



<b>NORTHLIGHT HERITAGE</b>	<b>Govan Graving Docks Ground Investigation</b>
REPORT: 171	<b>Archaeological Watching Brief</b>
PROJECT ID: 607	
DATA STRUCTURE REPORT	Govan Graving Docks, Clydebrae Street, Glasgow

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Govan Graving Docks

18 Clydebrae St

Glasgow

NGR: NS 56090 65463

Data Structure Report

*on behalf of*

New City Vision Ltd.

Cover Plate: View across the River Clyde from Govan Graving Docks

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#### **Abstract**

An archaeological watching brief was undertaken during ground investigation work at Govan Graving Docks, 18 Clydebrae, Glasgow on behalf of New City Vision Ltd. The work was conducted by Northlight Heritage between 8<sup>th</sup> and 10<sup>th</sup> June 2016 and focused on the area around three former graving docks, along with their associated structures, all protected as a Category A Listed Building (LB33336). A series of 16 test pits were excavated as part of the ground investigation works. Distinct structural archaeology was noted in 5 of the test pits all of which appeared to relate the graving docks and took the form of various brick, sandstone and concrete walls and surfaces.

## **1. Introduction**

### **1.1**

This report presents the results of an archaeological watching brief undertaken during ground investigation works at the Govan Graving Docks, 18 Clydebrae St, Glasgow. The work was conducted by Northlight Heritage on behalf of New City Vision Ltd. between 8<sup>th</sup> and 10<sup>th</sup> June 2016 and involved archaeological monitoring of 16 test pits located across the graving docks area.

### **Project Background**

### **1.2**

The ground investigation works were undertaken as part of pre-planning application works on the site. Due to the graving docks having a high degree of heritage significance, being protected as a Category A listed building and being sensitive to potential buried archaeological remains, an archaeological watching brief was undertaken during the ground investigation works.

## **2. Location, Geology and Topography**

### **2.1**

The proposed development site is located at Govan Graving Docks, 18 Clydebrae Street, Glasgow (NGR: NS 56090 65463, Figure 1). The site is currently disused and is bound by the River Clyde to the north and east, Govan Road to the south and Clydebrae Street/Stag Street to the west.

### **2.2**

The underlying geology consists of sedimentary bedrock (Upper Limestone Coal Formation) while the superficial deposits comprise Quaternary period sediment (British Geological Survey online 1:50,000 scale data).

## **3. Archaeological and Historical Context**

### **3.1**

The primary heritage interest at the site centres on the presence of three former graving docks and associated structures protected as a Category A Listed Building (LB33336, NMRS No. NS56NE 118, WoSAS Pin 11738).

### **3.2**

The dock complex was built for the Clyde Navigation Trust between 1869 and 1898, a time when the Clyde shipyards led the world in the building of sophisticated merchant ships. During this period the graving docks provided ship repairing facilities for Glasgow's harbour and formed part of a vast complex of basins and docks stretching along both sides of the River Clyde.

