

Scottish Water Overton Basin Enhancement Preliminary Works

Scoping Document

July 2016



FAIRHURST

CONTROL SHEET

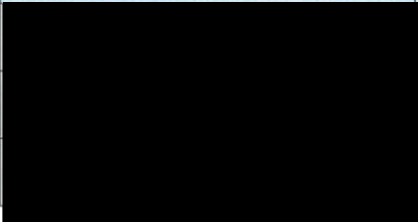
CLIENT: Scottish Water

PROJECT TITLE: Overton Basin Enhancement
Preliminary Works

REPORT TITLE: Scoping Document

PROJECT REFERENCE: 109053/R/003

Issue and Approval Schedule:

ISSUE 2	Name	Signature	Date
Prepared by	Roger Minto		29-07-16
Reviewed by	Kenneth Barr		29/07/16
Approved by	Kenneth Barr		29/07/16

Revision Record:

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2	29/07/16	Final	Final issue	RJM	KMHB	KMHB
3						
4						
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6						
7						

This report has been prepared in accordance with procedure OP/A01 of Fairhurst & Partners' (or the Firm's) Quality Management System.

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1 INTRODUCTION

1.1 General

Fairhurst was appointed by Scottish Water to carry out an investigation of and to prepare designs for enhancement works associated with the small reservoir Overton Basin in Greenock.

This document sets out the Scope of Works required to enable further inspection, investigation and surveying of Overton Basin to enable permanent enhancement works to be designed and implemented.

Overton Basin forms part of the ancient monument known as Loch Thom-Overton which is included in the Schedule of Monuments under The Ancient Monuments and Archaeological Areas Act 1979.

1.2 Site Locations

The reservoir is located to the south of Greenock and is accessed from Overton Road off Papermill Road.

The site details are as follows:

Name of Site: -	Overton Basin	
Nearest Postal Address: -	Waterside Cottage, Overton Road, Greenock	
Post Code:-	PA16 9JX	
SW Operational Area: -	West	
Grid Reference: -	E: 226656	N: 674833

1.4 Extent of Site

The area of land owned by Scottish Water at each reservoir will be confirmed by Scottish Water.

No area of land has been provided by Scottish Water for the Contractor to establish his site compound. The Contractor shall be responsible for agreeing an area for his site compound with the respective land owner.

1.5 Limitations on the Use of the Site

The site shall only be used for the purposed of providing the Works.

2 SCOPE OF WORK

The following works items have been identified for Overton Basin.

The locations of the work items are shown on drawing 109053/2010 included in Appendix A.

2.1 *Reservoir level to be lowered*

The Works will involve the setting up and maintaining of a means of lowering the water level within Overton Basin to a level below the invert level of the West Sluice Gate.

2.2 *Vegetation clearance at upper channel spillway*

The Works will involve the cutting back of vegetation growing on the upper channel spillway.

Photograph 1 shows the upper channel spillway.



Photograph 1

2.3 *Vegetation clearance at stilling basin*

The Works will involve the removal of all vegetation growing in the stilling basin.

Photograph 2 shows the stilling basin.



Photograph 2

Following removal of the vegetation, an inspection of the stilling basin and invert will be undertaken and further works may be instructed.

2.4 *Investigation of void behind right hand wall of stilling basin*

The Works will involve investigating the void that has formed behind the right hand wall of the stilling basin.

The full extent of the void is unknown and the Contractor will have to undertake hand digging along the back of the wall to confirm the extent.

Works should be undertaken to minimise further disturbance of the existing ground.

Sandbags have previously been installed in December 2015 in both the void and the stilling basin to provide a temporary means to stabilise the void and stilling basin/lower channel flume should be removed.

The provision of temporary supports to the wall of the stilling basin during the investigation works should be considered to maintain the stability of the stilling basin wall.

The void is shown in Photographs 3 and 4.



Photograph 3



Photograph 4

Once the extent of the void has been confirmed and any remedial works to the stilling basin invert and walls has been identified, the material for backfilling of the void will be confirmed.

2.5 *Excavation of trial pits by hand digging adjacent to the lower channel flume*

The Works will involve the excavation of 4 no. hand dug trial pits adjacent to the lower channel flume.

The indicative locations for the trial pits are shown on drawing 109053/2010 included in Appendix A with the final locations agreed with Fairhurst engineers on site.

Prior to excavation of trial pits, the Contractor shall undertake a CAT scan of the area as a precaution to identify any buried services.

The trial pits shall be excavated to a minimum depth of 1.0m.

During the excavation works, Fairhurst engineers will be in attendance to observe the works and record the findings of the excavation.

The lower channel flume is shown in Photographs 5 and 6.



