



## White Cart Water Flood Prevention Scheme Urban Flood Defences, Glasgow

Archaeological Works: Level 1 Photographic Surveys

Sophie Nicol  
MA

PROJECT SUMMARY SHEET

<i>Client</i>	VOLKER STEVIN
<i>National Grid Reference</i>	N/A
<i>Address</i>	N/A
<i>Parish</i>	LANARKSHIRE
<i>Council</i>	GLASGOW CITY
<i>Planning Application No</i>	N/A
<i>NMRS No</i>	N/A
<i>Oasis No</i>	N/A
<i>SMR No</i>	N/A
<i>HB/SAM No</i>	N/A
<i>Listing Category</i>	N/A
<i>Project Manager</i>	MARK ROBERTS
<i>Text</i>	SOPHIE NICOL
<i>Illustrations</i>	CAROLINE NORRMAN
<i>Typesetting</i>	CAROLINE NORRMAN
<i>Fieldwork</i>	SOPHIE NICOL
<i>Specialists</i>	N/A
<i>Schedule</i>	
<i>Fieldwork</i>	25 <sup>TH</sup> FEBRUARY – 17 <sup>TH</sup> MARCH 2009
<i>Report</i>	MARCH 2009

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Signed off by: .....

Mark Roberts BA MIFA, Project Manager

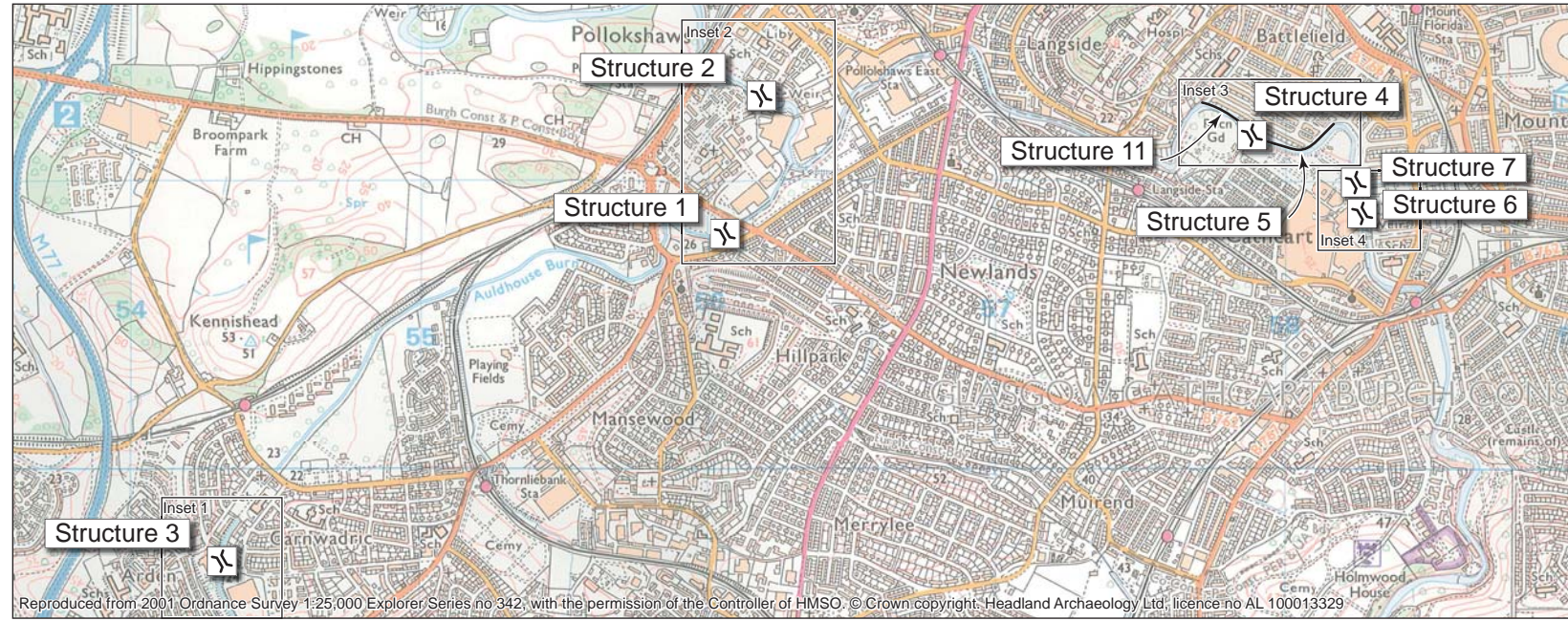
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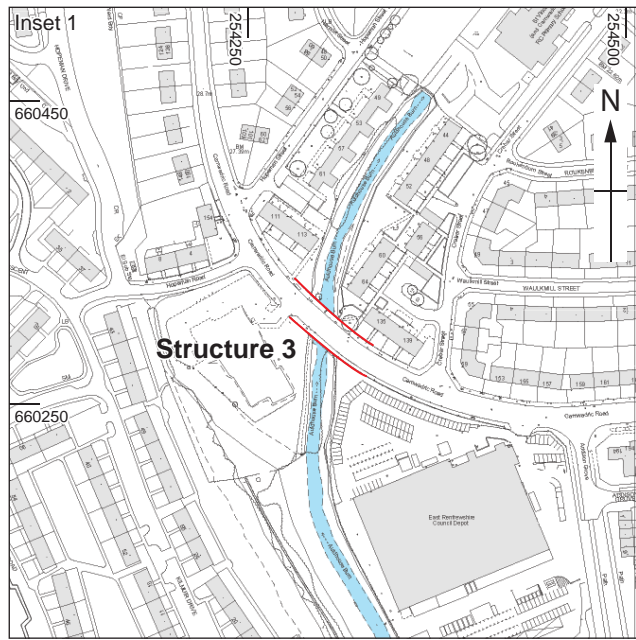
*The White Cart Water is a tributary of the Clyde which meanders through from Eaglesham, through the city boundary of Glasgow and heads downstream towards Cathcart. Well known and remembered for flooding the area a scheme to improve defences of the river was employed, within which a series of archaeological works were commissioned. Included within this scheme several Level 1 Photographic Surveys were agreed on, as part of recording the local heritage and structures that dot the landscape along the River Cart. This report presents the results of these particular surveys undertaken from 25<sup>th</sup> February to the 17<sup>th</sup> March 2009, providing the reader with a brief insight into the type of structures present along the river and a brief description of their significance.*