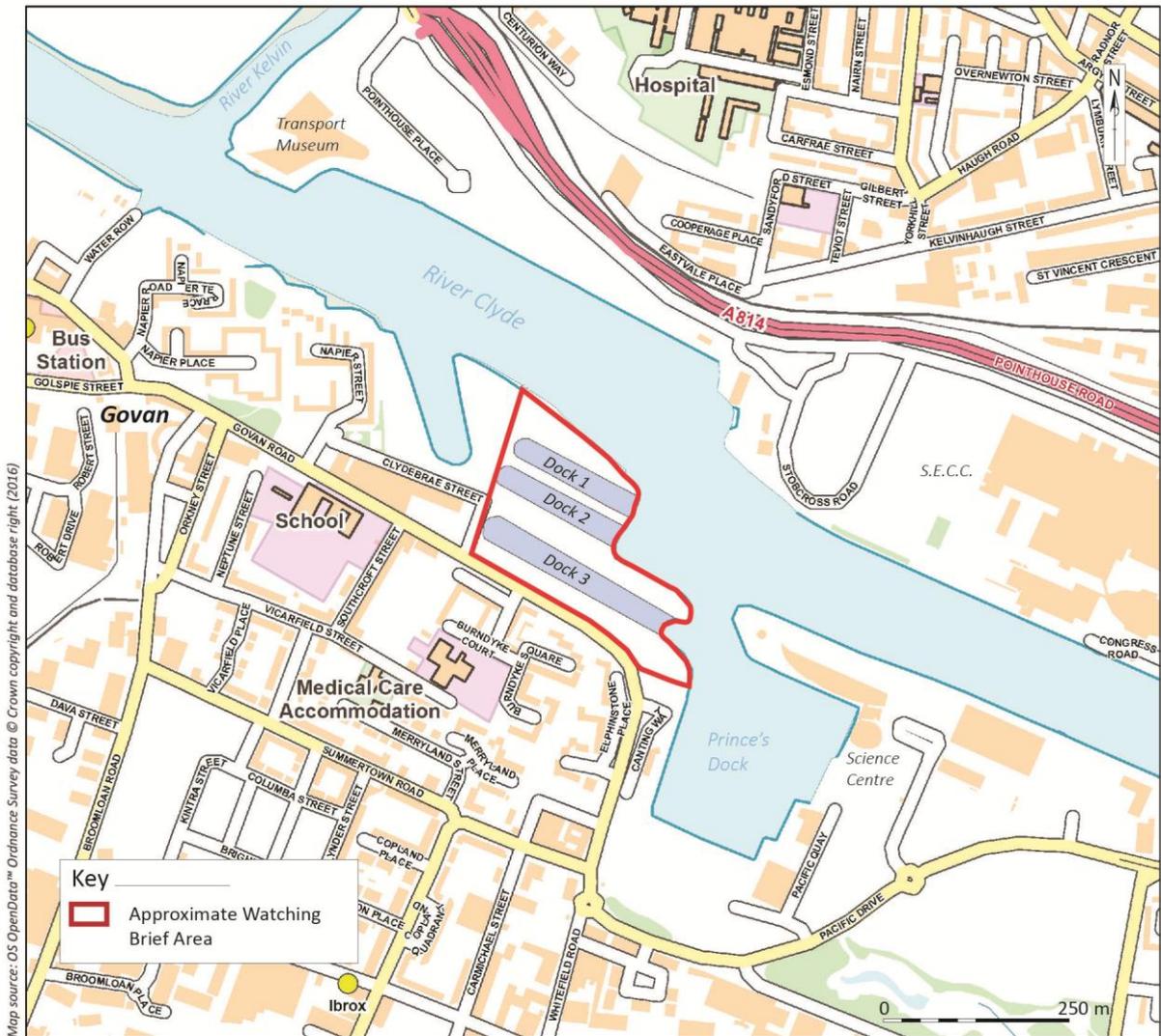
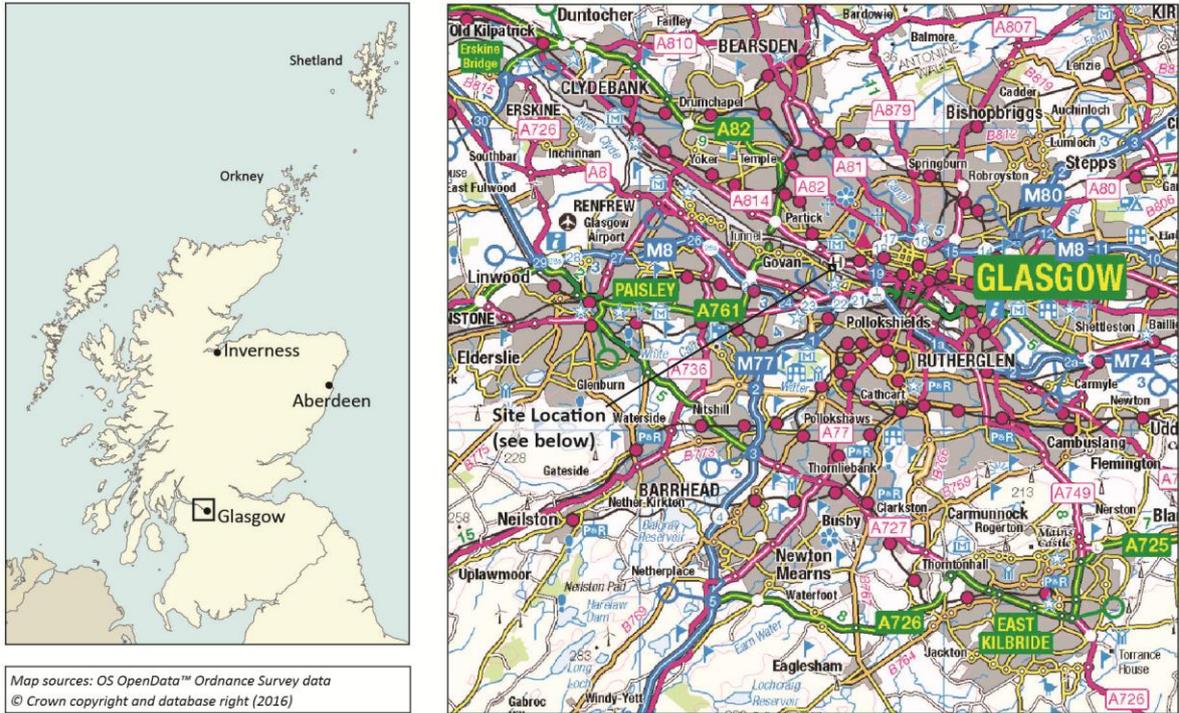


