

# D-Day

## SIXTY YEARS ON

by Roger J C Thomas

Between midnight on 6 June (D-Day) and 30 June 1944, over 850,000 men landed on the invasion beachheads of Normandy, together with nearly 150,000 vehicles and 570,000 tons of supplies. Assembled in camps and transit areas (known as 'sausages') over the preceding months, this force was despatched from sites along Britain's coast-line, from East Anglia to South Wales. Some of these sites remain as tangible reminders of the scale of the Operation, and the lives of those involved, many of whom did not return from the battlefields of France. Sixty years on, English Heritage and the National Trust along with private museums are presenting some of these monuments, along with artefacts and historical documents, as a significant part of Britain's cultural heritage. Details of a few of the more accessible sites are included in this leaflet.

Preparations for D-Day: American aircraft were brought ashore, placed on trucks, and driven through the streets of Liverpool to their eventual destination. Great skill was needed in driving the trucks as the streets were frequently only just wide enough to allow them to pass. [Imperial War Museum NYT 16291]

Winston Churchill first thought of invading German-occupied Europe as early as 1940, while Britain was fighting for her sovereignty in the Battle of Britain. Once the United States of America entered the war, late in 1941, Churchill went on the offensive, pressing Roosevelt to assist, and by the spring of 1942 he had obtained an agreement in principle from the American Joint Chiefs of Staff that an invasion would take place in 1943. Fears that America would abandon the plan in favour of an attack on Japan were allayed at the Casablanca Conference in

January 1943, when Roosevelt committed his country to Operation Overlord and agreed to move the target date to 1944.

The plan for the sea attack involved the deployment of 6,000 vessels, including 4,000 landing craft and 130 warships for bombardment. Due to the different equipment used by the Allies, and in an effort to save confusion within the supply-lines, a decision was taken to geographically segregate the US Army from the British

A column of DUKWs or 'Ducks' — amphibious vehicles — practise on Braunton Sands. In the background several landing craft are approaching the shore. [Imperial War Museum PL4032]

and Canadians. The Americans were located in Cornwall, Devon, Dorset and South Wales, while the British and Commonwealth troops occupied a swathe of land from Hampshire to Sussex. It was immediately obvious that the operation presented further enormous logistical challenges.

One of the first problems that had to be tackled by the planners was the building of the infrastructure necessary to launch such a massive sea force. Camps, depots and new roads had to be built along the south coasts of England and Wales to facilitate the movement of troops. Crucially, beaches had to be given a hard surface to enable the direct loading of vehicles from sand to ships. The responsibility for establishing these so-called embarkation 'hards' fell to the Admiralty under the direction of Louis Mountbatten. Two types of hard were developed: one designed for Landing Craft Tanks (LCT) and the other for Landing Ship Tanks (LST); they differed in size, serving four or two vessels. The basic design consisted of a concrete approach road serving an apron that led onto a rectangular hard that descended down the shore to the low-water mark, to enable loading of ships at all states of the tide. It consisted of a flexible mat made of small rectangular concrete blocks called 'biscuits'. Each hard was served by a jetty that extended centrally from the shoreline to beyond the low water mark, allowing landing craft to tie up alongside, and large steel fair-leads (bollards) were situated to the sides of each hard for tying-up. The embarkation hards and their roads may be amongst the least glamorous of the surviving monuments associated with D-Day, but were essential to the success of the Allied invasion of Europe, and today are easily understood.

The choice of landing site was crucial. The ill-fated Dieppe raid of 1942, Operation Jubilee, had taught the Allies how hard it was to try and capture a well-defended port by direct assault by sea. Yet without a suitable port it would be impossible to build up sufficient ammunition, food, fuel and other essential resources to support the large invasion force. For this reason an absolutely essential part of the Allies' planning for the invasion of Normandy was

US troops prepare to board a landing craft (LCVP) that will take them to larger ships lying off the coast. This photo was taken on a hard some-where in the West Country, just before Allied troops embarked for the D-Day landing in France on 6 June 1944. [Imperial War Museum AP25499]

the provision of 'Gooseberry' and 'Mulberry' harbours. The 'Gooseberries' were anchorages of calm water formed by the sinking of a number of ships to form a sea wall off Port-en-Bessin, Varreville, Courseulles and Ouistreham. The 'Mulberries' were altogether more sophisticated. They were prefabricated concrete harbours floated across the channel and assembled on the beaches immediately after D-Day, 'Mulberry A' serving the American forces at Saint-Laurent-sur-Mer and 'Mulberry B' serving the British forces at Arromanches. This was a massive undertaking: 4,500 men were involved

