

**Allington Sluice, Maidstone, Kent
Historic Building Recording**

NGR 574830 158156

Commissioned by Atkins Heritage



Project No. 3863

Report No. 2009111

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July 2009

ABSTRACT

In July 2009 Archaeology South-East (a division of the Centre for Applied Archaeology, UCL) carried out a historic building recording of Allington Sluice, Maidstone, Kent (NGR 574830 158156). The work was commissioned prior to its proposed refurbishment.

The sluice appears today in its original form, retaining many of its original features and fittings, and with only minor modifications. Built in 1936, its appearance is typical of the 1930s.

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1.0 INTRODUCTION

- 1.1 In July 2009 Archaeology South-East (a division of the Centre for Applied Archaeology, UCL) carried out a historic building recording survey of Allington Sluice, Maidstone, Kent (NGR 574830 158156) (Figs. 1 & 2). The work was commissioned by Atkins Heritage on behalf of the Environment Agency in advance of its proposed refurbishment.

2.0 SCOPE & METHODOLOGY

- 2.1 The purpose of the historic building recording was to create a record of the sluice prior to the proposed refurbishment, in order to mitigate the impacts of the work.
- 2.2 In accordance with a brief issued by Atkins Heritage, the recording was conducted to Level 2 as defined by English Heritage's guidelines *Understanding Historic Buildings: A guide to good recording practice* 2006. It involved the description of the historic fabric of the structure, together with the analysis of any subsequent alterations or modifications. It also included the compilation of a floor plan and an elevation of the structure and a photographic record.
- 2.3 The site was visited by Amy Williamson, Maggie Henderson and Jane Clubb on 13th July 2009 in order to carry out the on-site recording work. The descriptive element of the report includes an account of the surviving building elements which entailed visual, non-intrusive examination of its fabric, the resultant interpretation therefore being based principally on that which was visible at the time of the survey. Also included within the report is a brief historical background to the site, based upon documents provided by Atkins Heritage.
- 2.4 The drawn record comprises a measured floor plan and an elevation of the structure. These are based upon architectural drawings of 1935 (supplied by the Environment Agency) which have been verified for accuracy, in addition to survey data obtained on site. Copies of the drawings are included within the report (Figs. 3 & 4).
- 2.5 The photographic record was created using traditional black and white film, duplicated with digital images. It includes general external and internal views as well as detailed shots of architectural and other important features. A selection of the digital photography has been reproduced as plates within the report, and their locations shown (Fig. 5).
- 2.6 The final report will be submitted to the client, and printed and digital copies (on CD-ROM in PDF format) of the report will also be submitted to the Heritage Conservation Group at Kent County Council, Maidstone. A microform copy of the site archive will be submitted to the National Monuments Record, Swindon. The project archive will be compiled in

accordance with English Heritage's 2006 guidance document *Management of Research Projects in the Historic Environment (MORPHE)* and UKIC's 1990 *Guidelines for the Preparations of Excavation Archives for Long Term Storage*.

3.0 THE SITE

- 3.1 Allington Sluice is located approximately 3km downstream of Maidstone, being at the downstream end of the Medway Navigation System. It is the largest of the Medway lock and weir stations. The sluice structure spans the majority of the River Medway channel from the north bank to Lock Island; there is a smaller channel of water on the southern side of this island which is regulated by a lock alongside the south bank (Fig. 2). Downstream of Allington, the river is tidal (Plate 2). The complex is adjacent to the Museum of Kent Life.
- 3.2 Although the sluice itself is not listed, there are listed buildings associated with the sluice and lock: two lock houses and the lock office. The main lock house on the south bank dates from 1833; the house adjacent to the sluice on the north bank (Plate 5) was built in the mid nineteenth century, as was the 'Gothic'-style lock office located on Lock Island. All three are listed grade II. Also forming part of the group of houses on the south bank are a pair of semi-detached houses, dating from the late nineteenth century, and a 1940-1 pillbox. The Malta Inn lies to the east of the complex along the north bank, and may act as a draw to the site (Trueman 2007; Plate 4).

4.0 HISTORICAL BACKGROUND

- 4.1 Prior to the construction of the present sluice, the river flow was regulated by a weir or a lock in the same location. On the Allington Tithe map (Centre for Kentish Studies (Maidstone) Tithe Maps IR30/17/8), the weir is shown as a single line, crossing the river from the northern tip of the island to the north bank. An illustration possibly dating to 1830 (Vine 1989) shows this as a fixed-level weir to the north of a short masonry wall, with a gated sluice to the south, between the wall and the island.
- 4.2 On the 1865 Ordnance Survey (O.S.) map, the structure in this location is depicted as two, unequal-sized gates, one either side of a small 'island', with the larger of the two gates to the north. These are extant on the 1895 O.S. map, with the addition of a straight bridge from the island to the main bank, situated a little to the west of the lock gates. Historical photographs show these gates in position, and though the O.S. map labels them as 'Lock', they are clearly sluice gates designed for water-flow regulation rather than for boats to pass through. Photographs from c.1930 show the gates under repair: they comprise vertically-lifting wooden sluice-doors set between cast-iron uprights. The two pairs of gates were separated by a brick buttress. Unfortunately, the footbridge is not visible in the photographs.