Photograph 5



Photograph 6

2.6 Topographic Survey

The Works will involve the topographic survey of the area at the west end of the embankment highlighted on drawing 109053/2011 included in Appendix A.

The topographic survey shall include detailed level and dimensional survey of the following elements:

- West sluice
- Upper channel spillway
- Stilling basin
- Lower channel flume
- Culvert downstream of lower channel flume
- 20m length of downstream aqueduct

A previous survey was undertaken by Mick McWilliam Chartered Land Surveyors in September 2013 and the new survey should be tied in to this survey. A copy of the 2013 survey will be provided prior to the topographic survey work being undertaken.

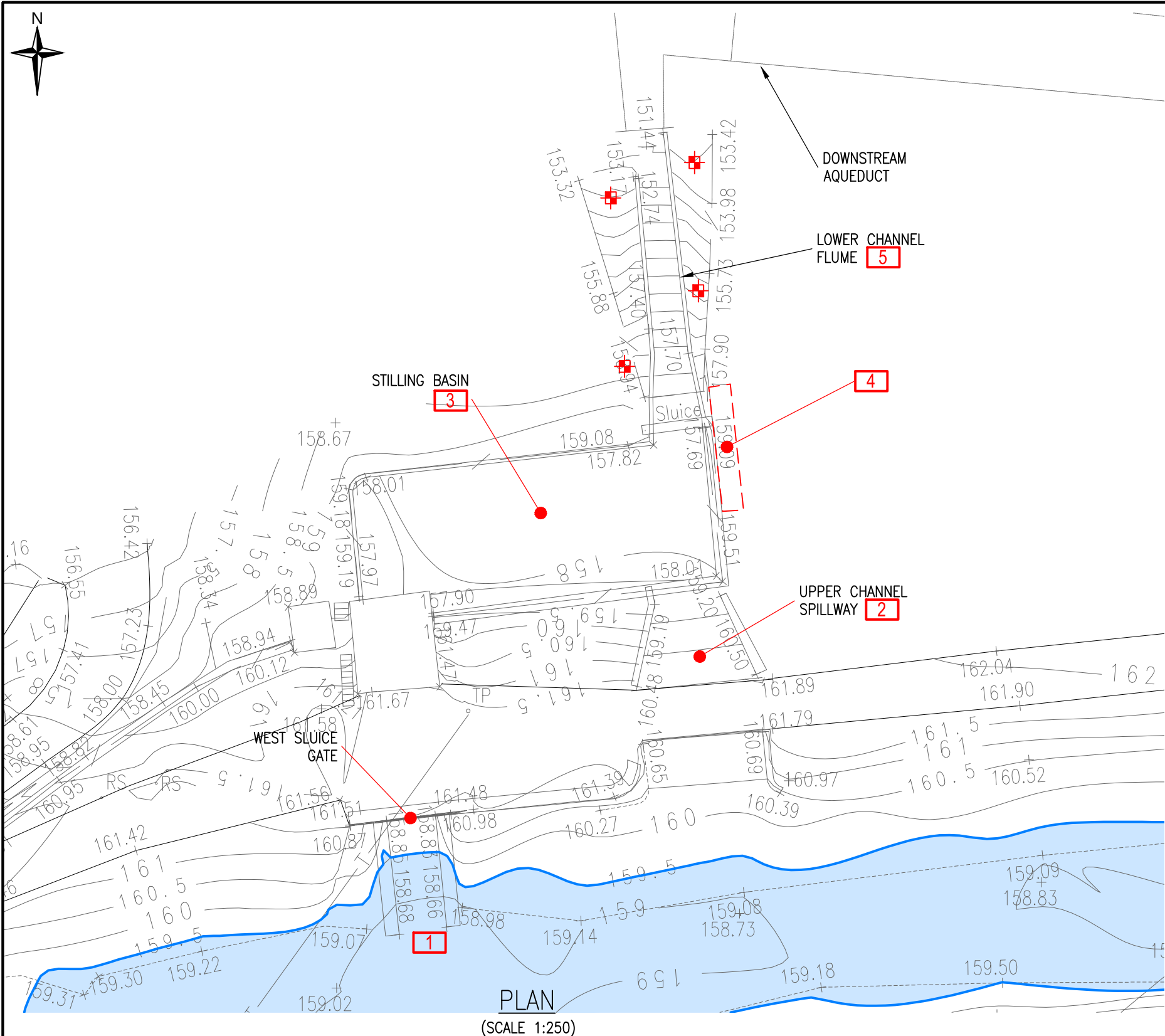
3 CONSTRAINTS

There are several site-specific constraints which require to be considered in planning the works. Details of the constraints are noted below:

