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Upgrade to the Ardrishaig Sewage System
Sea Lock 1, Crinan Canal
Ardrishaig

Archaeological Watching Brief

Report No. 3074

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This document has been prepared in accordance with CFA Archaeology Ltd standard operating procedures.

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1. INTRODUCTION

1.1 General

This report presents the results of an archaeological watching brief undertaken by CFA Archaeology Ltd (CFA) in July 2013 at Sea Lock 1 on the Crinan Canal, Ardrishaig, Argyll and Bute (NGR: NR 85280 85260) (Fig. 1). The work was commissioned by Arup on behalf of Scottish Canals.

A Written Scheme of Investigation (WSI) dated 28 June 2013 was produced by CFA on behalf of Scottish Canals for an archaeological watching brief during the installation of a pumping station and rising main.

Background

Scottish Canals are installing a pumping station alongside Sea Lock 1 on the Crinan Canal to connect the foul water from the facilities building to the south side of the lock into the mainline sewers in the road (A83). The Crinan Canal is a Scheduled Monument (SM no. 6501).

The canal was designed by Scots engineer John Rennie and built c.1794-1809 as a ship canal linking the two sea lochs, Crinan and Gilp, enabling ships to avoid the long and hazardous sea passage around the Mull of Kintyre. The modern concrete Sea Lock 1 was built to replace the original sea lock, and the swing bridge carrying the A83 over the canal at Ardrishaig is also a modern replacement.

The construction work involved excavations for the collection chamber, pumping station and rising main, which lay within the Scheduled Monument. Groundbreaking works within the Scheduled Monument was undertaken under Scheduled Monument Consent.

1.3 Objectives

The objectives of the programme of archaeological works were

- To conduct an appropriate programme of archaeological investigation (watching brief) to monitor all ground breaking works as described above.

- To mitigate the effects of construction on any archaeological deposits or features identified through their excavation and recording and produce a report on them.

2. WORKING METHODS

2.1 General

CFA Archaeology Ltd follows the Institute for Archaeologists' Code of Conduct, Standards and Guidance for Archaeological Watching Briefs and all work was undertaken in accordance with the Scheduled Monument Consent.

2.2 Watching Brief

All groundbreaking works were undertaken by a tracked mini-digger, under constant archaeological supervision

The groundbreaking works consisted of the excavation of a collection chamber (Trench 1), the pumping station itself (Trench 2), and the rising main pipeline. The excavation for the collection chamber measured 2m (east-west) by 1.6m (north-south) and 1.4m deep. The excavation for the pumping station measured 2.6m by 1.7m and 2.2m deep. Excavation of the rising main was monitored to a depth of 0.9m, and 4m by 0.75m in plan.

All discoveries were recorded using standard CFA recording forms and digital photography.

3. ARCHAEOLOGICAL RESULTS

Numbers in bold in the following text refer to contexts, a full list of which is contained in Appendix 1.

The pumping station and the collection chamber were situated to the north of the Sea Lock shower (Old Sea Lock Office). The modern gravel and hardcore surface, **(001)** which began in front of the Sea Lock Offices and extended west to the road (A83), was stripped off to a depth of 0.1-0.2m.

Underlying this modern surface was an earlier surface of the breakwater **(002)**, visible at the east end of the stripped area, consisting of flagstones and concrete repairs with iron fittings (**003**, **004, 005**) set within it (Fig. 2-4).

This surface **(002)** was removed to a depth of 0.1m revealing orange-brown and grey sandy shale made ground **(006)**, which made up the main body of the breakwater. The made ground contained occasional timbers **(008)** which showed no evidence of forming structural reinforcement of the breakwater, but rather existed as fill material. The made ground **(006)** was excavated to a maximum depth of 2.2m and natural was not reached (Fig. 4).

The rising main pipeline extended west from the pumping station and collection chamber, following the line of, and cutting through, the modern cobbled surface **(007)** (Fig. 5).