- 4.3 In 1936, the present, three-gate sluice was built by joint arrangement between the Medway Lower Navigation Company and the River Medway Catchment Board. The vertically-lifting gates are electronically operated, and function as automatic flood-control devices. The structure was formally opened on 4th August 1937, the event being commemorated by a plaque set into the southern of the two intermediate piers.
- 4.4 As the weir/sluice controls only water flow, river traffic must pass through the lock to the south of the island. This is depicted as a pound lock from the tithe map onwards, though it was extended to the west with the construction of a third set of gates between 1865 and 1895. The walls, now clad in concrete, retain much of the earlier structure. They are of brick with stone coping, though the chamber was originally lined with horizontal timber boards. The refurbishment work of 1998-99, which included the concrete-cladding, also incorporated ducts for conversion to hydraulic operation; this was later carried out in 2007.

5.0 DESCRIPTION OF THE STRUCTURE

- 5.1 The sluice is orientated NNE-SSW (hereafter assumed north-south), and comprises four tall piers with a sluice gate in each of the three openings (Plates 1 & 3). The northern gateway (5.15 metres (16'10") wide) is narrower than the central and southern gateways (9.40 metres (30'10") wide). It is designed to provide raised water levels to maintain the Medway Water Navigation System. There is a fixed pedestrian walkway on the western side of the structure and a platform at the top of the piers acts as a high-level walkway; this also supports the operating equipment and allows access for inspection and maintenance (Fig. 3). The two intermediate piers are narrower than the end piers, and rise above boat-shaped cutwaters. At the base of each pier there is a small chamber, which extends as a projection underneath the lower walkway (Plate 7). The northern pier is situated on the north river bank; the southern end pier is located at the northern tip of Lock Island.
- 5.2 The stairs rising to the high-level walkway are located within the southern pier. Each of the two intermediate piers is hollow and houses the counterweights for the gates: it is assumed that the third set of counterweights is located within the northern end pier, but this could not be confirmed. Only the southern pier was viewed internally at the time of the historical building recording.
- 5.3 The piers, cutwaters and the lower walkway are constructed of reinforced concrete, in which the construction lifts are clearly visible (Plate 8). There are areas of weathering/damage, where fragments of concrete have fallen off (Plate 9). The north and south sides of the cutwaters are vertical, but at the lower level, the pointed ends splay towards the east and west. The concrete slab which caps these cutwaters projects slightly. The piers are in two unequal-sized sections, divided by a projecting string course: the upper section comprises only the top c.700 mm of the pier (Fig. 4). The walls of the

lower section taper slightly towards the top, but the faces of the upper section are vertical. A second string course runs around the top of each pier. The wall faces within each section have slightly recessed panels.

- 5.4 There are no window openings to any of the piers. Each of the end piers has three doorways at ground-floor level: one in the western face, one in the eastern face and one on the internal face allowing access to the gate. The two intermediate piers have doorways in all four wall faces. The door openings are all 1.40 metres tall, have semi-circular-arched heads and are plainly chamfered. These lead into the ground-floor spaces within the piers. The northern and southern doorways in the end piers are closed with wooden doors formed of vertical planks with strap hinges (Plate 10). The doors within the central piers, and those which face onto the sluice gates from the end piers, are closed by metal grilles (Plate 11).
- 5.5 The concrete lower walkway (Plate 8) is raised approximately 2.00 metres above ground level, supported on shallow arches between the piers, and is reached by a dog-legged, shallow, closed-string stair at each end (Plate 12). The stairs which provide access to the upper walkway are of metal: they comprise four short, steep flights turning on half landings with a continuous inner handrail and short sections of outer handrail closing each flight of steps (Plates 13 & 14). The upper walkway is supported on arches between the piers on the eastern and western sides, though the top face of the concrete around the upper walkway is flat (Plate 6). Lateral support for the upper walkway floor is provided by iron 'I' beams, which are positioned either side of each piece of operating equipment, directly supporting each of the larger pieces, with intermediate beams incorporated in the centre of a wide gap. The walkway originally had timber floorboards: the 'I' beams have holes in their top faces to take bolts which secured the boards. Most of these timber boards have been removed, but some timber boards survive along the eastern edge: these may be the original boards (Plates 15 & 16). The timber floor has been replaced by a metal grid floor, supported on metal bearers resting on the ends of the 'I' beams. The handrails to the stairs and walkways are of galvanised metal (Plate 8): the style of these suggest that they are replacements, though they may approximately replicate the form of the original.
- 5.6 The three sluice gates are slotted into wide grooves which continue up the entire pier. The gates are formed of metal plates riveted to uprights fixed on the western (downstream) side, and have horizontal ledges at intervals, three of which are visible above the waterline (Plate 7). At the top of each gate are two top-hinged shutters which can be opened to allow varying quantities of water to pass through whilst the gates are closed (Plate 17). The gates are lifted by steel cables on each end. The operating equipment for the gates is supported by the upper walkway. There are separate motors and gearboxes for each gate, and a rope drum for each steel cable (two to each gate; Plates 15 and 21). These three pieces of equipment are connected by a single shaft. Each gate was also served by a level (Plates 18 & 19) and a control box (Plate 20). The southern and central control boxes appear to be original, but the northern control box has been replaced with a more modern version (Plate