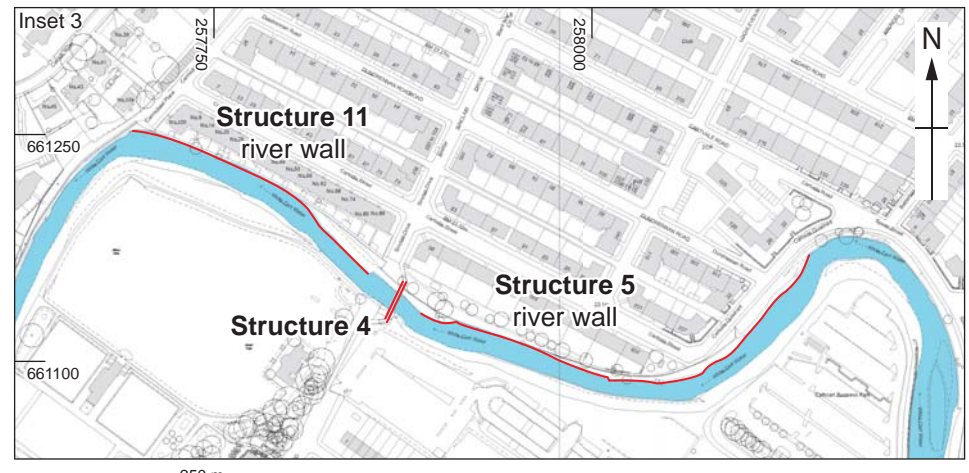
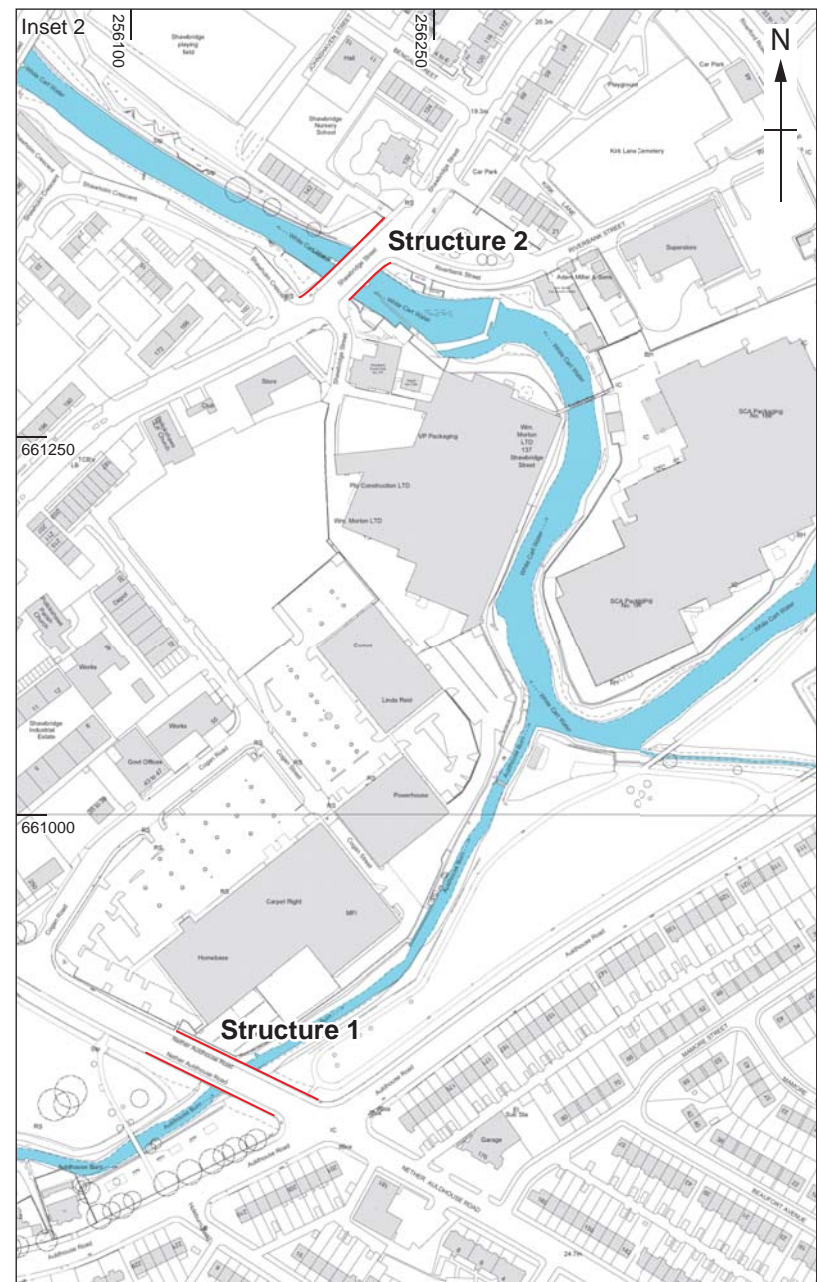




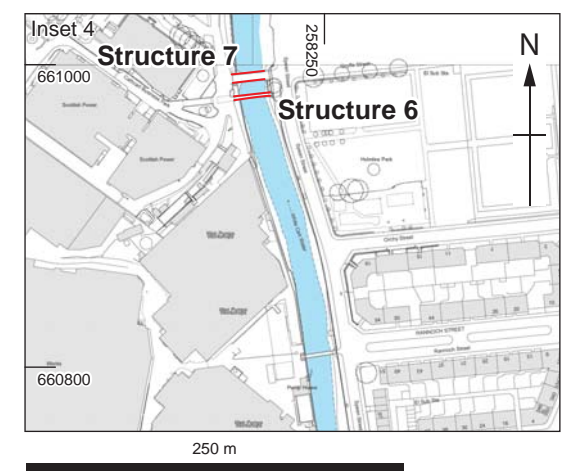
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# White Cart Water Flood Prevention Scheme Urban Flood Defences, Glasgow

## Archaeological Works: Level 1 Photographic Surveys

by Sophie Nicol

### INTRODUCTION

A series of eight Level 1 Photographic Surveys were undertaken along the route of the proposed development of the White Cart Water Flood Prevention Scheme. The surveys concentrated on several bridges and retaining walls located within the urban section of the development. This work forms part of Contract 2 of the Scheme, and were undertaken during 25<sup>th</sup> February 2009 to 17<sup>th</sup> March 2009.

### OBJECTIVES

The aim of the survey was to compile a comprehensive visual record, accompanied with a brief written account of the structures. The list of affected features was provided as part of the Written Scheme of Investigation, following from a desk-based assessment from G.U.A.R.D. In summary, this level of survey concentrated on a collection of mainly bridges and retaining walls, situated on the River Cart within the South of Glasgow, in the districts of Battlefield, Langside, Eastwood and Arden. This survey was to record the eight structures, prior to any modifications as part of the Flood Prevention Scheme.

### HISTORIC BACKGROUND

The section of works is located within the Pollokshaws to Cathcart area, which are currently mainly residential areas, comprising 19<sup>th</sup> and 20<sup>th</sup> century tenement blocks. In addition a thriving local business community is within the area.

Both areas were small settlements until the early 19<sup>th</sup> Century with the widespread introduction of the rail network throughout Glasgow. The railway network encouraged a widespread growth of industrialisation around the river, and encouraged people to settle out with the city boundaries. Consultation of the National Monuments Record for Scotland (NMRS) and Sites and Monuments Record (SMR) identified a number of these industrial premises, situated along the River Cart. Predominantly these comprised small – medium scale mills concerned with cotton or paper manufacture, which utilised the natural power of the water prior to the advent of the steam engine. Some of the industries that flourished here are thought to be the oldest examples in Glasgow. For instance Auldfield Weaving Mill, which is thought to be one of the earliest weaving sheds (Hume, 1974). The continuation of industrial activities associated with the River Cart can be seen with Viking Thread Mill, which operated until 1969.

The White Cart River also acted as a county boundary, dividing East Renfrewshire and Lanarkshire. This can clearly be seen in the 2<sup>nd</sup> Edition Ordnance Survey but may have been in existence for several hundred years previous as seen on Pont's Map of Renfrewshire (GUARD, 2003).

The bustling River Cart and its commerce would have created a prosperous and relatively affluent community. The erection of bridges throughout the Cart and the construction of flood prevention walls were crucial in keeping the industry well

connected and running. The bridges provided a method of navigating materials and supplies across the city.

### METHODS

The surveys contained within this report consist of a series eight of Level 1 Photographic Surveys. Each individual site has been given a unique structure number in order to identify it; a list of this is contained within the results section of the report.

