the Isle of Wight to Cherbourg (later 4 lines), but as fighting progressed towards Germany a further 17 lines were laid between Dungeness to Ambleteuse in the Pas-de-Calais. There was no readily available oil storage area at Dungeness or existing pipeline, so a 71 mile long new pipeline was constructed from existing oil facilities on the Thames to Dungeness. The pipeline running across Romney Marsh to Dungeness and then across the Channel to France was codenamed Dumbo. It is still possible to locate the pipeline in some places where it crosses over drainage ditches, for example at the Five Watering Sewer west of Snargate.

A number of pumping stations and other support buildings were constructed at Dungeness in support of PLUTO. The surface buildings at Dungeness were designed to look like ordinary inconspicuous buildings. On Leonard Road in Greatstone are a group of five bungalows, two on the seaward side of the road and three on the opposite side. The three on the west side were pumping stations whilst the two on the east side were staff quarters. The bungalows survive today, albeit in various states of modification and are known locally as the Pluto Bungalows. Pluto Cottage (now a bed and breakfast) was also used as a pumping station for the network; at the time a simple single storey building it has been much extended with an upper storey added. A further pumping station at Dungeness was disguised as a chapel, and after the war served exactly this purpose. It is now known as The Sanctuary; a chapel which forms part of the Romney Deanery. Whilst PLUTO was never to deliver the volume of fuel that was originally intended it did eventually come to supply the Allies with some 8% of their fuel needs and was an innovative engineering project.

3 Statement of Significance

3.1 Significance

The district was a location of national strategic importance during the Second World War and this is reflected in the number and range of defence sites that were built in the district. Many of these have been subsequently cleared, either immediately following the war as the district returned to normal life, or more recently as the result of piecemeal clearance or redevelopment. Those sites that do survive are important however, particular given the vital role many played in some of the key events in the war; from the Dunkirk Evacuation, through a period of anti-invasion fear when the district would have been the centre point for a German invasion of Britain launched under the plans for Operation Sea Lion, through the Battle of Britain and eventually to D-Day and a return to Europe. As such the surviving Second World War defences in the district are of considerable importance.

3.2 *Heritage Values*

Evidential

Although there has been much research undertaken on the Second World War defences in the District in recent years, there is still much to be learnt. Many of the defences of the Second World War were hastily and rapidly thrown up and as such were often not documented in detail. There are also elements that have been lost and forgotten, having either been removed immediately after the war (when materials and in particular metals were a valuable commodity) or in the intervening years as part of clearance works. Research endeavours such as the Defence of Britain project have added much to our knowledge, but the district would perhaps benefit from a more detailed study similar to those undertaken elsewhere in the county as part of Kent County Council's Defence of Kent programme. It is likely that there are numerous unrecorded sites as well as buried archaeological features that could have a strong evidential value in their ability to further improve our understanding of the military and civil defence of the District.

Historical

The Second World War defensive remains have strong historical associations and illustrate and reflect events at a national and international level. The anti-invasion defences in the District are a ready reminder of the imminent threat of invasion that the country faced following the withdrawal of Allied troops from the beaches of Normandy. Whilst such remains can be found in many places across the county, those in the district are perhaps of special importance given that they lie at one of the key points of invasion had the Nazi's plans for Operation Sea Lion come to fruition.

Sites such as Hawkinge played a vital role in the Battle of Britain, one of the first major campaigns to be fought solely by air forces, one that marked the first significant defeat of Hitler's military forces. Later in the war Hawking and Lympne were to be involved in preparations for the Allied invasion of France, whilst elsewhere in the district new airfields, known as Advanced Landing Grounds were being constructed, and innovative new technological solutions such as the Mulberry Harbours and the Pipe Line Under The Ocean were being readied in preparation for D-Day and subsequent military operations in north-west Europe.

Aesthetic

The need to erect defences rapidly at a time when resources and material were in short supply means that, understandably, the Second World War remains in the District are largely utilitarian in their appearance and are often perceived to be of limited aesthetic value. Nevertheless some defensive sites have an element of aesthetic value derived from their close relationship with the landscape and the places they were designed to defend. Isolated pillboxes on the scarp slope of the Downs above Folkestone for example now stand as silent sentinels benefitting from wide ranging views across Folkestone and the Channel giving them a particularly dramatic quality.