15). Though each gate was designed to be electronically operated, there is also a manual winding handle attached to the northern face of each motor and gearbox.

6.0 DISCUSSION

6.1 The sluice in its present form has been little changed since it was constructed in 1936, and thus it represents a well-preserved, early-20th-century industrial structure. Its modernist form, appearing blocky and massive, with minimal though aesthetically-balanced decoration, is typical of the pre-WWII era. However, there have been a small number of modifications. The control box to the northern, smaller gate has been replaced, possibly because this gate is opened more frequently than the central and southern gates. The upper walkway timber floorboards have been replaced by a metal grille, presumably due to weathering: the timber boards would have been completely exposed and therefore prone to rotting. The handrails to the lower and upper walkways may have been replaced, but this is unconfirmed. There is no visible evidence for repair work to the concrete of the structure.

7.0 ACKNOWLEDGMENTS

ASE would like to thank Tony Lee of Atkins Heritage for commissioning this historic building recording project.

Thanks must be given to Madhu Borra of Atkins for his generous assistance, and to Steven Flowers of the Environment Agency for his help on site.

Thanks are also due to Zoe Randall of the Environment Agency for supplying copies of the 1935 survey drawings of the sluice.

8.0 REFERENCES

English Heritage. 2006. *Management of Research Projects in the Historic Environment (MORPHE).*

--- *Understanding Historic Buildings: A Guide to Good Recording Practice.*

Trueman, M. 2007. *Medway Heritage Audit, Appendix A: Allington Lock.* Audit prepared for The Environment Agency.

UKIC. 1990. *Guidelines for the Preparation of Excavation Archives for Long Term Storage.*

Vine, P.A.L. 1989. *Kent and East Sussex Waterways.* Midhurst: Middleton Press.

Appendix 1

OASIS ID: archaeol6-62122

Project details

| | |
|--|---|
| Project name | Allington Sluice, Maidstone, Kent |
| Short description of the project | Level 2 recording of a 1936 sluice prior to refurbishment works. The structure comprises 3 gates between 4 concrete piers, a lower walkway/footbridge over the River Medway and an upper walkway on which the operating equipment is supported. The structure and the electronic equipment which operates the gates are remarkably well-preserved, having only one modified control box (2 original) and replaced floor on the upper walkway. |
| Project dates | Start: 13-07-2009 End: 17-07-2009 |
| Previous/future work | No / Not known |
| Any associated project reference codes | 3863 - Contracting Unit No. |
| Type of project | Building Recording |
| Current Land use | Other 15 – Other |
| Monument type | SLUICE Modern |
| Significant Finds | NONE None |
| Methods & techniques | 'Annotated Sketch', 'Measured Survey', 'Photographic Survey', 'Survey/Recording Of Fabric/Structure' |
| Prompt | Conservation/ restoration |
| Project location Country | England |
| Site location | KENT MAIDSTONE MAIDSTONE Allington Sluice, Maidstone, Kent |
| Study area | 400.00 Square metres |
| Site coordinates | TQ 748 582 51.2955021365 0.507484121273 51 17 43 N 000 30 26 E Point |