#### Desk Based Research

As part of the survey an amount of desk-based research was undertaken. This primarily involved sourcing any available architectural plans or old photographs/images (held at the Mitchell Library). Additionally, both the first and second edition Ordnance Survey Town Plans of the area was consulted. Unfortunately, due to the River Cart's location on the very edge of the Glasgow boundary a proportion of the sites are not mapped in either edition.

#### Photographic Survey

##### *Level 1 - Photographic Record*

This comprised a basic photographic record of the structure with accompanying scale (where viable) and direction references (See Appendix 1 for photo register) All photographs undertaken as part of this report have been put onto a CD that accompanies this report. All film/slide copies will be processed into a full archive and deposited with the National Monuments Record of Scotland.

### RESULTS

#### General Architectural Description (from East to West)

This survey was focused on features that are to be directly affected or modified during flood defence construction. The survey included features along the River Cart and some of its tributaries. The architecture of the features varies in age and style, but is predominantly from the 19<sup>th</sup>-20<sup>th</sup> century.

The most eastern structures are those associated with the Scottish Power building in Langside, both a road bridge (Structure 7) and footbridge (Structure 6). These are private bridges, solely for access to and from the Scottish Power offices. They are orientated on an E-W alignment and are located closely parallel to each other. The road bridge is a metal spandrel and concrete structure, fairly narrow in width as a road bridge. The footbridge is composed of a simple single span with concrete abutments.

The next structure is located on the northern edge of the river, running parallel with

Cartside Street. This comprises a concrete shutter cast wall, approx 3 m in height and constructed as flood defences (Structure 5). This structure is mirrored on the western side of Sinclair Drive footbridge, and extends to Carmichael Place (Structure 11). The footbridge (Structure 4) crosses the river, connecting Sinclair Drive with Kintore Road, subsequently providing access to the residential areas. This feature is constructed of tubular steel and appears fairly simple in design.

Approximately 1600 m west of this group of features is a road bridge (Structure 2), spanning the River Cart and carrying Shawbridge Street. Though this bridge was constructed in 1934 a bridge of some form has spanned the river here for several centuries. This bridge is orientated on NE –SW alignment and is constructed as a granite parapet with metal girders.

Almost directly south, spanning Auldhouse Burn, a small tributary of the River Cart, is Nether Auldhouse Bridge (Structure 1). This road bridge carries nether Auldhouse Road over the burn, and is orientated roughly E-W. Auldhouse Burn itself is thought to have been diverted from its original course by Shawbridge Street in 1790. This bridge itself is a relatively simple concrete cast bridge.

South west of these features, approx 2100 m, as the most isolated part of the study, is Carnwadric Road Bridge (Structure 3) which spans the White Cart Water on a NW-SE alignment. It is constructed from cast concrete and carries Carnwadric Road over the water. This feature is located within a quiet residential area.

### Survey Inventory

The following section will address each structure individually, in numerical order, and give appropriate data from survey and general discussions.

<i>Structure No.</i>	<i>Structure Name</i>
1	Auldhouse Bridge
2	Shawbridge Street Bridge
3	Carnwadric Road Bridge
4	Sinclair Drive Footbridge
5	90-108 Cartside Street Retaining Wall
6	Scottish Power Footbridge
7	Scottish Power Road Bridge
11	88 Cartside Street – 105 Carmichael Place Retaining Wall



### Structure 1: Auldhouse Bridge

Grid Reference: NS 5583 6076  
Date of Record: 25/02/09  
Name of Recorder: Sophie Nicol  
Photograph Numbers: 002-008

Description: Simple span concrete cast bridge located over Auldhouse Burn. This bridge appears to have been pre-cast in at least 3 main sections. This includes two abutment sections and the span, which has then been assembled on site. The structure does not appear on the 4<sup>th</sup> edition OS map, but the extension of Nether Auldhouse Road must have occurred sometime from the 1940's to 1950, when an aerial photograph (<http://www.theglasgowstory.com/image.php?inum=TGSE00507>) clearly depicts the road crossing the Cart. This would date the structure around fifty or sixty years old. The internal detail on the superstructure is a simple indented curve, created during the casting process.



**Illus 2**  
Northern elevation of Auldhouse Bridge: Structure 1

### Structure 2: Shawbridge Street Bridge

Grid Reference: NS 563 614  
Date of Record: 25/02/09  
Name of Recorder: Sophie Nicol  
Photograph Numbers: 015-023

Description: Shaws Bridge "Built in 1934, as a replacement for a two-arch masonry bridge. This bridge is constructed as a two-span plate-girder bridge with a solid granite parapet." (Hume 1974)

This structure is of simple design, with a solid parapet of granite, and a multiple metal plate girder, that has been riveted together. These girders rest on bearings on top of the piers and central support column.

No dating evidence apparent from structure itself, but documentary

evidence and photographic evidence support the date of c. 1934. Solid masonry bridges were commonly constructed during this time. See Illus A2 5 and 6 for sourced photographs from the Mitchell Library Glasgow and SCRAN respectively.



**Illus 3**  
1934 Photo during construction of current Bridge.  
(Reference C4661, copyright of Glasgow City Archives, Mitchell Library)



**Illus 4**  
View of current Shawbridge St. Bridge, Str.2

### Structure 3: Carnwadric Road Bridge

Grid Reference: NS 544 597  
Date of Record: 25/02/09  
Name of Recorder: Sophie Nicol  
Photograph Numbers: 009-014

Description: Simple span concrete bridge, located over the River Cart. This bridge, as with Structure 1, appears to have been formulated from pre-cast concrete, and assembled on site. The lower abutments appear to be of a slightly different quality of concrete, possibly suggesting that the cast balustrade detail is slightly later (see Illus 5). It could also be viable that the entire structure is contemporary, with the balustrade detail constructed from a slightly different material as part of the design. See Illus A2 3 for architectural drawing of this structure. Unfortunately, the quality of the original emits the date of these drawings so we can not give the bridge a definite date. It does not appear on the 4<sup>th</sup> Edition OS so post-dates 1939 and may coincide with housing developments within the area.

See Illus 5 for detail of balustrade.



**Illus 5**  
Balustrade detail of Carnwadric Road Bridge, Str. 3



#### Structure 4: Sinclair Drive Footbridge

Grid Reference: NS 580 615  
Date of Record: 25/02/09  
Name of Recorder: Sophie Nicol  
Photograph Numbers: 034-036

Description: Locally, this structure is commonly named the “Silver Bridge” and spans the River Cart just south of Sinclair Drive. It appears to have been constructed in tubular steel, is of single span form and sits on two concrete abutments. Stamp marks on the bridge identify it as being supplied by Tubewrights Ltd. Some services are carried on the underside of this structure. This structure may replace an earlier bridge as some masonry remains were noted at its foot on the bank, however no bridge or even street is mapped on the 1895 2<sup>nd</sup> Edition Ordnance Survey and this area was not surveyed during the 1st Edition. The architectural drawing notes the plan of this structure was submitted in 1958 which ties in with Tubewrights business information. Tubewrights were a company of steel fabricators and structural engineers in business from 1899-1981.

An architectural drawing of this structure was sourced from the Mitchell Library, Glasgow; see Illus A2 4.