A floating ramp and 'spud' pierhead, forming the Whale of the Mulberry 'B' harbour at Arromanches, Normandy.  
[Imperial War Museum B5733]

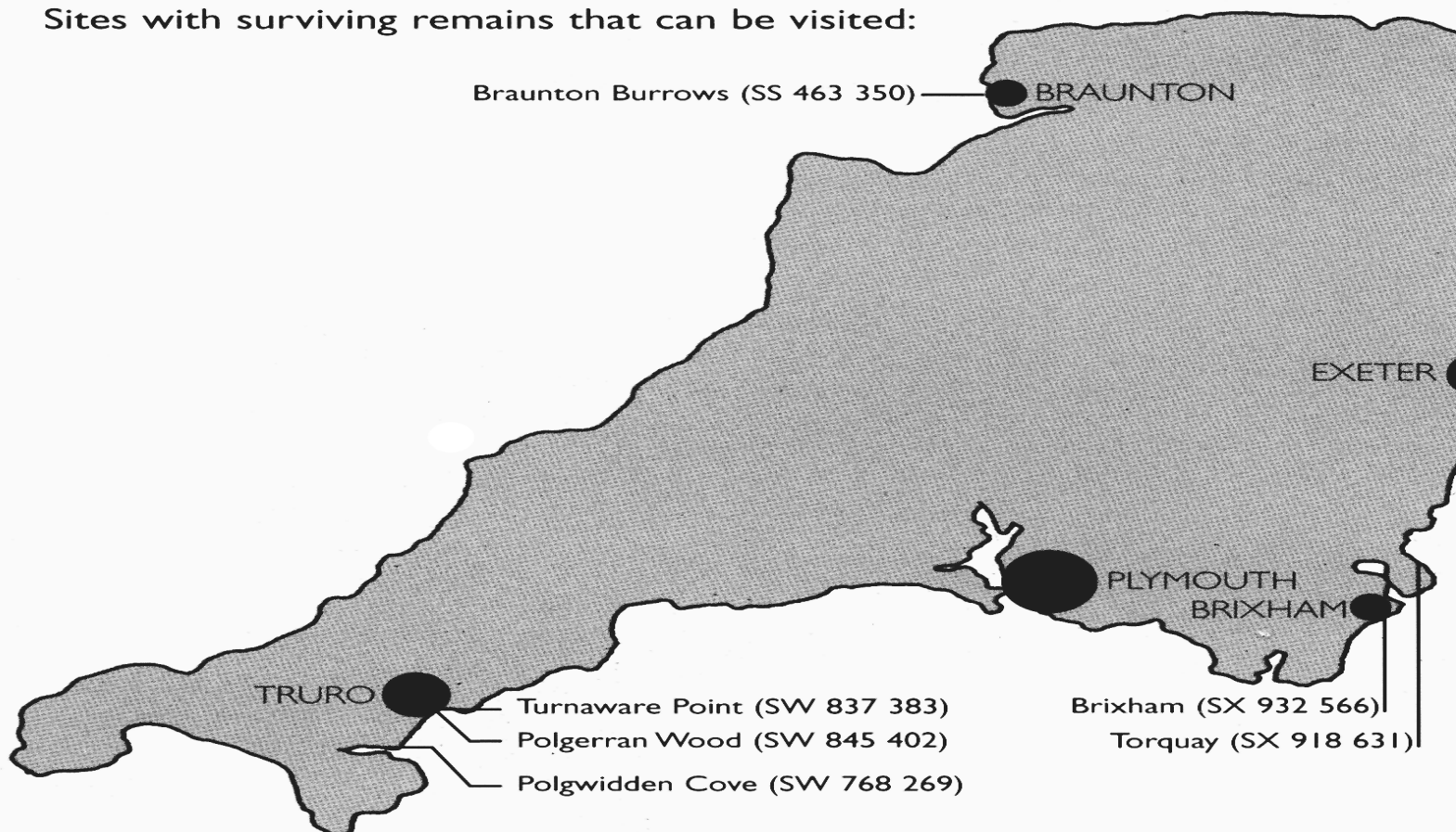
in their construction at various sites around the South Coast. Each 'Mulberry' was intended to be roughly equivalent in area to Dover Harbour and capable of handling 12,000 tons of supplies daily. They consisted of a number of interestingly code-named components: 'phoenix' — a hollow concrete caisson; 'corn-cob' — a sunken blockship; 'whales' — floating pierheads; 'spuds' — extendable steel legs; 'beetles' — concrete pontoon barges; and 'bombardons' — steel mooring buoys.