Project creators

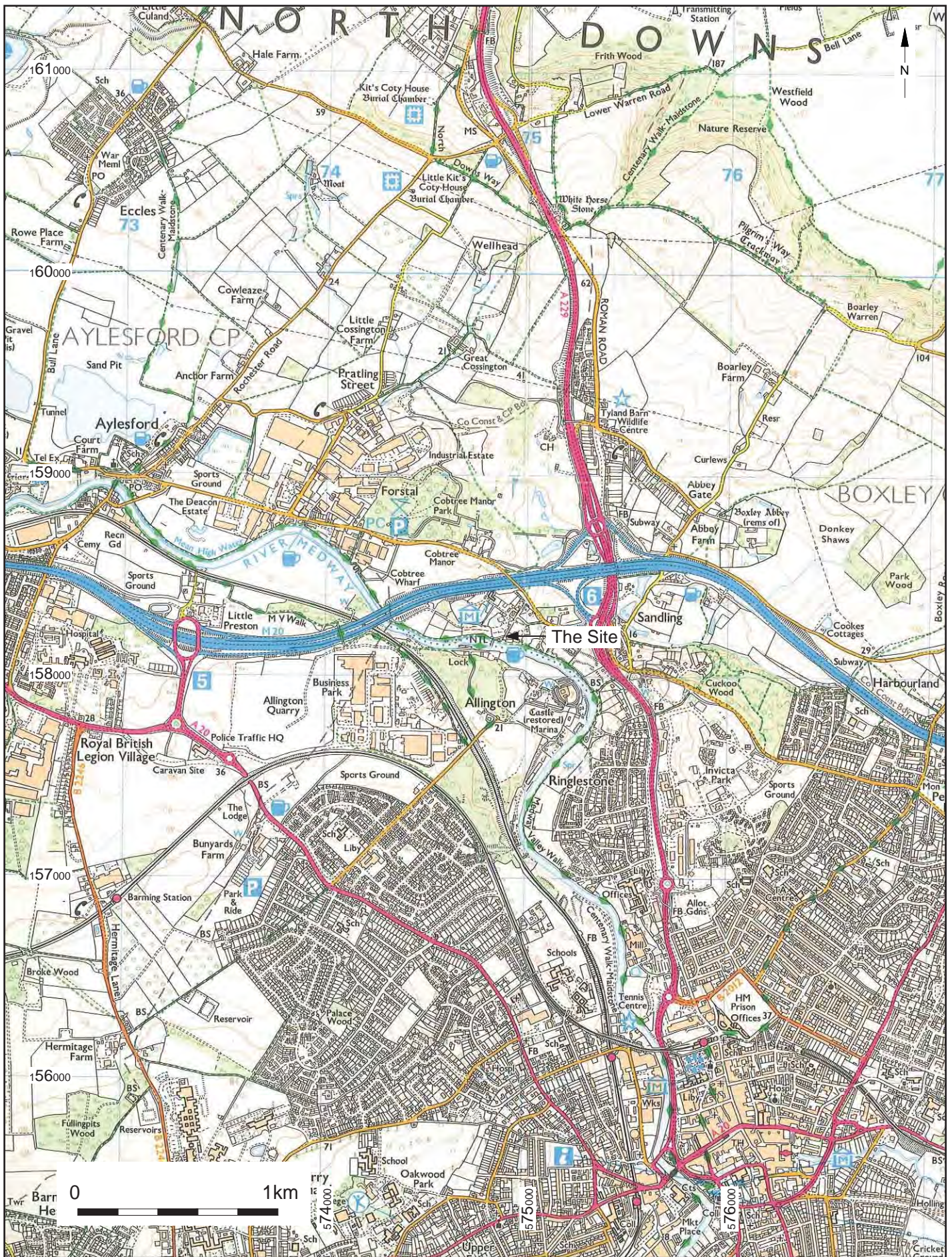
| | |
|------------------------------|------------------------|
| Name of Organisation | Archaeology South-East |
| Project brief originator | Atkins |
| Project design originator | Archaeology South-East |
| Project director/manager | Ron Humphrey |
| Project supervisor | Amy Williamson |
| Type of sponsor/funding body | Client |

Project archives

| | |
|---------------------------|--|
| Physical Archive Exists? | No |
| Digital Archive recipient | Heritage Conservation Group, Kent County Council |
| Digital Contents | 'Survey' |
| Digital Media available | 'Images raster / digital photography', 'Text' |
| Paper Archive recipient | Heritage Conservation Group, Kent County Council |
| Paper Contents | 'Survey' |
| Paper Media available | 'Drawing','Photograph', 'Report' |