#### Structure 5: 90-108 Cartside Street Retaining Wall

Grid Reference: NS 579 612  
Date of Record: 25/02/09  
Name of Recorder: Sophie Nicol  
Photograph Numbers: 031-033

Description: Concrete flood retaining wall, orientated approx E-W. This structure is composed of an in situ shuttered concrete wall. The method of construction looks to have varied in places, with very clear changes in material and obvious tip lines. This wall is very roughly cast and designed as a simple functional structure of approx 300 m in length. In places iron railings have been fitted along the top of the wall for public safety. Date of this structure unknown, possibly ties in with improvements to the river in the early –mid 20<sup>th</sup> century. Likely to have been constructed to protect closely situated tenements from the River Cart flooding. Contemporary with Structure 11.

#### Structure 6: Scottish Power Footbridge

Grid Reference: NS 584 610  
Date of Record: 25/02/09  
Name of Recorder: Sophie Nicol  
Photograph Numbers: 024-027

Description: Footbridge that accompanies road bridge, very similar in style to refurbished Str. 7. Structure is a steel fixed single span bridge on simple T-shaped concrete abutment. This structure runs parallel to Structure 7, directly south. Date of structure probably contemporary with renovation of factory building for Scottish Power office as this structure does not appear on 4<sup>th</sup> Edition Ordnance Survey.



**Illus 6**  
Photo showing original footbridge, Str. 7  
(Scran reference 000-000-555-664, copyright of Royal Commission on the Ancient and Historical Monuments of Scotland; SC768231)

#### Structure 7: Scottish Power Roadbridge

Grid Reference: NS 584 610  
Date of Record: 25/02/09  
Name of Recorder: Sophie Nicol  
Photograph Numbers: 028-030, 077-078

Description: Steel openspandrel and reinforced concrete bridge, fitted with railing superstructure and concrete deck. As can be seen in Illus 6 & 7 this bridge appears to have re-used an older substructure that was commonly used as a footbridge for workers to the original factory building, now utilised and refurbished by Scottish Power. The factory is thought to have been built in 1913-1922 for Wallace, Scott and Co (SCRAN, ref 000-000-555-664), with which this bridge is contemporary. The bridge steel itself is noted as having been constructed by Kyle, Dennison and Laing, engineers in 1913 ([http://hsewsf.sedsh.gov.uk/hslive/portal.hsstart?P\\_HBNUM=33967](http://hsewsf.sedsh.gov.uk/hslive/portal.hsstart?P_HBNUM=33967)). The old superstructure has been replaced with railings, as part of refurbishment of complex.

The importance of this structure is that it is one of the earliest examples of its type seen in the west of Scotland.



**Illus 7**  
Current view of modified Scottish Power road bridge, Str. 7



**Structure 11: 88 Cartside Street - 105 Carmichael Place**

Grid Reference: NS 579 612  
Date of Record: 17/03/09  
Name of Recorder: Sophie Nicol  
Photograph Numbers: 063-076

Description: Flood Retaining Wall, constructed from concrete set into wooden shuttering. Likely to have been constructed to protect closely situated tenements from the River Cart flooding. As with Structure 5 this appears to have varied in construction along its length (approx 300m). In places block footings of the wall are visible, likely the base on which the visible concrete elevations were set. These feet have a metal girder strapping on the southern face. Additionally, within the wall at its western end are a series of small drainage culverts, running from Carmichael Place.



**Illus 8**  
General view of Str. 11, looking East

**DISCUSSIONS**

The majority of structures will be tied into the new flood defences, with little impact on their physical composition. The level 1 photographic surveys undertaken as part of the larger brief may comprise a relatively simple level of recording, but accumulatively the study of these are invaluable. This information will contribute to our understanding of the local built heritage concerned with the river and build a general overview within the area.

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Hume, JR (1974) *The Industrial Archaeology of Glasgow*. Blackie and Son Limited  
Hume, JR (1976) *The Industrial Archaeology of Scotland 1. The Lowland and Borders*  
Butler and Tanner Ltd

**Internet References**

<http://www.cartblanche.org/html/map06.html>  
<http://www.scran.ac.uk>  
<http://www.nls.uk/maps/index.html>  
<http://www.nationalarchives.gov.uk>  
<http://www.theglasgowstory.com/image.php?inum=TGSE00507>  
[http://hsewsf.sedsh.gov.uk/hslive/portal.hsstart?P\\_HBNUM=33967](http://hsewsf.sedsh.gov.uk/hslive/portal.hsstart?P_HBNUM=33967)