The toehold that was established in Normandy as a result of the D-Day invasions was vital for the Allies. It forced the German Reich to fight on two fronts, directing their resources away from the steadily advancing Russian Red Army. However, the landings were also extremely costly: it is estimated that there were over 10,000 Allied casualties.

The surviving embarkation hards and 'Mulberry' construction yards are tangible reminders of the effort and sacrifice made by both the civilian workforce and the armed forces involved in Operation Neptune and Overlord. Every year Normandy Veterans and local communities hold remembrance services at the embarkation hards, a fact that attests to the historical and social significance that these sites still retain after the passing of sixty years.

An aerial; photo of the  
Mulberry 'B' harbour at  
Arromanches, Normandy  
[Imperial War Museum  
BU1022]

## Sites with surviving remains that can be visited:

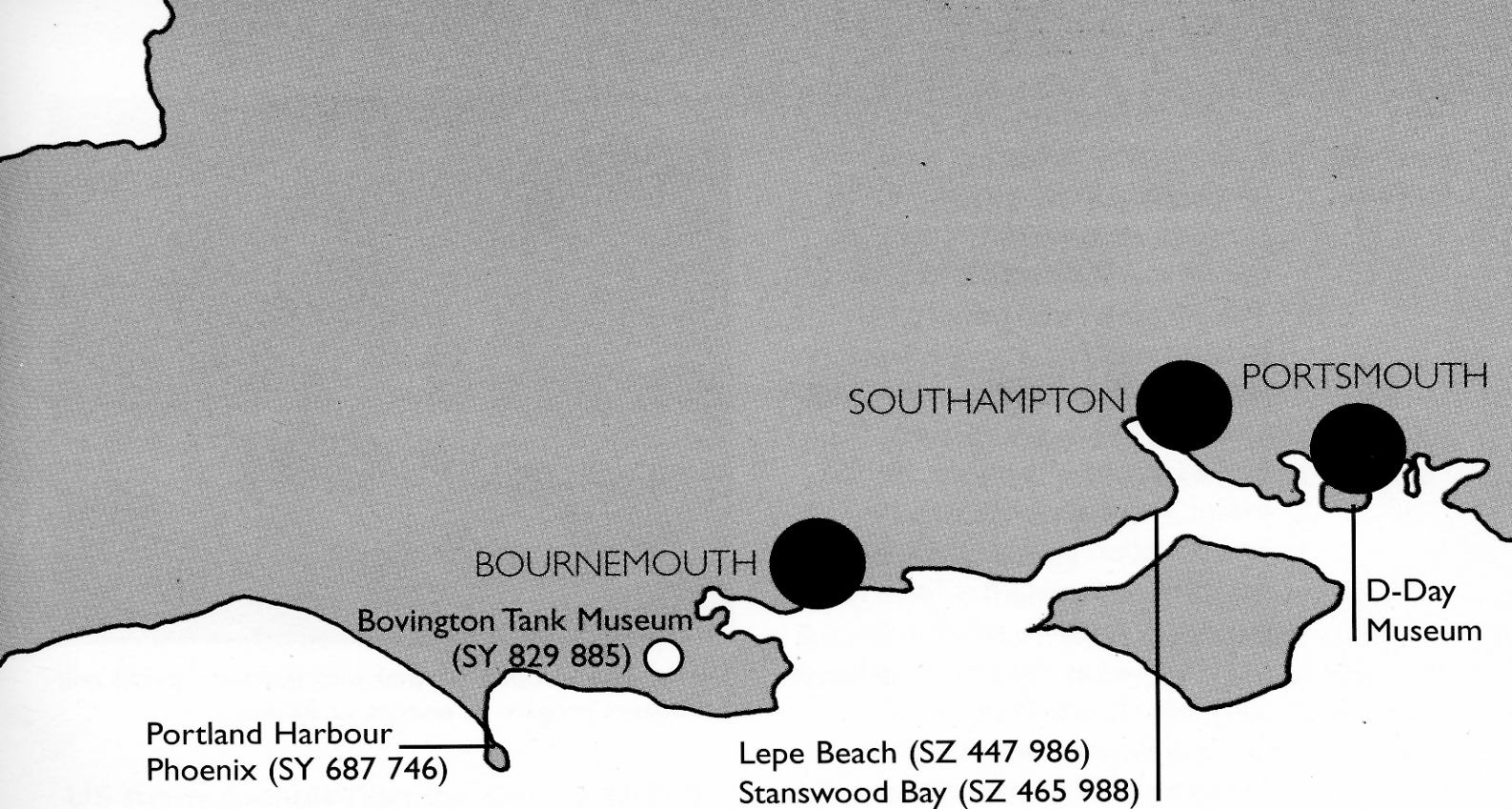


### **Polgwidden Cove, Embarkation Hard No. PH — Plymouth Command**

Location	Trebah Gardens, Trebah Manor, Helford Passage, Falmouth, Cornwall
NGR	SW 768 269
Car parking	Public car park, Helford Passage (charge) Private car park, Trebah Gardens (charge)
Access	By foot, public right of way along coast path from Passage Cove, Helford Passage (0.5km), or private pathway through Trebah Gardens (0.5km). NB access to beach is only possible through the gardens

Ownership	Privately owned gardens for which a fee is payable
Type	Two-berth Landing Ship Tank (LST)