Removal of the modern surface showed that surface **002** was not present in the west part of the breakwater beyond the large concrete slab containing **(005)** and other iron fittings (Fig. 2). Within the pipe trench was a 0.1m thick black shale construction layer **(009)** overlying made ground **(006)**. The made ground **(006)** was excavated to a depth of 0.9m and natural was not reached.

4. CONCLUSION

A watching brief was conducted during groundbreaking works in preparation for the installation of a pumping station alongside Sea Lock 1 on the Crinan Canal to connect the foul water from the facilities building to the south side of the lock into the main sewers in the road (A83).

All modern surfaces **(001** and **007)** were recorded and an earlier surface of the breakwater **(002)** exposed to the north of the Old Sea Lock Office was recorded and shown not to extend any further west. Various iron fittings **(003-005)** were set within this earlier surface, most prevalent within, but not exclusive to, the concrete repair material rather than the original flagstones. Underlying the modern surface to the west was a black shale construction layer **(009)**. All of these deposits overlay made ground **(006)** which contained non-structural timbers **(008)**; natural was not reached.

No features of archaeological significance were discovered.

The project archive, comprising all CFA record sheets, plans and reports, will be deposited with the National Monuments Record of Scotland and reports will be submitted to Historic Scotland and the Argyll & Bute Sites & Monuments Record.

A summary statement of the results of this watching brief will be submitted for publication in *Discovery and Excavation in Scotland* (Appendix 3) and an online OASIS form will be completed.

APPENDIX 1: Context Register

Context No.	Description
001	Gravel/Hardcore constituting the modern surface at the west end of breakwater
002	Original surface of the breakwater constituting flagstones and concrete
003	Iron Fitting within surface(002)
004	Iron Fitting within surface(002)
005	Iron strip embedded in surface (002)
006	Sandy shale made ground underlying (002) and (009)
007	Modern cobbled pathway set within (001)
008	Timbers within (002)
009	Black shale construction layer underlying (001), overlying (006) and abutting (002)

APPENDIX 2: Photographic Register

No.	Description	From	Conditions
1	Surface 001 of Breakwater, pre-excavation	W	Overcast
2	Surface 001 of Breakwater, pre-excavation	E	Overcast
3	Surface 002 showing concrete and flagstone	E	Overcast
4	Surface 002 showing concrete and flagstone	E	Overcast
5	Metal Fixing 005	N	Overcast
6	Metal Fixing 005	Above	Overcast
7	Surface 002 highlighting location of metal fitting 003	E	Overcast
8	Gap between Offices and Shower block, pre-excavation	N	Overcast
9	Gap between Offices and Shower block, post-excavation	N	Overcast
10	General working shot showing lifting o f surface 002	E	Overcast
11	Fitting 003 following removal	N/A	Overcast
12	Fitting 003 following removal	N/A	Overcast
13	Fitting 003 following removal	N/A	Overcast
14	Trench 1 under excavation	E	Overcast
15	Fitting 003 following removal	N/A	Overcast
16	Surface 002 in the location of Trench 2, pre-excavation	W	Overcast
17	Iron Strip 005	W	Overcast
18	Trench 2 under excavation	W	Overcast
19	Trench 2 under excavation	W	Overcast
20	Trench 2and Trench 1 fully excavated	N	Overcast
21	General shot of surface of Breakwater outwith Watching Brief Area	W	Overcast
22	General shot of surface of Breakwater outwith Watching Brief Area	E	Overcast
23	General shot of surface of Breakwater towards Watching Brief Area	E	Overcast
24	Gap between Offices and Shower block showing access to pipes	N	Sunny
25	Construction work undertaken in Trench 1 and 2 (canal lock open)	N	Sunny
26	Pre-excavation shot of pipeline area (E end)	NE	Sunny
27	Pre-excavation shot of pipeline area (SW end)	S	Sunny
28	Metalwork shown within 002 concrete, including 005 (demolished but *in situ*)	N	Sunny with Cloud
29	Metalwork shown within 002 concrete, including 005 (demolished but *in situ*)	E	Sunny with Cloud
30	Timber 008 *in situ*	S	Sunny with Cloud
31	Metalwork removed from 002	N/A	Sunny with Cloud
32	Detail of some of the metal	N/A	Sunny with

