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SCHEDULE

The entry for:-

SU 60 SW	**PRIDDY'S HARD**
2/130	**Museum Building**
GV	**I**

Shall be replaced by:-

SU 60 SW	**PRIDDY'S HARD**
2/130	**'A' Magazine Museum Buildings**
19-JAN-1990	
GV	**I**

Museum, formerly magazine, later store for ammunition and shells, with enclosing traverse walls to N and S. 1770/6, by Major Archer, CRE to Portsmouth District, assisted by Captain Brewse and General Skinner. Brick in English bond, slate roof.

A broad gabled block heavily buttressed to long sides, and a central raking buttress at gable ends, central entry from W and exit to Rolling Way and other buildings of the complex (qv Building 423 etc) on the E side; the magazine is in two aisles connected by 4 broad cross-vaults and the central throughway. At approx 20m to S and N are high traverse walls, that to the S partly built into 'B' Magazine (qv), and to the N forming the flank wall to the Quick Fire Shell Store (qv).

The long W side has a central wide raking buttress, containing a deep-set doorway with cambered head, flanked by two further wide buttresses, all with stepped brick cappings under swept-down sections of the main roof, with similar stepped stepped brick eaves cornice. A series of 6 very narrow ventilation slits, 18 courses high and half-brick, are evenly spaced in the wall at about half-height. The back (E) elevation is similar, but with a lower structure attached centrally. The gable ends each have a large central raking buttress, tumbled in at the top under a ventilation slit, a hatch set high and 2 smaller louvred openings, the latter to the S end with round-arched windows to N. The roof is tightly clipped to the gable ends, with a cast-iron gutter to eaves courses.

INTERIOR: a rectangular 2-aisled space, contained by very thick (approx 2.1m) outer walls, and with a central row of large (1.4m) square brick piers carrying two wide arched openings (approx 1.8m) and a smaller central opening, all carried continuously to two longitudinal barrel vaults, the vaulting being cut through by the cross vaults at the openings. All of this is in very fine English bond brickwork, with cut and formed bricks at the curved intersections; the vault thickness at the crown is just over 1m. At the end of the 'aisles' is a plain wall, with blind recessed openings, but with a single

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window to each at the N end. The central piers have a hardwood rail set flush all round at arch springing level, and at approx 1m from floor level. The timber floor is in broad planks running longitudinally.

Originally there was a complete enclosure of traverse (protective) walling to the magazine, but the only free-standing part of this is that now to the S, which is 21/2 bricks thick, in English bond, incorporating many blue headers, and approx 3.2m to the oversailing string in two courses carrying a steeply pitched brick coping high. On the magazine axis is a wide gateway, with two large framed planks doors, with early ironwork, hung to square piers with flat cappings, and at the left-hand end a further square pier. To the right the wall becomes part of 'B' Magazine (qv). The N stretch of wall forms part of the Quick Fire Shell Store (Building 433, qv). Originally the magazine stood as an isolated unit contained by a complete enclosure of these high traverse walls (plan, Evans, op cit p. 14). The line of the front wall is still marked by a continuous curbed run.

HISTORY: This is a particularly well preserved and magnificent example of a late C18 classic British magazine type, with its characteristic pair of vaulted chambers and splendidly handled brick detailing; although at first free-standing within its traverse walls, it later became linked with a series of related buildings, including a Rolling Way connecting directly with the waterside at the Camber (qv). It was designed by Captain Archer, Commanding Royal Engineer of the Portsmouth District. From c1880 - with the completion of E Magazine (436) - it was used for storing small arms ammunition and filled rockets and shells.

Priddy's Hard's magazines and related structures date from the late 18th century. The site's expansion from the mid 19th century was closely related to the development of land and sea artillery and the navy's transition from the age of sail, powder and solid shot to the Dreadnought class of the early 1900s. Priddy's Hard retains the best-preserved range of structures that relate to this remarkable history of continual enlargement and adaptation, one that encompasses that of Britain's dominance as a sea power on a global scale.

The first phase of the site is bounded by the northern end of the Gosport Lines, defences for the protection of the naval dockyard that date back to the late 17th century and were extended around Priddy's Hard from 1757. The first plans were drafted in 1769, and the first phase of the complex was finished by the end of September 1777. This comprised a basin for powder vessels, a powder magazine, a cooperage for the repair of powder barrels, a rolling way (for moving powder in barrows or trollies), officers' houses and a shifting house (for the examination of powder). Two additional magazines were projected (and designed) in 1776, and, though never built, had a permanent effect on the shape of the site, as the Commanding Royal Engineer of the Portsmouth district, Captain Archer, was ordered to strengthen the line of fortifications - which until 1779 comprised temporary palisades and fascines - to allow for them. The earthwork defences (Scheduled Ancient Monument) comprise a rampart with demi-bastions. The space so provided was to prove invaluable during the site's expansion in the next century.

Like the other magazines around Portsmouth, Chatham and Plymouth, the years of peace after the Napoleonic Wars had caused deterioration, particularly in the earthwork defences. This type of fortification needed a lot of attention - by 1809 they had been reported to be 'very ruinous' - and in 1844 it was decided to restore and improve them, making the dry ditch a wet one and adding a drawbridge which protected the main entrance. In 1847/8 a Laboratory complex was built at Priddy's Hard, following a decision to move it out of Portsmouth onto a more secure site. Apart from the operational buildings, this involved the construction of a small Expense Magazine (demolished) to

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hold the explosives needed for the daily work in the Laboratory and the introduction of a transit system from the Magazine to the Expense Magazine. The principal function of the Laboratories through the Revolutionary and Napoleonic Wars had been the production of small arms ammunition, but this situation was to change, and with it the role of Priddy's Hard. The development of artillery meant a great increase in the use of filled shells and the fuzes required to detonate them, the preparation of fuzes being a natural extension of the work of the Laboratories. From 1845 shells were being introduced into naval service on an unprecedented scale (a shell store at Gunwharf in Portsmouth was begun in 1853), and in the Crimean War preparations were made for shell filling at Priddy's Hard. As the filling and emptying of the shells could not be carried out in a magazine, and required dedicated facilities, the Laboratories came more and more to deal with the projectiles and propellants for sea and land-service artillery.