Surviving features	Concrete vehicle storage road, partial survival of concrete apron, mooring rings and concrete slipway. The concrete biscuits have been taken from the beach and used to form a pathway within the gardens leading to the beach
Facilities	Toilets and beach café (NB accessible only from within the gardens)





### Turnaware Point, Embarkation Hard No. PF2 — Plymouth Command

Location	Turnaware Point, Commerrans Farm, St Just In Roseland, Cornwall
NGR	SW 837 383
Car park	Limited free roadside parking at SW 842 372, limited disabled parking on private road at (SW 837 379)
Access	1.5km (¾ mile) walk along concrete approach road
Ownership	National Trust: free access
Type	Four-berth Landing Ship Tank (LST)
Surviving features	The concrete approach road with parking bays is visible here, as is the concrete apron surfaced with a thin layer of tar flanked by bollards in large square concrete blocks. The jetty has been removed, although a length of jetty pile remains on the foreshore to the east. The concrete biscuits have been removed. A granite memorial stone stands dedicated to the men of the 29th Infantry Division, V Corps, US Army, who embarked at Turnaware Point SW 837 380
Facilities	None

### Polgerran Wood / Tolverne, Embarkation Hard No. PFI — Plymouth Command

Location	The Smugglers Cottage, Tolverne, Philleigh, Truro, Cornwall
NGR	SW 845 402
Car Park	Ample free roadside parking at SW 844 399 on approach road in Chapel Wood
Access	By boat (the <i>Cornish Belle</i> ) from Falmouth, or short walk along concrete approach road
Ownership	Privately owned; free access at all reasonable hours



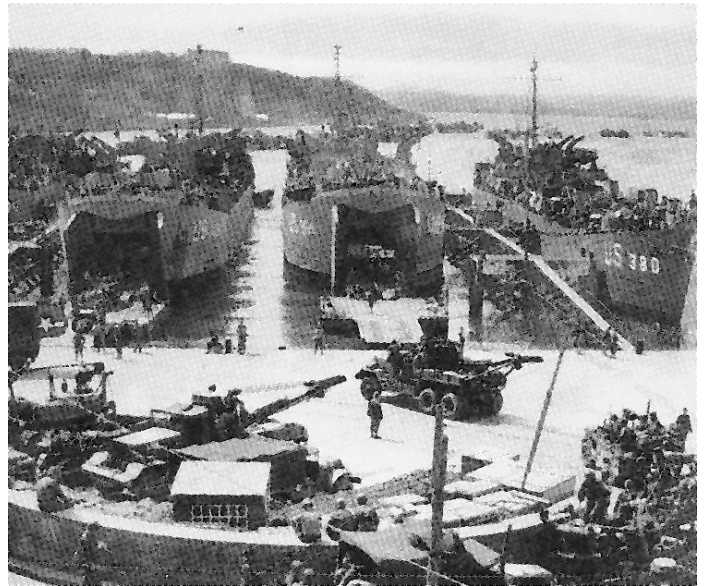
A peaceful, modern view of Polgerran Wood hard that was once a hive of military activity.