**APPENDIX 1; PHOTO REGISTER & PHOTOGRAPHS**

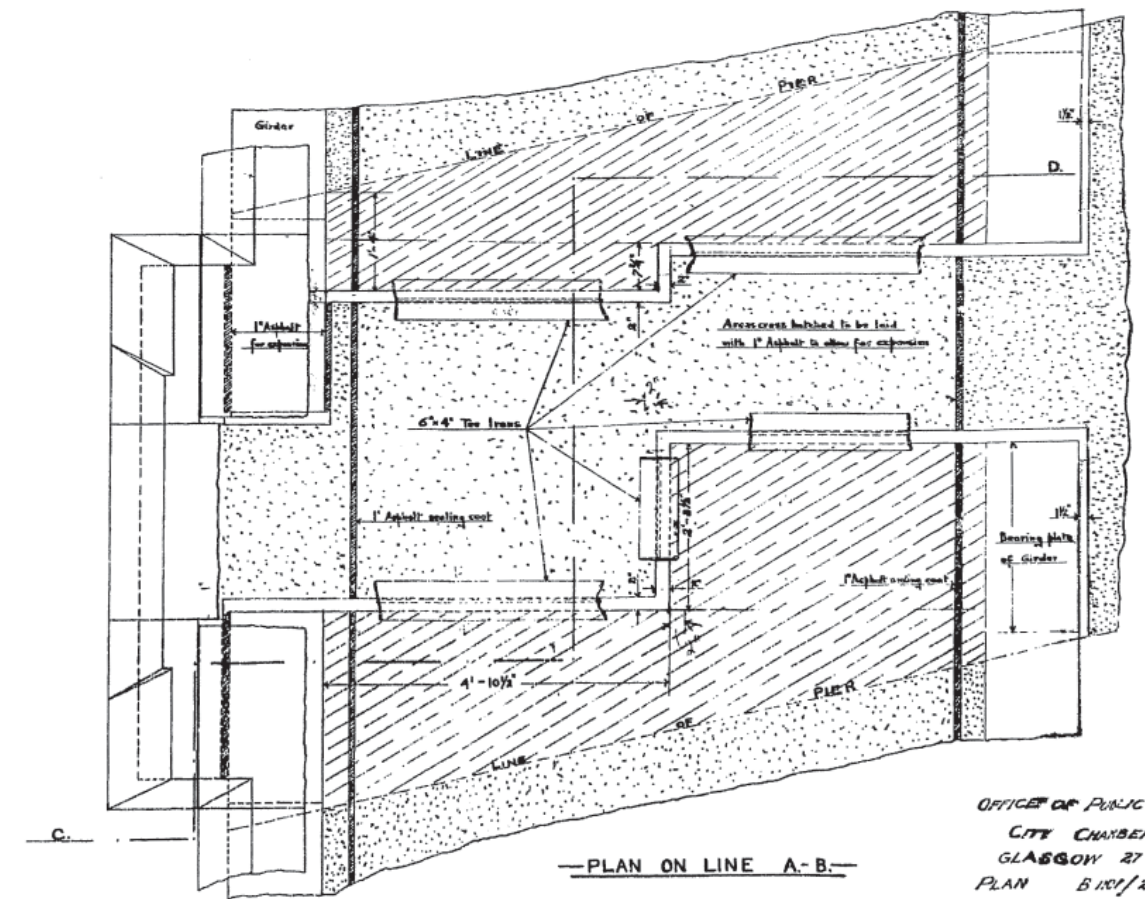
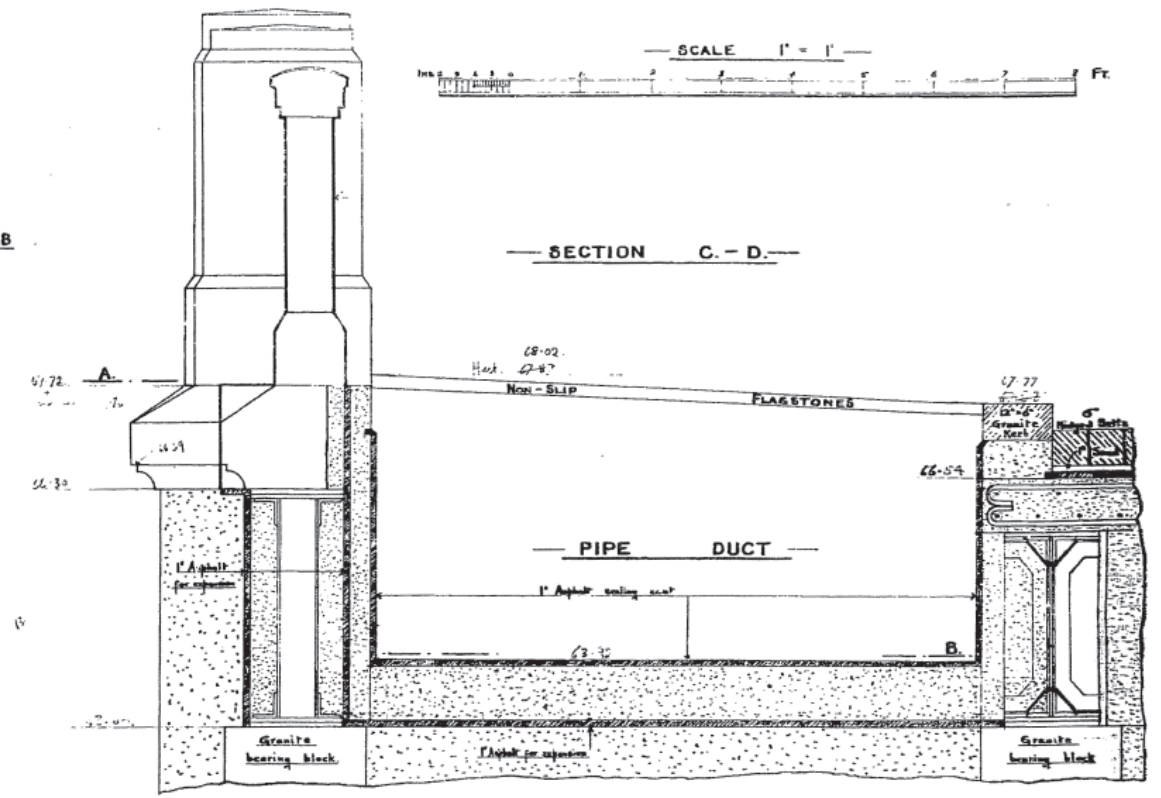
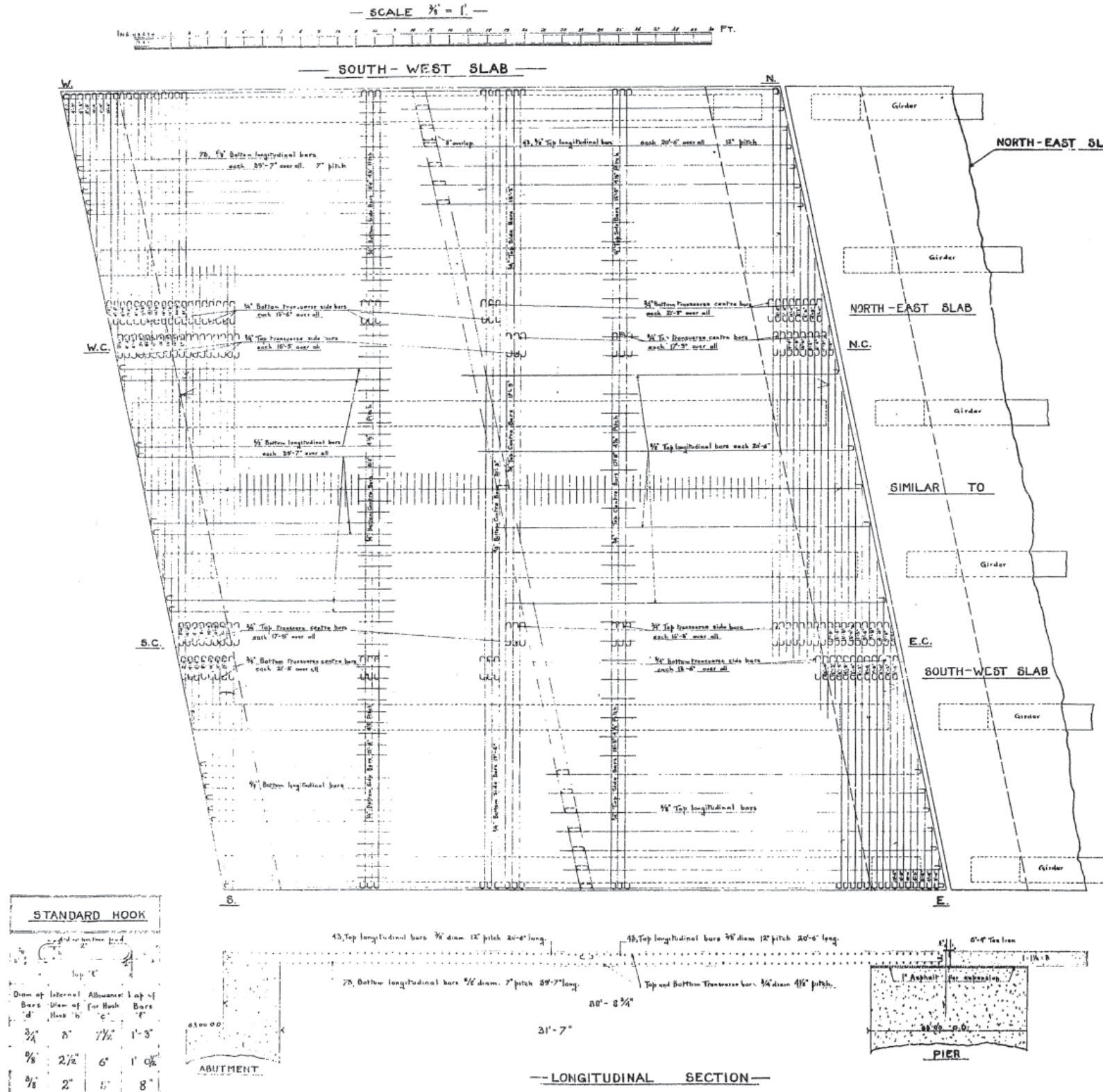
These are supplied on a cd attached to the inside of the back report cover.