Communal

The Second World War defensive sites have an important social and commemorative value as a reminder of the role of that the district played in the Second World War. The surviving remains provide a strong visual and physical reminder of the district's role in the war and provide a link between the community and its recent past. The surviving remains act as a visual memorial to the losses that the people of the district suffered during the war and of the bravery of those who manned the defences and risked their lives over the district's skies. Within the district there are a number of memorials, cemeteries and other commemorative sites that act as a special focus of remembrance for the people of the district.

4 Vulnerabilities

The District's Second World War defensive heritage assets were erected rapidly in a time of crisis. They were not built to be long-lasting or aesthetically pleasing structures, rather to respond to a very real and immediate threat. The remains are often located in remote locations and options for re-use beyond their initial defensive roles are generally limited. Whilst some of the District's Second World War defensive heritage is protected by designation, the majority is not, and this makes them especially vulnerable to change, this is especially the case for smaller defence works that might be of limited value individually, but which together as a group tell a powerful story.

The pillbox is perhaps the most publicly recognisable Second World War defensive structure of which there are numerous examples located across the District. The vulnerabilities facing pillboxes provide a good case study for the issues facing other Second World War defensive structures. Although pillboxes are solidly built concrete and brick structures some examples are starting to show signs of decay from weathering, neglect or subsidence. Whilst their solid construction is generally quite resilient, once decay sets in they can start to deteriorate rapidly. Once neglected pillboxes often become overgrown and can act as a focus for low-level vandalism, graffiti and other anti-social behaviour.

Although some pillboxes have found alternative uses they are generally left abandoned and have no modern use. Where they fall within the gardens of residential properties they might be reused as garden stores/sheds, whilst elsewhere in the country they have been converted to bat-roosts (although this generates its own issues regarding future access). Their solid construction means that they are difficult to demolish, nevertheless they are vulnerable to gradual loss, both through development and other clearance works.

Other less solid and more easily moved Second World War defensive structures are at even greater risk from such demolitions. Second World War heritage assets were generally purposefully located at specific points within the landscape and this is where much of the assets true significance lies. As such the assets are not just vulnerable to physical change; they are also vulnerable to changes to their setting and outlook.

5 Opportunities

The District's Second World War heritage assets are an emotive reminder of our recent past; it is also a period of history that generates immense public interest. This interest has increased dramatically in the past thirty or so years.

Although various groups and individuals have researched the district's defences, both through formal projects as well as informal study, there remains much that is poorly understood and much new information to be discovered. The *Discovering and Recording Kent's 20th Century Military and Civil Defences* project has started to look in detail at the surviving heritage assets in Kent and there is an opportunity for local groups and volunteers to undertake a similar study in the district so as to build upon existing knowledge in order to better understand, interpret and manage the district's wartime heritage. There are a number of significant assets located within the District, such as around Hawkinge and Lympne airfields, at Dungeness, along the Royal Military Canal and on the hills surrounding Folkestone. At present the military heritage is often ignored and hidden away and opportunities should be sought to better present and interpret these remains, perhaps as part of a series of military heritage trails in order to make better use of their recreational potential.

6 Current Activities

- Shorncliffe Trust
- Shepway HEART Forum

7 Sources Used and Further Information

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Twentieth-Century Military Sites Current approaches to their recording and conservation (EH)

A Review of Second World War Temporary Airfields in England By Paul Francis, Richard Flagg, Graham Crisp

South East Rapid Coastal Zone Assessment Survey National Mapping Programme Components 1&2 - Results of NMP Mapping

Designation Scheduling Selection Guide: Military Sites Post-1500 (HE)

Designation Listing Selection Guide: Military Structures (HE)

Phoenix Caisson in Kent Designated - Part of the Mulberry Floating Harbour Used in the D-Day Landings (<https://www.historicengland.org.uk/whats-new/news/phoenix-caisson-in-kent-designated-part-of-the-mulberry-floating-harbour-used-in-the-d-day-landings/>)

Military Aircraft Crash Sites: Archaeological guidance on their significance and future management (EH)

The Here's History Kent website available at <http://hereshistorykent.org.uk>

The Kent History Forum website available at

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

The National Heritage List for England available at <http://list.english-heritage.org.uk>

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