**Type** Two-berth Landing Ship Tank (LST)

**Surviving features** The concrete approach road with parking bays remains, as does the concrete apron surfaced with a thin layer of tar flanked by bollards. The jetty has been removed and the concrete biscuits have been lifted from the foreshore and used as walling. Various hut bases, platforms, water tanks etc. remain extant. The owner has provided interpretation panels for visitors. Adjacent to the Hard is Tolverne Smugglers Cottage, which was requisitioned as the Hardmaster and Embarkation Staff Office. General Eisenhower visited the Cottage in 1944, while carrying out inspections of troops in the area. A memorial tree planted to commemorate the fiftieth anniversary of D-Day stands a short distance from the hard

**Facilities** Toilets and café (morning coffee, lunches, cream teas and pasty suppers)



Engineering troops equipped with recovery trucks and bulldozers prepare to embark at Brixham.

### **Brixham, Embarkation Hard No. PU — Plymouth Command**

**Location** Breakwater, Brixham, Devon  
**NGR** SX 932 566  
**Car park** Breakwater Beach car park  
**Access** Open public access  
**Ownership** Private  
**Type** Four-berth Landing Ship Tank (LST)

**Surviving features** Set in the lee of the breakwater, the hard remains largely intact apart from the removal of the steel jetties. The concrete apron and slip ways are used today by modern sailing and pleasure craft. A bronze memorial plaque dedicated to the men of the 4th Infantry Division, VII Corps, US Army, who embarked at Brixham is situated adjacent to the hard

**Facilities** Wide range of facilities available nearby

### **Torquay, Embarkation Hard No.PY — Plymouth Command**

**Location** New Harbour, Victoria Parade, Torquay, Devon

Pleasurecraft using Brixham embarkation hard on a warm summer evening contrasts with the bustling scene above.



**NGR** SX 918 631

**Car park** Beacon Hill public car park (charge)

**Access** By foot along harbour wall (minor road off Victoria Parade)

**Ownership** Private, viewing is possible from the harbourside

**Type** 4-berth Landing Craft Tank (LC)

**Surviving features** 2 reinforced concrete slipways. commemoration plaque dedicated to the men of the 4th Infantry Division, VII Corps, US 1st Army, who embarked at Torquay is situated adjacent to the slipways

**Facilities** Cafés, restaurants, and toilets c harbour front

### **US Army Assault Training Centre (ATC), Braunton Burrows**

**Location** Braunton Burrows, Sandy Lane, Braunton, Devon  
Baggy Point, Croyde, Devon  
Woolacombe Sands, Woolacombe, Devon

**NGR** Braunton Burrows SS 450 350 (feature centre)  
Baggy Point SS 421 405

**Car park** **Braunton Burrows**  
Saunton Sands car park SS 447 376  
Sandy Lane car park SS 463 350.  
Ferry House Beach car park (via toll road) SS 466 327

### **Baggy Point**

Croyde SS 436 396 (National Trust)

### **Putsborough Sands**

Putsborough village SS 447 406

### **Woolacombe**

Woolacombe SS 458 433

### **Access**

By foot along the American Road following the Tarka Trail and the Somerset and North Devon Coast Path. Various short walks from the listed car parks