# SHAW BRIDGE

## DETAILS OF REINFORCED CONCRETE DECK SLAB

## DETAIL OF EXPANSION JOINT OVER PIER



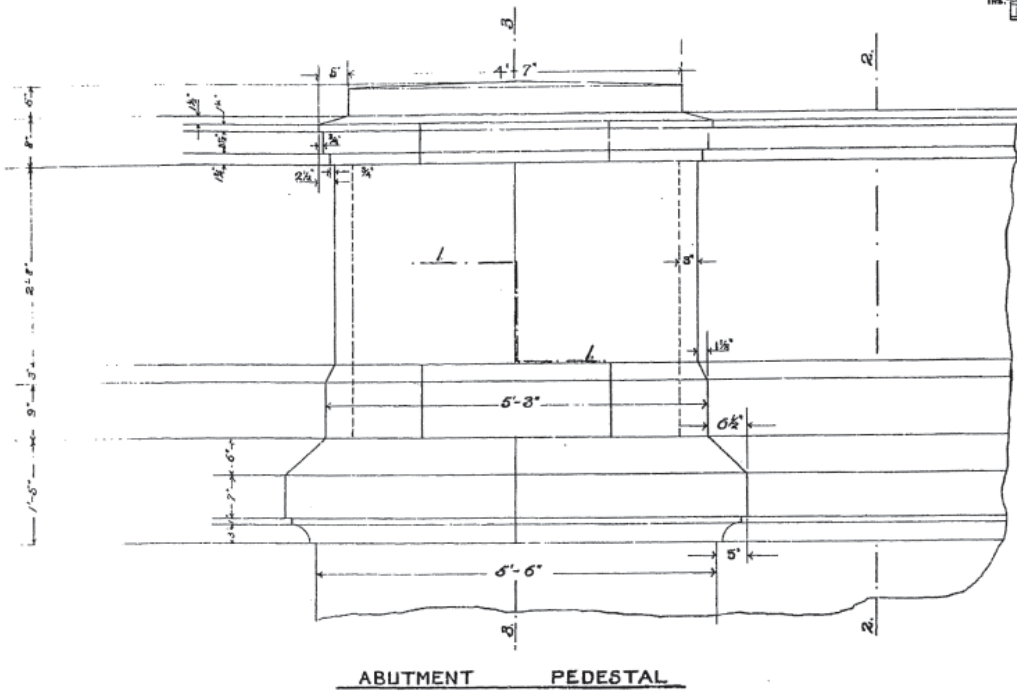
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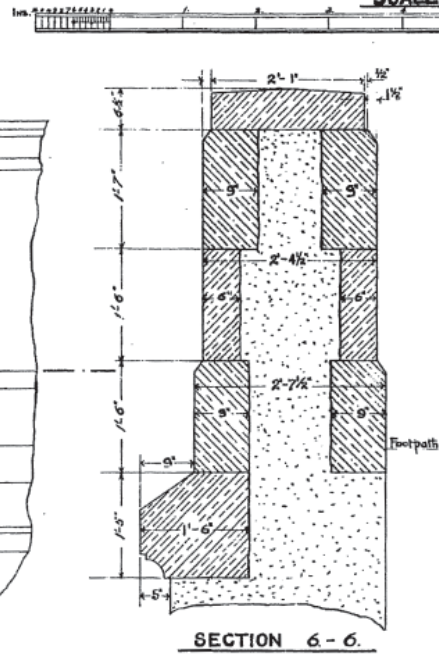
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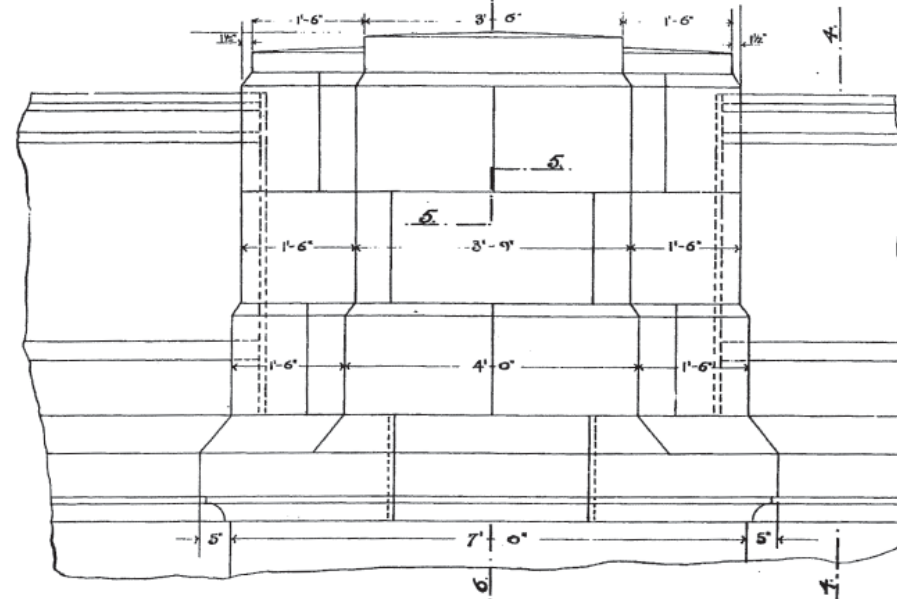
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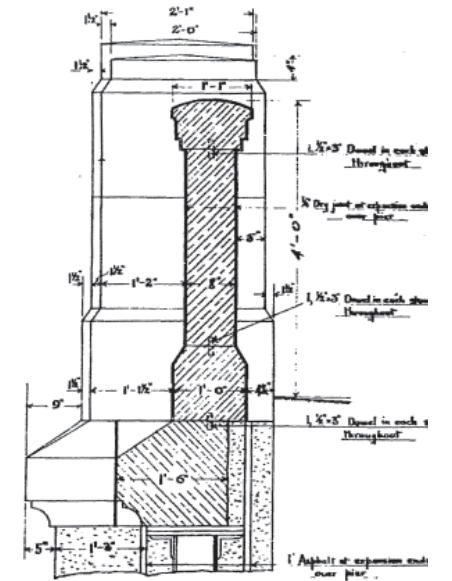
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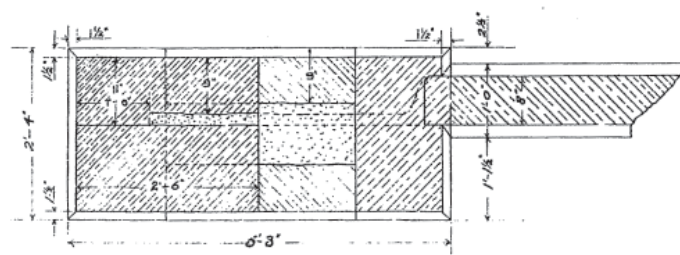
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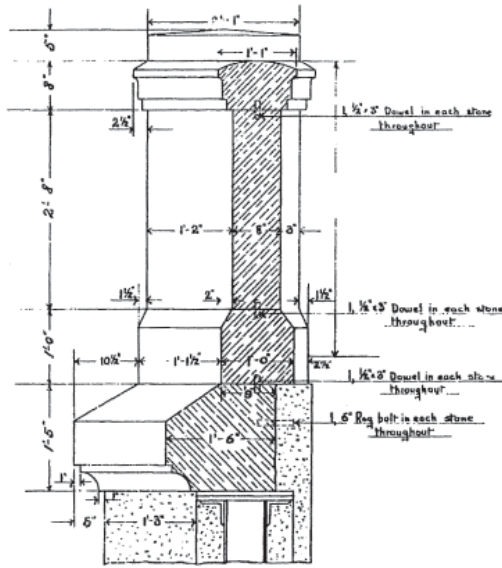
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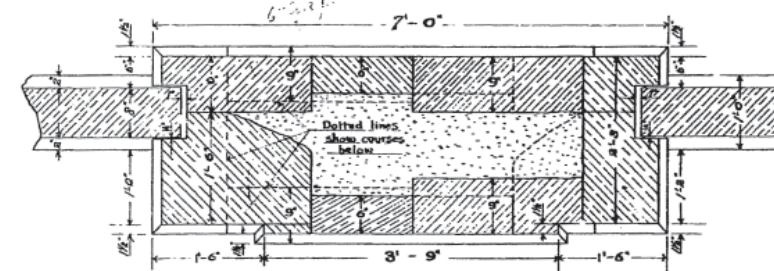
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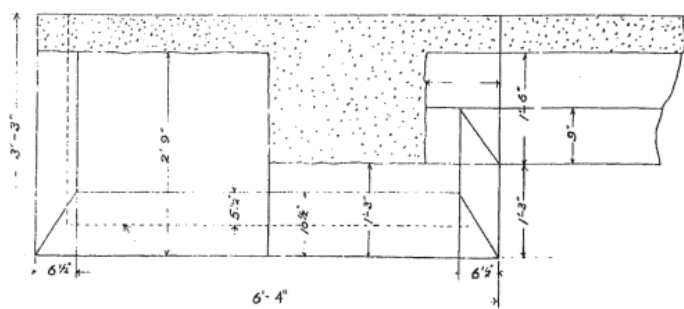
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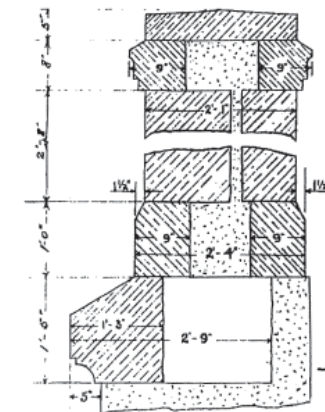
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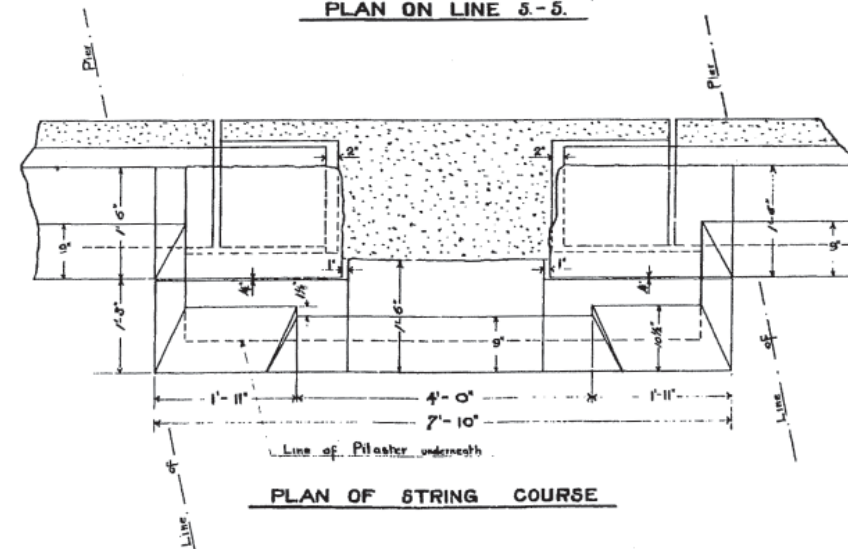
PLAN ON LINE 5-5.