			Cloud
33	Timber 008 *in situ*	S	Sunny with Cloud
34	S-facing section showing Timber 008 running into section	S	Sunny with Cloud
35	Excavated Timber 008	N/A	Sunny with Cloud
36	Detail of metal within timber 008	N/A	Sunny with Cloud
37	Mid-excavation shot of first part of pipeline trench	E	Sunny with Cloud
38	N-facing section showing 009 and timber at c0.3m	N	Overcast
39	Metalwork removed from timber	N/A	Overcast
40	Mid-excavation of timbers	SE	Overcast
41	S-facing section showing 009, timber c.0.9m and removal of timber	S	Overcast
42	Post-excavation shot of first 4m pipeline	E	Overcast
43	Sea Lock 1 Beam moving through Watching Brief Area	NW	Overcast

APPENDIX 3: Discovery and Excavation in Scotland Entry

LOCAL AUTHORITY:	Argyll and Bute
PROJECT TITLE/SITE NAME:	Sea Lock 1, Crinan Canal, Ardrishaig
PROJECT CODE:	BWSF5
PARISH:	South Knapdale
NAME OF CONTRIBUTOR:	Rebecca Hunt
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Watching Brief
NMRS NO(S):	SM-6501
SITE/MONUMENT TYPE(S):	Canal
SIGNIFICANT FINDS:	N/A
NGR (2 letters, 10 figures)	NR 85280 85260
START DATE (this season)	02/07/2013
END DATE (this season)	16/07/2013
PREVIOUS WORK (incl. *DES* ref.)	N/A
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A watching brief was conducted during groundbreaking works in preparation for the installation of a pumping station alongside Sea Lock 1 on the Crinan Canal to connect the foul water from the facilities building to the south side of the lock into the mainline sewers in the road (A83). All modern surfaces were recorded and an earlier surface of the breakwater, exposed to the north of the Old Sea Lock Office, was recorded and shown not to extend further west. Various iron fittings were set within this surface. Underlying the modern surfaces was made ground. No features or deposits of archaeological significance were discovered
PROPOSED FUTURE WORK:	N/A
CAPTION(S) FOR ILLUSTRS:	N/A
SPONSOR OR FUNDING BODY:	Arup on behalf of Scottish Canals
ADDRESS OF MAIN CONTRIBUTOR:	The Old Engine House, Eskmills Park, Musselburgh, EH21 7PQ
EMAIL ADDRESS:	cfa@cfa-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	National Monuments Record of Scotland (archive) Historic Scotland and SMR (reports)