### **Ownership**

Various

### **Type**

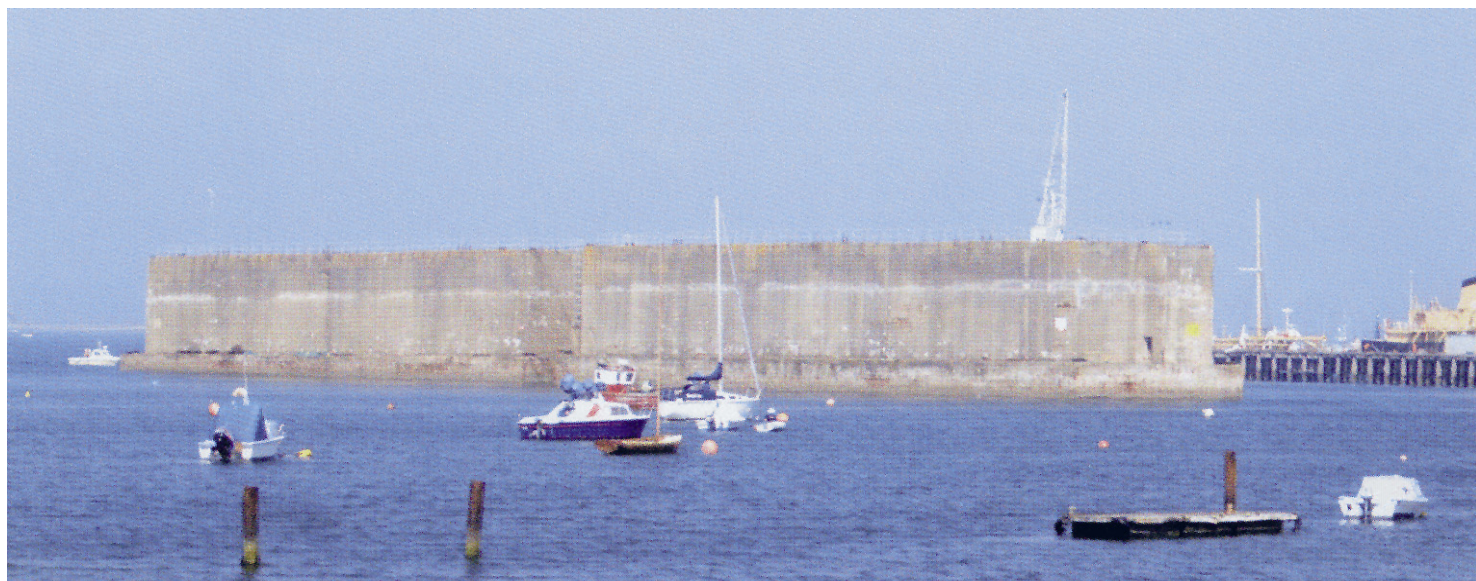
Training Ranges

### **Surviving features**

Mock pillboxes, anti-tank walls, beach defences, mock landing craft etc. Most of the surviving features exhibit the effects of gun fire and blast damage. Visitors are reminded that Braunton Burrows remains a military training area and that the area is also a nature reserve. A commemoration plaque located on a mock landing craft at SS 461 331 is dedicated 'In commemoration of those members of the Allied Forces who trained here for the liberation of Europe "D-Day" June 6th 1944'

### **Facilities**

Beach café & toilets at Saunton Sands car park. Various facilities at Woolacombe, Croyde and Braunton villages



A pair of Mulberry 'Phoenix' caissons continue to function as a breakwater in Portland Harbour today



## Phoenix Caissons — Portland Harbour

**Location** Portland Harbour, Fortuneswell, Portland, Dorset

**NGR** SY 687 746

**Car park** Portland Castle car park (English Heritage)

**Access** View from Portland Castle, or by boat (White Boat Ferry)

Ownership Private

**Type** 'Phoenix' caisson

**Surviving features** Two 'Phoenix' caissons moored end-to-end. Each one is built of reinforced concrete and weighs 7,000 tons (7, 113.8 tonnes), is 140ft (12.19m) long, 30ft (9.14m) wide and 40ft (12.19m) high. Internally they are subdivided into a number of open transverse chambers that could be flooded to sink the caissons to the sea floor to form a breakwater. As originally built,

each 'Phoenix' was fitted with a 40mm Bofors light anti-aircraft gun mounted on a squat tower

**Facilities** Toilets, tea room and small D-Day exhibit within Portland Castle

## The Tank Museum

**Address:** Bovington Camp, Bovington, Dorset, BH20 6JG **Tel:** 01929 405096

**E-mail:** [info@tankmuseum.co.uk](mailto:info@tankmuseum.co.uk)

**Website:** [www.tankmuseum.co.uk](http://www.tankmuseum.co.uk)

**Days of Opening:** Seven days per week, except Christmas period and New Years Day

**Hours of Opening:** 10am – 5.00pm

**Adult admission charge:** £7.50

(discounts for senior citizens, child, student, ÚB40, family, groups)

**Directions to museum:** By Road: A352 from Wareham, or Dorchester, follow Museum brown signposts. By Rail: Wool Station, then 7-minute walk, bus or taxi

A Sherman 'Crab' mine clearance tank alongside a DUKW at the Tank Museum





As D-Day dawned special Sherman DD swimming tanks were launched from landing craft and headed ashore to subdue the opposition. Close behind them came Sherman Crabs, fitted with a rotating flail device to explode mines, and special engineer tanks capable of destroying enemy strong-points with a devastating weapon known as the Petard, or 'Flying Dustbin'. Examples of all of these and more can be found among the huge collection of tanks at Bovington.