- No record drawings showing the construction details or arrangements of the reservoirs have been made available.
- The Water Level (TWL) in Overton Basin will be lowered under work item 1 to enable the proposed works, investigations and inspections to be carried out. The Contractor must agree operating levels with Scottish Water prior to works starting on site. The water level should be monitored continuously and the Contractor should prepare a method statement for employing mitigation to protect the works and the dam in the event of a flood.
- The indicative boundary for the reservoirs owned by Scottish Water is to be confirmed by Scottish Water. The Contractor must agree the area available for their compound, stockpiles etc. with Scottish Water and local landowners prior to the construction of the works.
- Local landowners, residents and individuals have rights of access to the areas adjacent to the reservoirs. These rights must be maintained for the duration of the works. Where appropriate access cannot be maintained at any point during the works for reasons of health and safety, Scottish Water must be informed prior to construction.
- Overton Basin and the Greenock Cut form part of the ancient monument known as Loch Thom-Overton which is included in the Schedule of Monuments under The Ancient Monuments and Archaeological Areas Act 1979.
- The maximum imposed load that can be applied to the top of the main embankment is limited to a maximum of 10.0 kN/m^2 . The Contractor shall sequence his works and deliveries to provide any temporary works necessary to ensure that the maximum imposed loading is not exceeded. The Contractor shall demonstrate in his method statements to be submitted how this will be achieved.
- No provision of power at both reservoir sites.
- There is restricted access for plant and machinery.
- Japanese knotweed has been present in the area to the north west of the stilling basin, but has recently been removed.

APPENDIX A DRAWINGS

- 109053/2010 Overton Basin Enhancement
Preliminary Works
Location Plan for Works
- 109053/2011 Overton Basin Enhancement
Preliminary Works
Extent of Topographic Survey

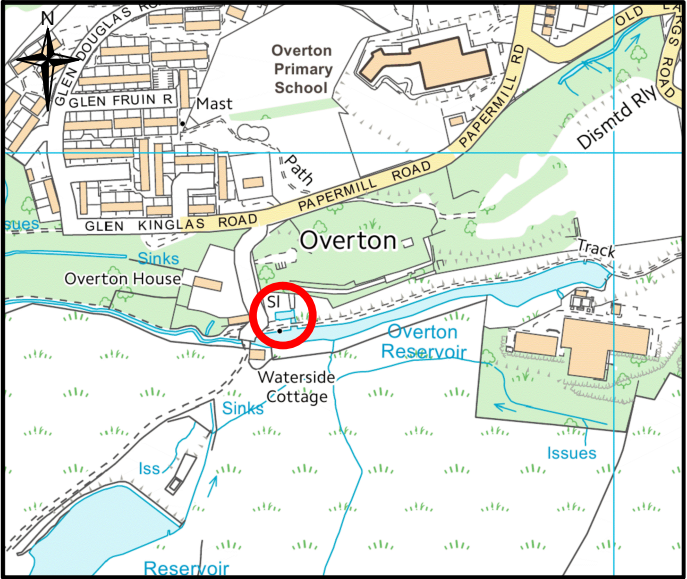


PLAN
(SCALE 1:250)

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CONSTRUCTION
NO KEY SIGNIFICANT RESIDUAL HAZARDS HAVE BEEN IDENTIFIED DURING THE DESIGN STAGE WHICH ARE CONSIDERED NOT TO BE OBVIOUS TO A COMPETENT CONTRACTOR, OR UNUSUAL, OR LIKELY TO BE DIFFICULT TO MANAGE EFFECTIVELY.
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FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE
IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

- WORK ITEMS
1. RESERVOIR LEVEL TO BE LOWERED
 2. VEGETATION CLEARANCE AT UPPER CHANNEL SPILLWAY
 3. VEGETATION CLEARANCE AT SPILLING BASIN
 4. INVESTIGATION OF VOID BEHIND RIGHT HAND WALL OF STILLING BASIN
 5. EXCAVATION OF TRIAL PITS BY HAND DIGGING ADJACENT TO LOWER CHANNEL FLUME. FINAL POSITIONS TO BE AGREED WITH FAIRHURST ENGINEERS ON SITE



LOCATION PLAN
(NOT TO SCALE)

Rev.	Date	Description	Drawn	Checked	Approved

Notes:

Client:

Project Title:

OVERTON BASIN
ENHANCEMENT WORKS

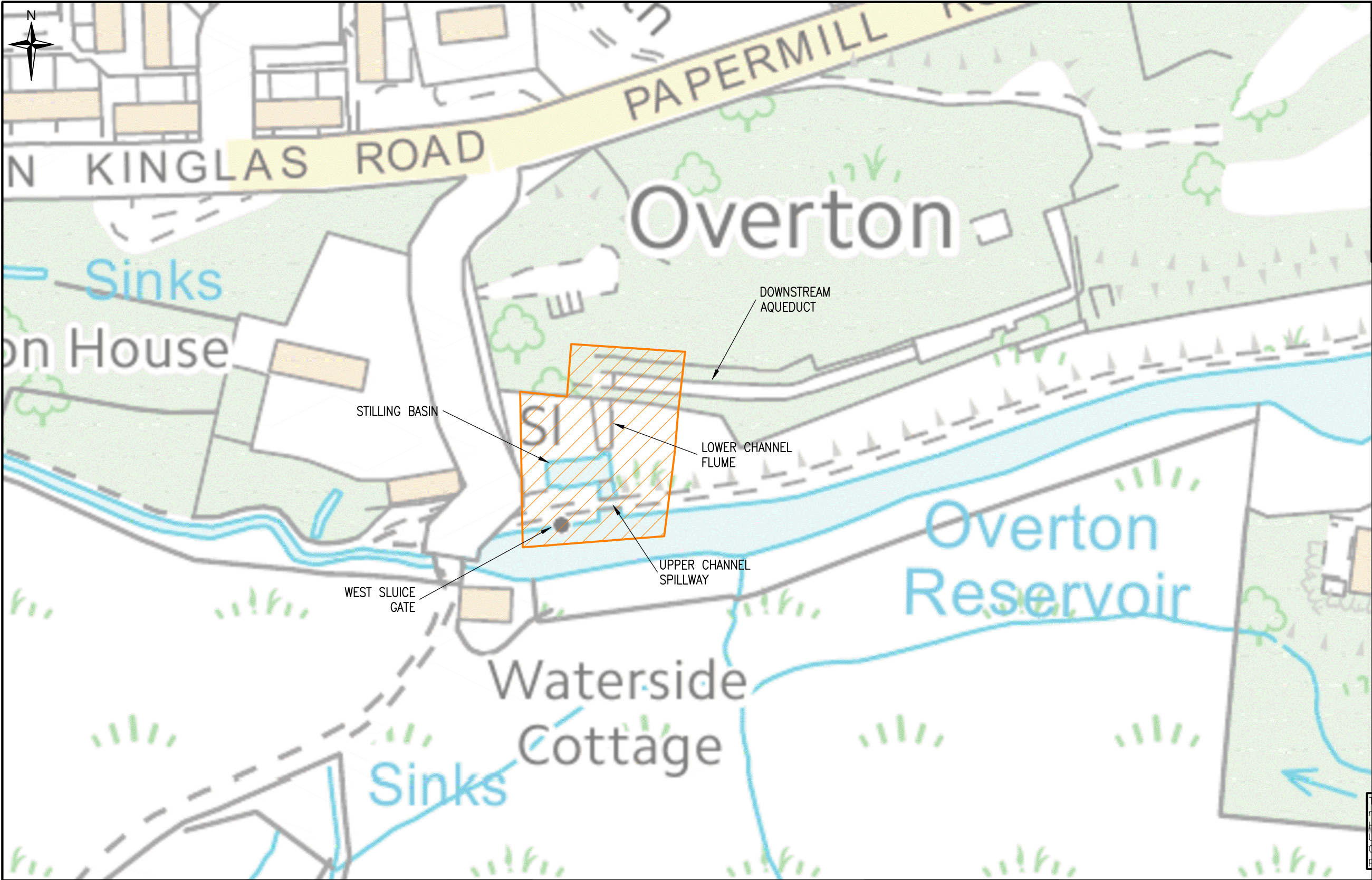
Drawing Title:

PRELIMINARY WORKS
LOCATION PLAN FOR WORKS

FAIRHURST

225 Bath Street,
GLASGOW, G2 4GZ
Tel: 0141 204 8800 Fax: 0141 204 8801

Scale at A3: AS SHOWN	Status: For Information	
Drawn: KAB	Checked: RJM	Approved: KMHB
Date: 20/07/16	Date: 20/07/16	Date: 20/07/16
Drawing No.: 109053/2010		Revision: —



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Rev.	Date	Description	Drawn	Checked	Approved

LEGEND:

 EXTENT OF TOPOGRAPHICAL SURVEY

Client:



Project Title:

OVERTON BASIN
ENHANCEMENT WORKS

Drawing Title:

PRELIMINARY WORKS
EXTENT OF TOPOGRAPHICAL SURVEY

FAIRHURST

225 Bath Street,
GLASGOW, G2 4GZ
Tel: 0141 204 8800 Fax: 0141 204 8801

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