The development of new propellants and projectiles from the mid 19th century took place against the background of the arms race of the second half of the 19th century. Thus the construction of an armour-clad and steam-powered fleet, followed by the introduction of steel guns and rotating turrets, was accompanied by the development of ordnance which rendered the forts of the Palmerston government, initiated in 1859 in reaction to a perceived threat from the French, obsolete only 20 years after their construction. Thus the smooth-bore 68-pounder had been the largest gun in service at the time of the Crimean War. Vast quantities of powder were needed as propellant and explosive filling for shells of the 110-ton monster guns of the 1880s, a decade which saw the development of more effective breech-loading systems and the emergence of the 12-inch gun as the standard naval armament.

The development of complex shell-filling systems at once differentiated Priddy's Hard from the other Depots, and the survival of such a complete complex is unique in a national context. The covered rolling way and buildings around the Camber (all wooden) were rebuilt in brick in the 1860s. An increasing amount of buildings (sited around the Camber) were required to house the store of empty cases in which shells were individually packed and supplied to the ships: there are seven of these stores, ranging from 1859 to the 1890s. The vital job of repairing these boxes was carried out in the carpenters' shop (Building 413). The further redevelopment of Priddy's Hard began in 1860 with the construction of 'C' Magazine (Building 435). This was originally intended for the receipt of ammunition from ships, and formed the terminus of a transport system, linked to the Laboratory, that was to play a key role in the development in the 1860s of a shell-filling complex. This eventually necessitated the demolition of the east ranges of the Laboratory, converted for shell-filling purposes in the 1860s but without the capacity to meet the demand as shells replaced solid shot as the standard naval ordnance. Tramways connected the Powder Pier and new E Magazine (436, built in 1878/9 as a replacement for 'A' Magazine) to the Shell Filling Room (demolished) and finally Shell Store of 1879 (303) and Pier.

After an explosion at the Shell Filling Room in 1883 it was decided to move this activity to outside the historic fortified boundaries of Priddy's Hard, and to distribute the activity among several small buildings. In 1886/7, therefore, a set of Shell Filling Rooms and a Fuzing Room (346a-d), later joined by a Shell Filling Room for quick-firing shells (342, not included), an Expense Magazine (461) and Unheading Room (242), were built without the ramparts along the edge of Forton Creek. All the filling rooms were heated by hot water pipe supplied from a boiler house (462, not included). Priddy's Hard was to develop the most complex internal communications system of any of the Yards until the rails for the powder line (1 ft. 6 inch gauge) and the shell tramway (2 ft 6 inch gauge) were replaced by small self-propelled vehicles. The site had 240 employees in 1895, and larger Shifting Rooms were required to accommodate the expanded workforce.

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Drastic changes in the administration of the Yards were made following the decision in 1890 to divide their control between the two Services. Spurred on by the arms race with Germany, the Admiralty at once began a great expansion programme which affected Priddy's Hard, Bull Point, and Upnor. A great change in the construction of magazine buildings was also caused by the introduction in the 1890s of the new explosives cordite and guncotton, which were stored - under different conditions from gunpowder - to the N and NW of the ramparts. This part of the site has lost its former layout and most of its buildings, Bull Point (Plymouth) now having the best-retained buildings representative of the new technology. 1896 saw the construction of a new Laboratory for filling cartridges (mainly with cordite), comprising frangible wooden buildings protected by massive traverses, within the southern section of the 18th century defences. Although temporary buildings whose plan forms are not clearly related to their intended and differing functions, their imprint on the landscape is marked by the dividing traverse walls (within the Scheduled Ancient Monument constraint area). The preparation of shell cases by lacquering to prevent spontaneous chemical reactions and the development of the fuze from a rudimentary device to a complex piece of mechanism added other types of building. Massive shell stores (406, 407) were added to store the finished articles, together with a Mine Store (409), though at that period the Naval use of mines was very limited.

The development of Priddy's Hard after 1900 was affected by the traumatic event of an explosion in the New Shell Store (407) in November 1902. It was decided that the site was far too close to the naval dockyard for bulk storage of explosives, and that the magazines should be used only as ready use magazines to supply the shell and cartridge filling rooms. A new magazine establishment, to be laid out on the same lines as Lodge Hill (opposite Chatham dockyard), was proposed and after some false moves work began in 1908 at Bedenham. Priddy's Hard was now largely turned over to shell and cartridge filling. The First World War brought about a great expansion of Priddy's Hard. This was partly because of the extension of the Laboratory to meet the increased need for filled cartridges and partly because of the introduction of new explosives and weapons systems. TNT, known in the Services as Trotyl, could be melted on a water bath and poured into shells, and a set of Trotyl Rooms were added in 1915. Amatol was an explosive consisting of a mixture of ammonium nitrate with trotyl, and stores were required for this. A new Mine Store was built in close proximity to the Amatol Store, while buildings dedicated to fuze filling were required. New weapons requiring storage, filling and maintenance were depth charges, bombs for aerial use, and the anti-submarine device of the towed explosive paravane.

Similar additions, but to a lesser degree, were made at Bull Point.

SOURCES:
David Evans, Priddy's Hard (report for Listing Team, English Heritage), 2000