As the Allies moved inland great tank battles broke out. German Tiger and King Tiger tanks were encountered and defeated — examples of both of these machines are on display. In the evening gliders swooped down from the sky and landed small airborne tanks that had been flown over from England. Back on the beaches amphibious trucks, known as DUKWs were ferrying supplies ashore and landing craft were discharging even more tanks to support the attack. You can see all of these at the Tank Museum.

In this sixtieth anniversary year the Tank Museum will be mounting a special D-Day display and typical tanks will take part in the special 'Tanks in Action' events. There will be a major enthusiasts day — Tankfest — on May 23rd where a number of the museum's rarer vehicles can be seen running. A new Tank Museum website dedicated to the D-Day tank story has also been established ([www.D-Daytanks.org.uk](http://www.D-Daytanks.org.uk)), while more general information on the Museum and its vast range of exhibits can be found on the museum website.

### **Lepe and Stanswood Bay Embarkation Hards No. Q & Q2 — Portsmouth Command**

**Location** Lepe Beach and Stansore Point, Blackfield, Hampshire

**NGR** SZ 447 986 (Lepe Q)  
SZ 465 988 (Stanswood Bay Q2)

**Car park** Public car park Lepe (charge)  
Public car park Stone Point (charge)



A fairlead and pier 'dolphins' at Stanswood Bay hard.

Access	0.5km (1/3 mile) walk along foreshore, or public road (Lepe Q) 1.0km (2/3 mile) walk along foreshore (Stanswood Bay Q2)
Type	Four-berth Landing Craft Tank (LCT) and two-berth Land Ship Tank (LST) respectively
Surviving features	Minor road through Blackfield widened and adapted with concrete parking bays

(Lepe Q) Concrete apron to beach. Original access road passed through the private grounds of Lepe House and is now partially buried (no public access). Access from the public road is via a path made from concrete biscuits removed from the beach.

(Stanswood Bay Q2) Concrete apron survives together with the concrete biscuit hardway, which is slowly being eroded on the beach. The jetty has been removed, although two rusting jetty dolphins remain to full height. In addition to the features associated with the embarkation hard this site is adjacent to a Mulberry Harbour construction site.

A large interpretation panel giving facts and figures is situated at the Stone Point café facility

**Facilities** Ample car parking, café and toilets

### **D-Day Museum and Overlord Embroidery**

Address: Clarence Esplanade, Southsea, Portsmouth, Hants, PO5 3NT

Tel: 023 9282 7261 (group visits –Tel: 023 9229 6905)

Email: [andrew.whitmarsh@portsmouthcc.gov.uk](mailto:andrew.whitmarsh@portsmouthcc.gov.uk)

Website: [www.ddaymuseum.co.uk](http://www.ddaymuseum.co.uk)

**Days of opening:** Seven days per week

**Hours of opening:** April – October: 10am – 5.30pm, November – March: 10am – 5.30pm

**Adult admission charge:** £5 (discounts for senior citizens, child, student, UB40, family, groups)

#### **Directions to the museum:**

By Road: M27/M275 or M27/A2030 into Portsmouth, follow Museum symbol then 'D-Day Museum' on Brown signposts

By Rail: Portsmouth Harbour Station.

Number 6 bus to Palmerston Road (shopping area) then 7-minute walk

The D-Day Museum is Britain's only museum dedicated solely to recounting the dramatic story of the Allied landings in Normandy on 6 June 1944. Its centrepiece is the magnificent Overlord Embroidery – the longest embroidery in – the world – which tells the story of D-Day and the Battle of Normandy. Historic film footage and extensive displays of wartime objects

illustrate the preparations for D-Day, the contributions of the different services and the fighting on the beaches. The role of millions of people on the home front is also remembered. The displays include a landing craft, a DUKW amphibious vehicle and Sherman and Churchill tanks. The rare Sherman Beach Armoured Recovery Vehicle, designed to recover bogged down vehicles from the beaches, is one of only a handful of this type surviving.

Portsmouth was at the centre of the preparations for D-Day, and is playing an equally important role in the commemoration of the sixtieth anniversary. As well as a temporary exhibition and special events at the museum itself, the city of Portsmouth is mounting a series of commemorative events throughout the summer (more details can be found on the museum's website, see above).



Granite memorial stone dedicated to the men of the 29th Infantry Division, V Corps, US Army, who embarked at Turnaware Point.



ENGLISH HERITAGE



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