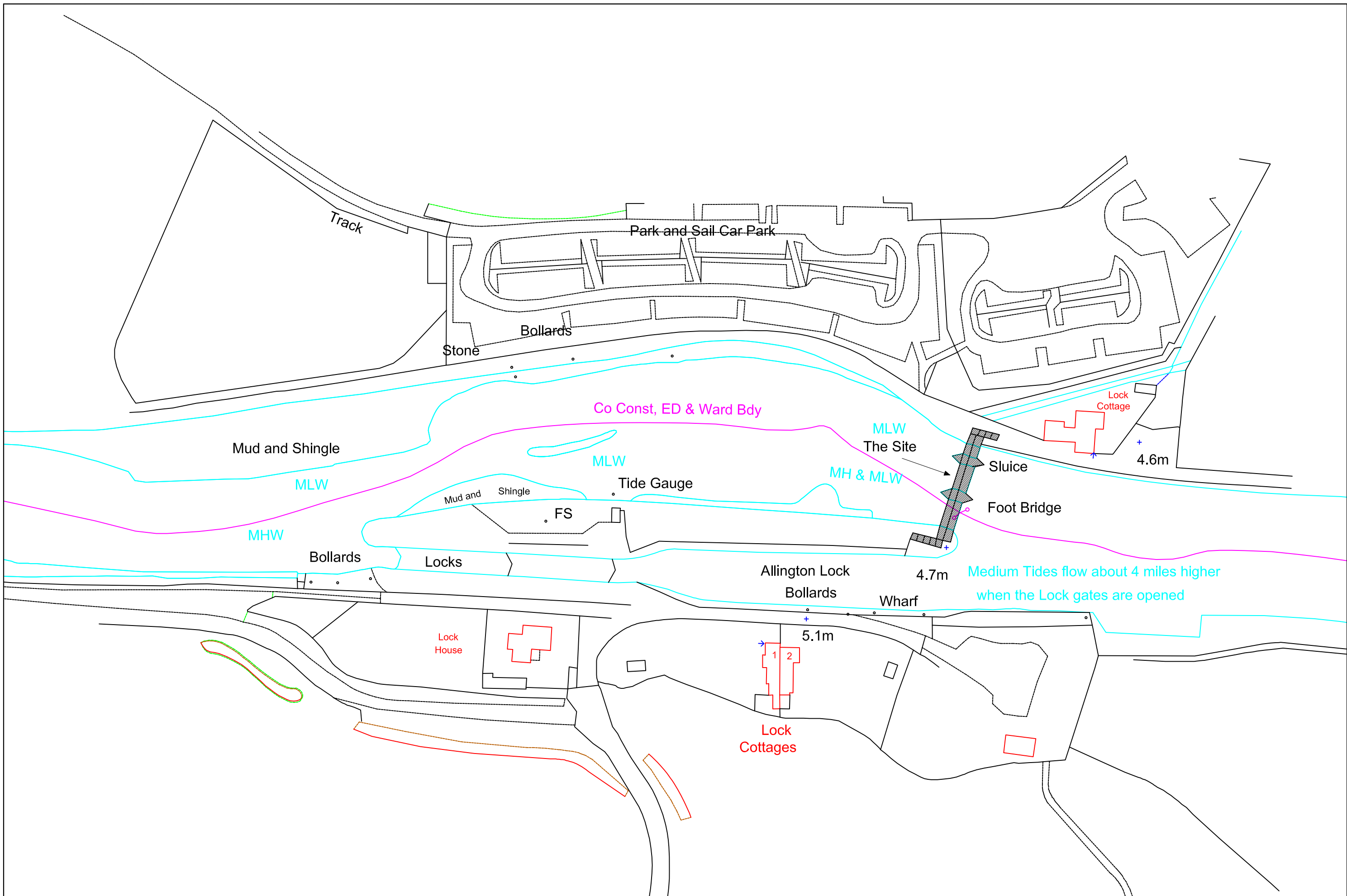
Project bibliography 1

| | |
|-------------------------------|--|
| Publication type | Grey literature (unpublished document/manuscript) |
| Title | Allington Sluice, Maidstone, Kent: Historic Building Recording |
| Author(s)/Editor(s) | Clubb, J. and Williamson, A. |
| Other bibliographic details | Project No. 3863 |
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| Issuer or publisher | Archaeology South-East |
| Place of issue or publication | Archaeology South-East |
| Description | A4 Book |
| Entered by | Jane Clubb (jf_clubb@hotmail.co.uk) Entered on 17 July 2009 |