PLAN OF STRING COURSE



SECTION 3-3.



PLAN OF STRING COURSE

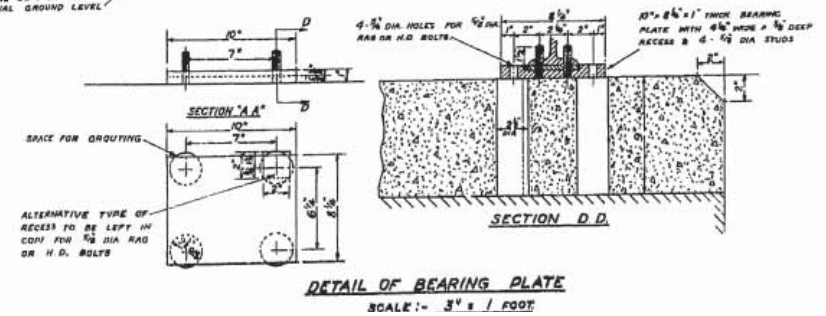
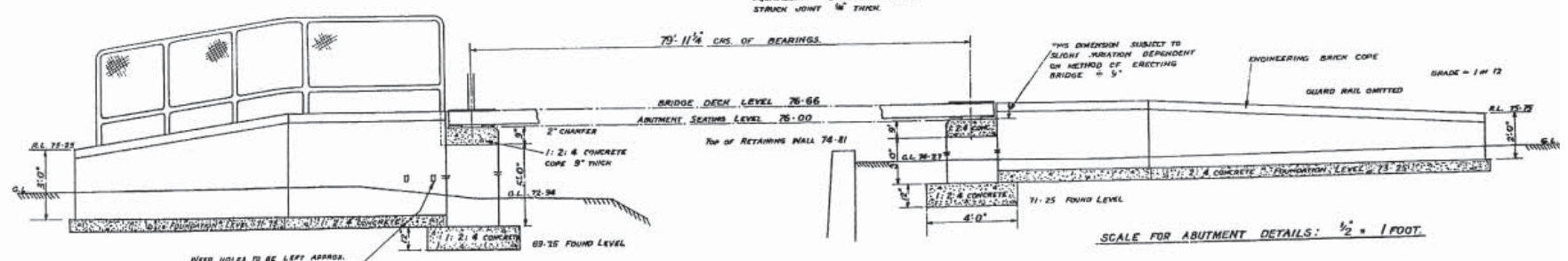
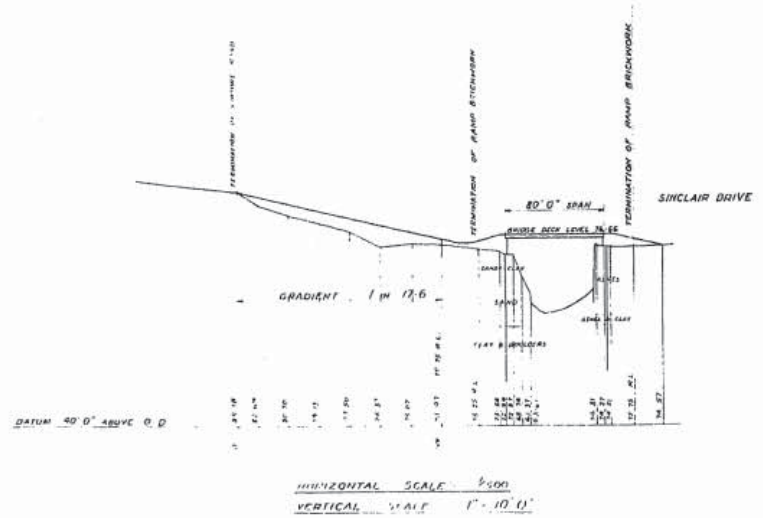
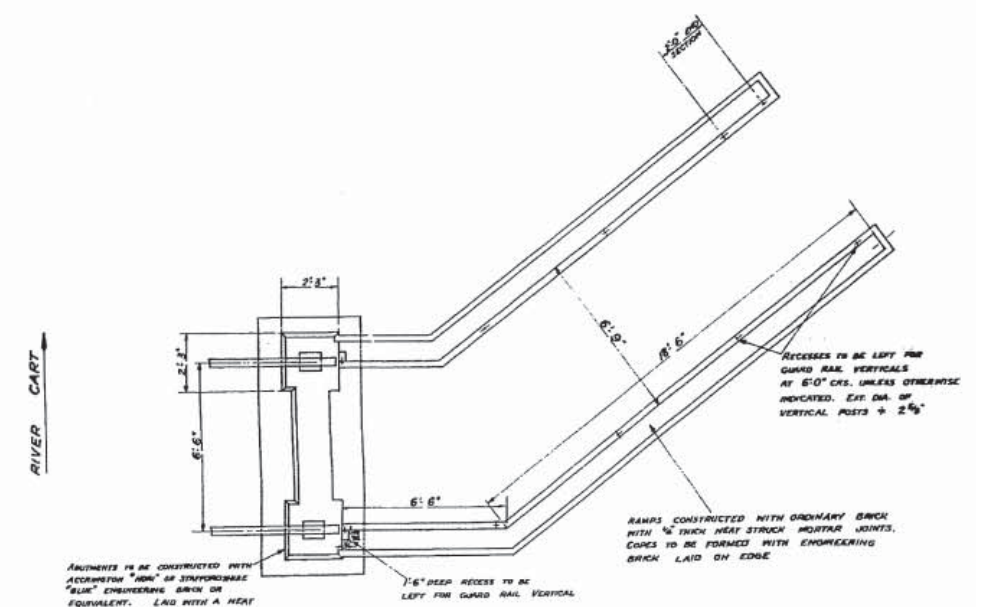
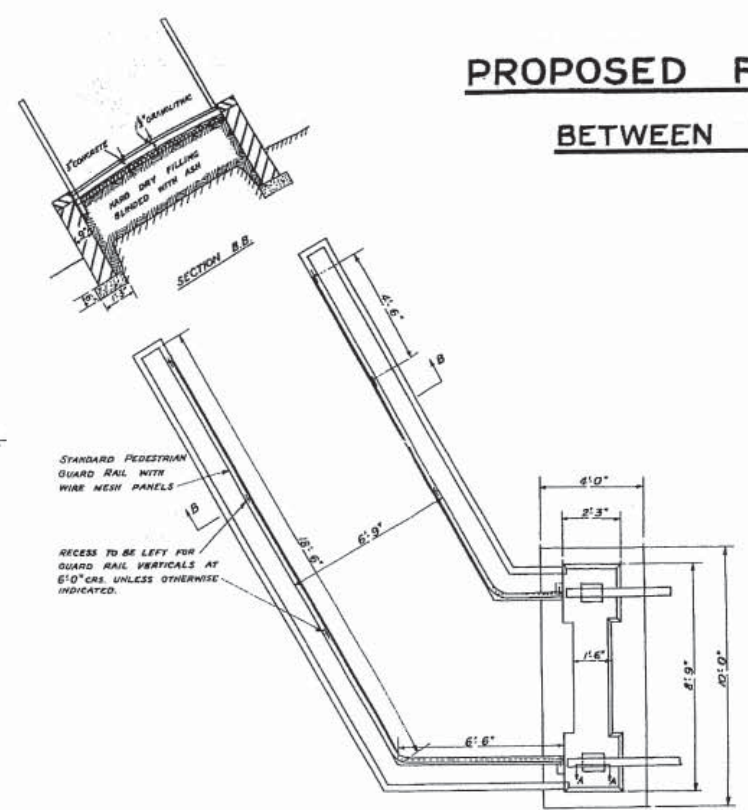
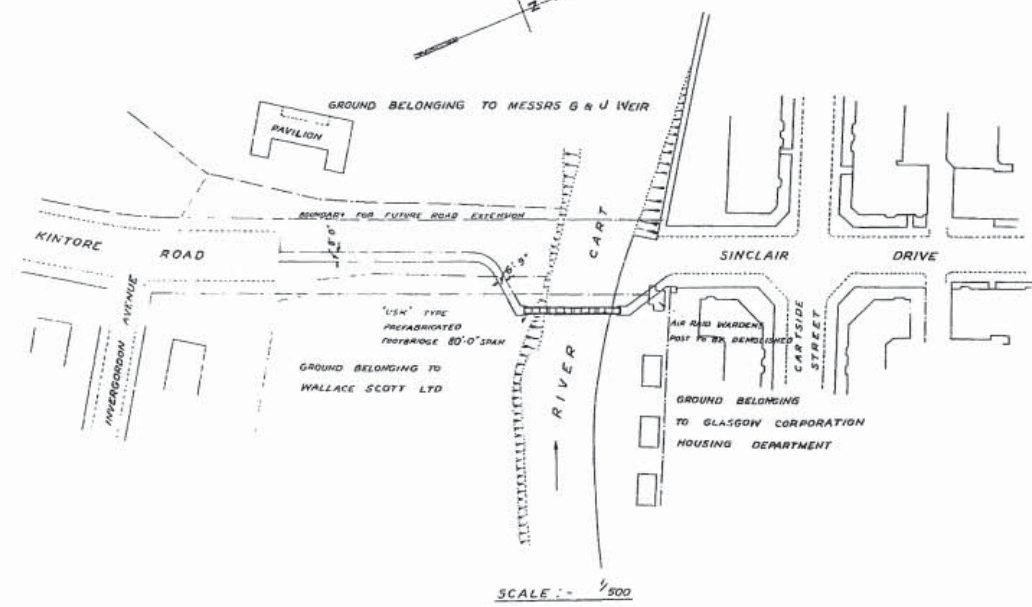
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GLASGOW  
PLAN NO. B.1101/R.







## PROPOSED FOOTBRIDGE OVER THE RIVER CART BETWEEN SINCLAIR DRIVE AND KINTORE ROAD.



SCALE FOR ABUTMENT DETAILS: 1/2" = 1 FOOT.

TABLE OF QUANTITIES			
		UNIT	QUANTITY
CONCRETE	7.2:4	CU YDS.	9
ABUTMENT COPES	1	CU YDS.	9
RAMP FOUNDS	2.05	CU YDS.	
FOOTWAY 3" THICK	2.78	CU YDS.	
1 1/2" GRANULITIC	1.39	CU YDS.	1.5
ENGINEERS BRICK	132.33	CU FT.	5.75
ABUTMENTS	24.6	CU FT.	2.250
COPES		CU YDS.	9
ORDINARY BRICK IN RAMP		CU YDS.	4.150

FOR BRIDGE DETAILS SEE PLANS NO.

OFFICE OF PUBLIC  
CITY CHAMBERS,  
GLASGOW. C. I.  
DET 1316 PLAN NO. 2





**Illus A2 5.1**  
(© Glasgow City Archives, Mitchell Library)



**Illus A2 5.2**  
(© Glasgow City Archives, Mitchell Library)




**Illus A2 5.3**  
(© Glasgow City Archives, Mitchell Library)



**Illus A2 5.4**  
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000-000-116-706-R | 02492466.jpg | 03-Mar-2009

**Illus A2 6.1**

Old Shaw Bridge; Old Shaw Bridge over the river Cart at Pollockshaws, shortly before it was demolished to make way for a more modern structure.

(© Newsquest (Herald & Times), Scran Ref. No. 000-000-116-706-C)



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000-000-118-074-R | 02493034.jpg | 17-Mar-2009

**Illus A2 6.2**

Old Shaw Bridge in 1934. Crossing the Cart at Pollockshaws, it is about to be demolished, for the purpose of erecting a more modern structure. This bridge was built in 1654 and widened in 1752 to permit two lanes of traffic.

(© Newsquest (Herald & Times), Scran Ref. No. 000-000-118-074-C)