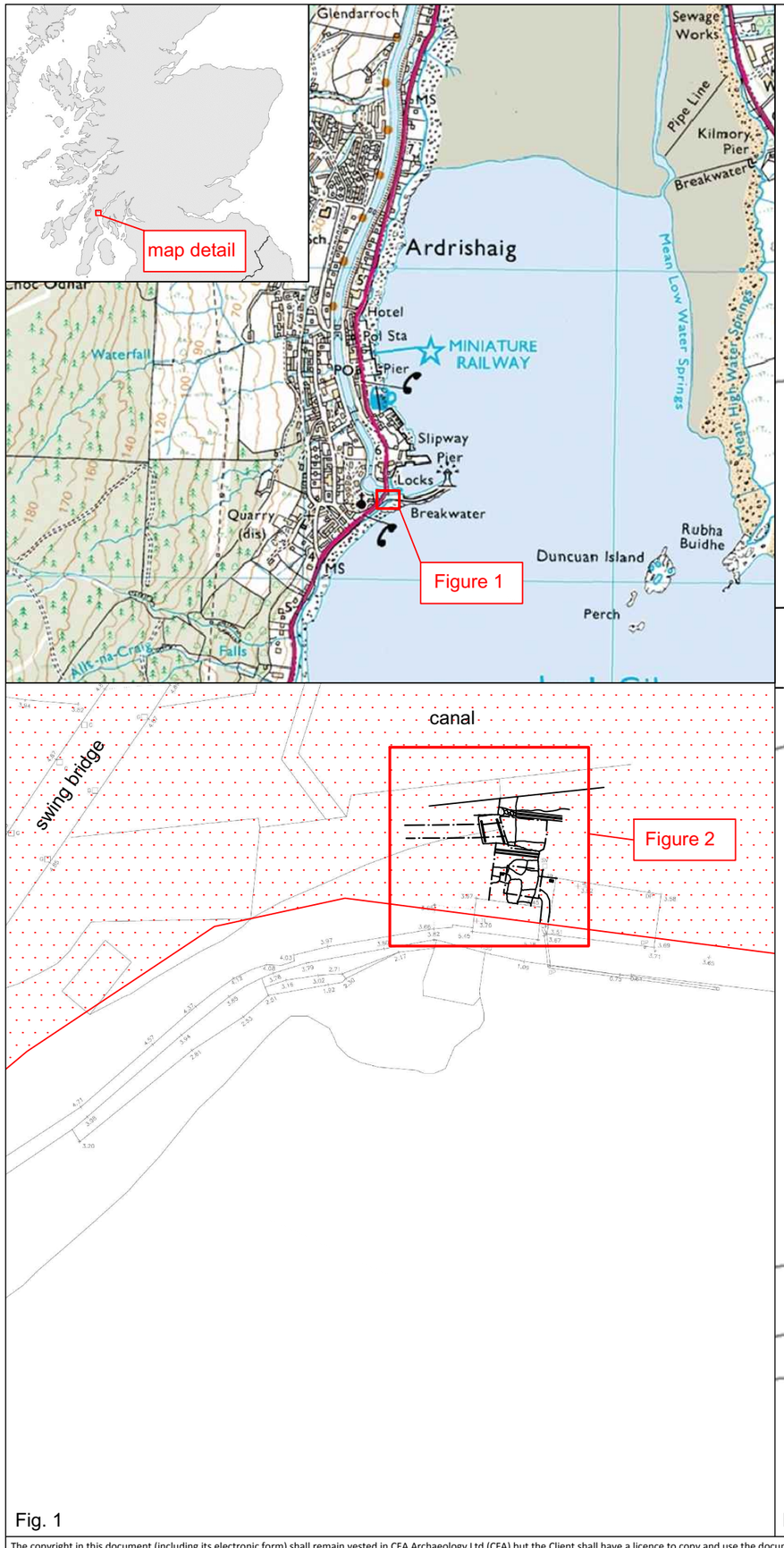

Fig. 1

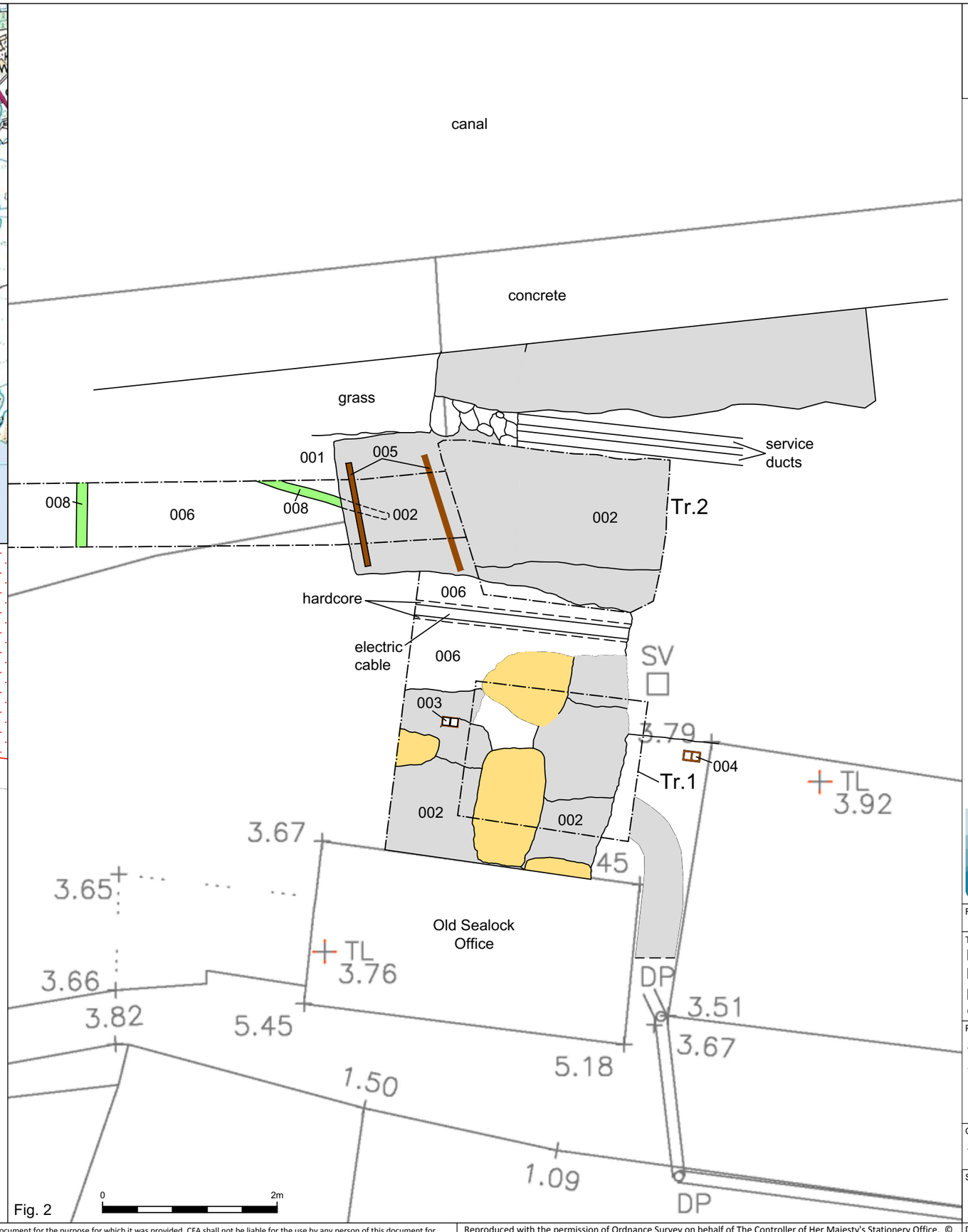

Fig. 2

Key:

- Concrete
- Flag stones
- Iron
- Timber
- Scheduled Monument

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Fig. No:	Revision:
1&2	A

Title:
Fig.1 Site location
Fig. 2 Excavation of the pumping station, collection chamber and rising main

Project:
Sea Lock 1, Crinan Canal, Ardrishaig

Client:
Scottish Canals

Scale at A3:
1:50

Drawn by:	Checked:	Report No:
GC	KH	3074

Fig. 3 Iron fittings set within 002

Fig. 4 Trench 1 and 2 fully excavated

Fig. No: 3-4		Revision: A	Project: Sea Lock 1, Crinan Canal, Ardrishaig
Drawn by: GC	Checked: KH	Report No: 3074	Client: Scottish Canals

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Fig. 5 Pipeline excavated to a length of 4m

Fig. No:		Revision:	Project:	
5		A	Sea Lock 1, Crinan Canal, Ardrishaig	
Drawn by:	Checked:	Report No:	Client:	
GC	KH	3074	Scottish Canals	

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