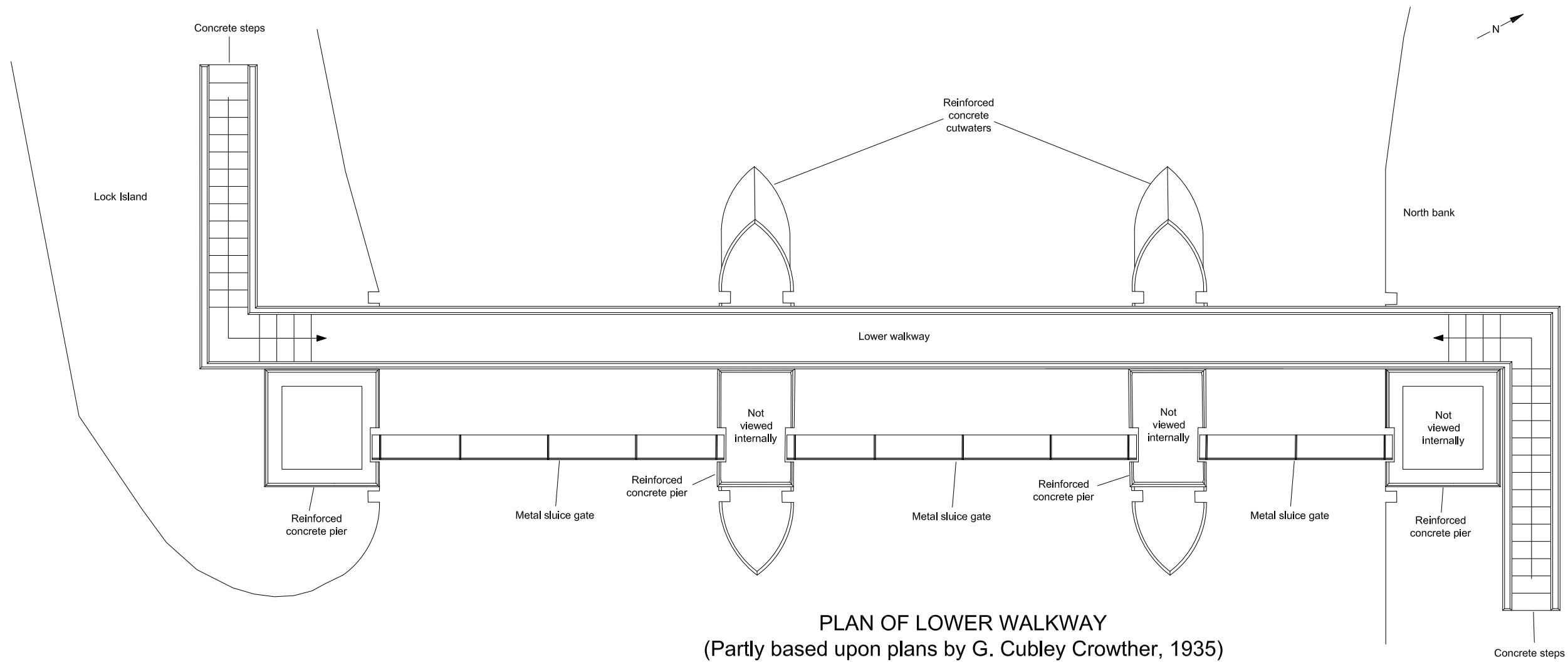
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|--------------------------|--------------|-----------------------------------|--|--------|
| © Archaeology South-East | | Allington Sluice, Maidstone, Kent | | Fig. 1 |
| Project Ref: 3863 | July 2009 | Site location plan (1:25000) | | |
| Report Ref: 2009111 | Drawn by: JC | | | |

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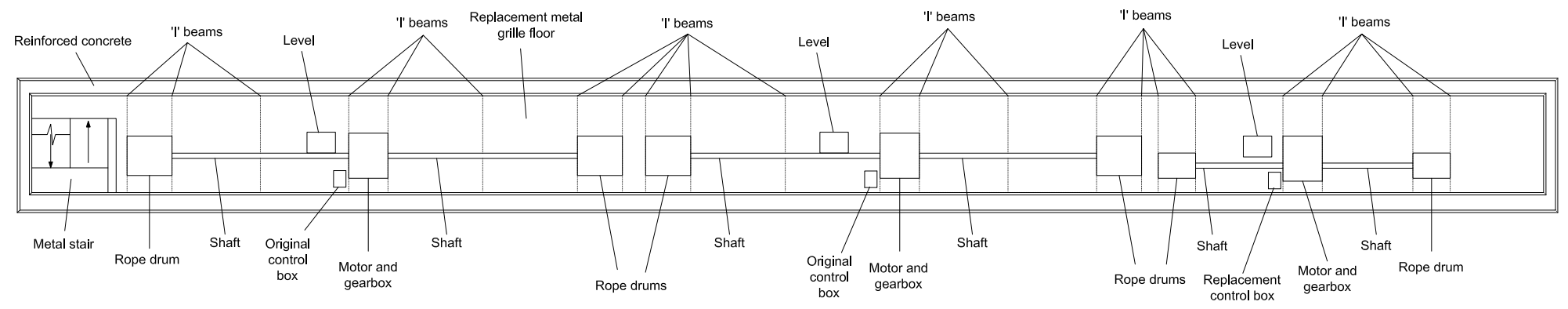


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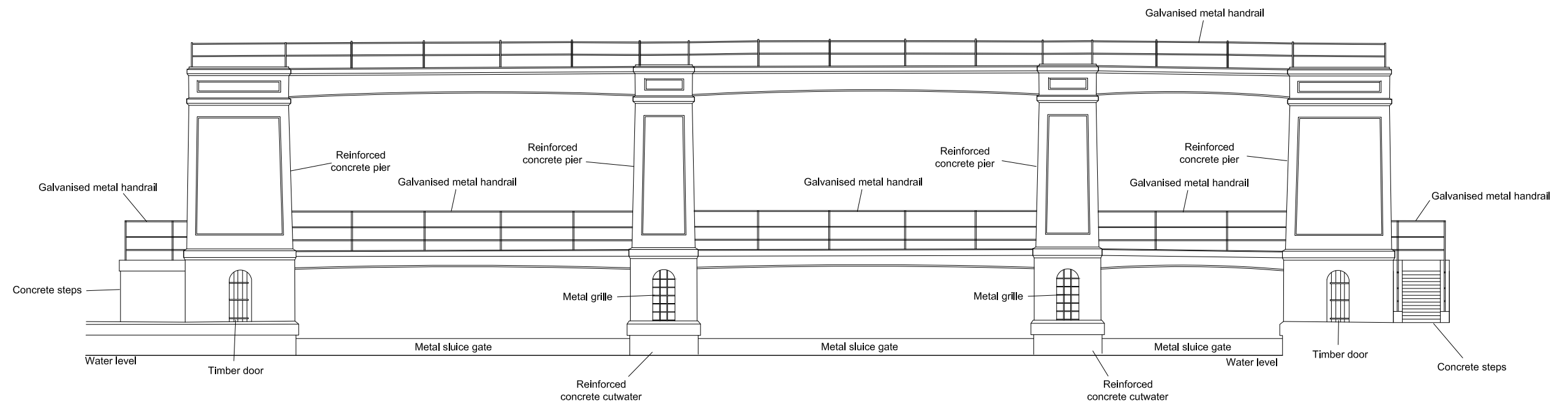
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|--------------------------|--------------|-----------------------------------|--|--------|
| © Archaeology South-East | | Allington Sluice, Maidstone, Kent | | Fig. 2 |
| Project Ref: 3863 | July 2009 | Detailed Site Plan (1:1000) | | |
| Report Ref: 2009111 | Drawn by: JC | | | |



PLAN OF LOWER WALKWAY
(Partly based upon plans by G. Cubley Crowther, 1935)

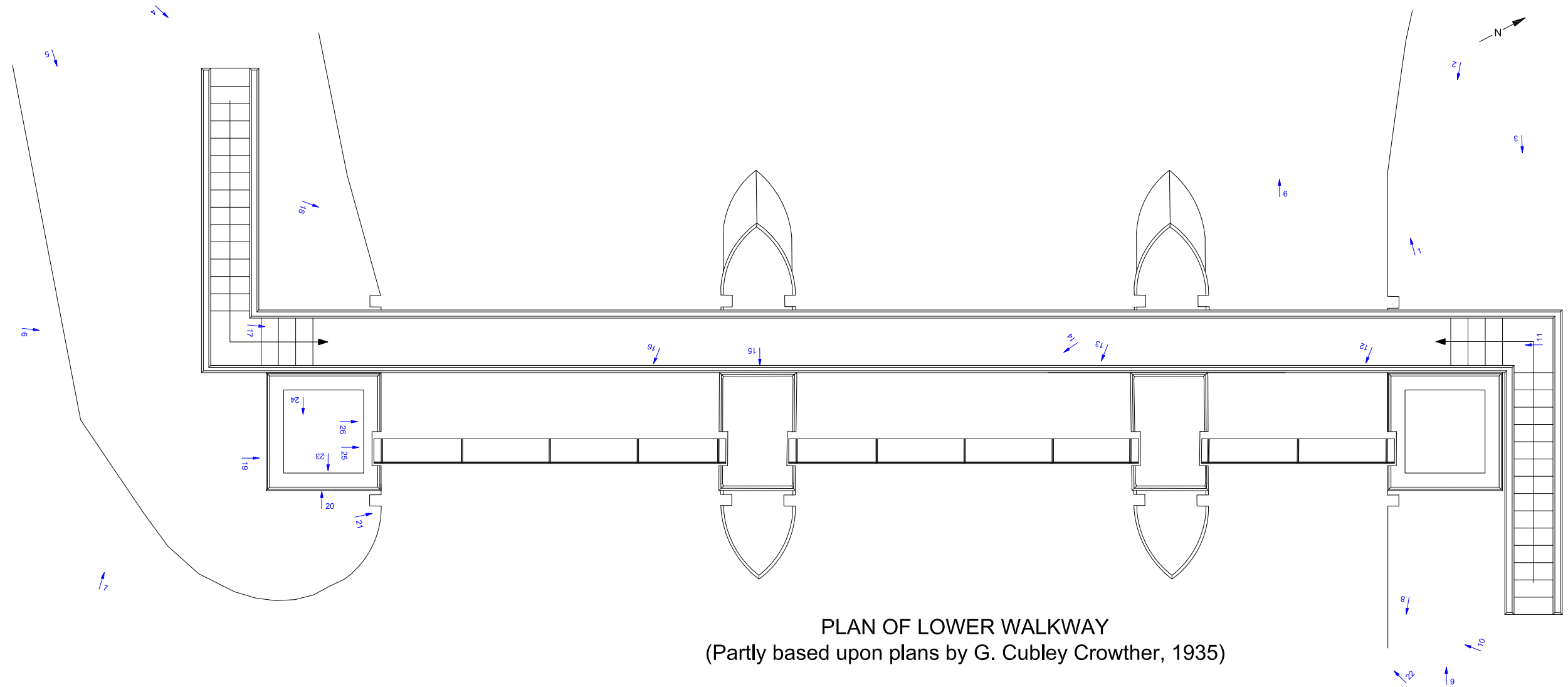


SKETCH PLAN OF UPPER WALKWAY
SHOWING LOCATION OF OPERATING EQUIPMENT

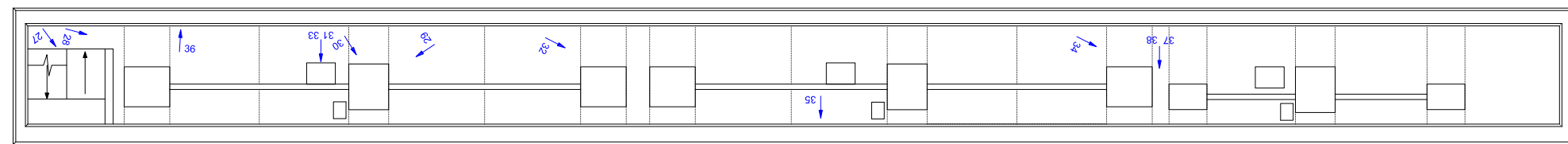


EAST ELEVATION
 (Partly based upon drawings by G. Cubley Crowther, 1935)

| | | | |
|---------------------------------|-----------------|-------------------------------------|--------|
| © Archaeology South-East | | Allington Sluice, Maidstone, Kent | Fig. 4 |
| Project Ref: 3863 | July 2009 | Elevation as existing, 2009 (1:125) | |
| Report Ref: 2009111 | Drawn by: AW/JC | | |



PLAN OF LOWER WALKWAY
(Partly based upon plans by G. Cubley Crowther, 1935)



SKETCH PLAN OF UPPER WALKWAY
SHOWING LOCATION OF OPERATING EQUIPMENT



Plate 1

West elevation of Allington Sluice, taken from the north-west (2)



Plate 2

The River Medway downstream of Allington Sluice. The north bank is on the right (1)



Plate 3

East elevation of the sluice, taken from the south-east (7)



Plate 4

The River Medway upstream of the sluice. The Malta Inn garden can be seen on the left (8)



Plate 5

The sluice and Lock Cottage, taken from the south (6)



Plate 6

East elevation of the sluice, taken from the north (10)



Plate 7

The southern intermediate pier, showing the projecting chamber underneath the lower walkway, taken from the south-west (18)



Plate 8

The lower walkway, taken from the north. Note the construction lifts in the concrete on the pier to the left (11)



Plate 9

Area of weathering/damage on the southern pier, taken from the south (19)



Plate 10

Doorway and timber door in the eastern face of the southern pier, taken from the east (20)



Plate 11

The southern intermediate pier, taken from the south, showing the doorway in its southern face closed by a metal grille, and the top of the southern sluice gate (21)



Plate 12

The western elevation of the sluice, taken from the south-west, showing the shallow stair to the lower walkway in the foreground (4)



Plate 13

The stair rising to the upper walkway within the southern pier. Note the continuous handrail on the inside of the stairs (27)



Plate 14

Detail of the stair to the upper walkway (26)



Plate 15

The northern end of the upper walkway, taken from the south, showing the operating equipment for the northern and central sluice gates. The larger piece of equipment in the background is the motor and gearbox, whilst the smaller piece in the foreground is the rope drum. Note the cables on the right, fixed to a timber floorboard, and the modern control box against the motor and gearbox (34)



Plate 16

Detail of timber boards (38)

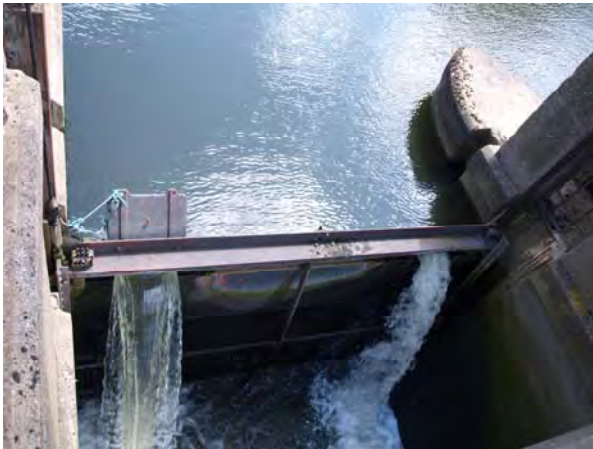


Plate 17

The smaller, northern sluice gate, taken from above. The hinged shutter is clearly visible on the left, the position of the second shutter can be seen by the stream of water on the right (12)



Plate 18

Detail of the level box, closed (31)



Plate 19

Detail of the level (33)



Plate 20

The upper walkway, taken from the south. All three motor and gearboxes are visible. Note the two original control boxes attached to the motor and gearbox in the foreground and background (28)



Plate 21

Detail of rope drum (Photo supplied by
Madhu Borra)