Figure 1: Site Location

### 3.3

The northernmost graving dock (Graving Dock 1, NMRS No. NS56NE 118.1) is the oldest of the group (1869 – 1875), followed by the centre dock (Graving Dock 2, NMRS No. NS56NE 118.2, 1883 – 1886) and finally the southern dock (Graving Dock 3, NMRS No. NS56NE 118.3, 1894 – 1898). They were each the largest in Scotland when built, Docks 1 and 3 were each the deepest in Britain, while Dock 3 (which could be split in two) was briefly the longest in the world (Dalglish & Driscoll, 2009, 94).

### 3.4

Early Ordnance Survey (OS) maps of the area show that parts of the graving docks site had been built upon prior to their construction. The first edition OS 25 inch to the mile map, surveyed in 1858 and published in 1865, shows the site of Graving Dock 2 consisting of a series of buildings present either side of a road called Main Street. On the same map the area where Graving Dock 3 would be built holds a large building annotated as South Croft House as well as a nearby school and Free Church. By the time the second edition OS 25 inch to the mile map was published in 1896 both Graving Docks 1 and 2 were present while the site of Graving Dock 3 is still shown to be occupied by South Croft House along with a series of adjacent buildings.

### 3.5

Overall the graving dock complex is one of the few remaining visible examples on the Clyde, the majority of others having been infilled and re-developed. It is of architectural and historic interest in an international context and of major significance in terms of the history of the world shipbuilding.

## 4. Summary Objectives

The objectives of the watching brief were to:

- establish the presence or absence of any archaeological remains which may be encountered during ground breaking works;
- determine the character, extent and significance of any archaeological deposits encountered;
- excavate and record any significant archaeological features or sites encountered during the watching brief that could not be avoided, ensuring preservation through record;
- Make sure that the needs for archaeological conservation and recording were met without causing any unnecessary delay or disturbance to the development.

## 5. Methodology

### 5.1

Ground disturbance relating to the ground investigation works, which took the form of a series of 16 test pits, was monitored by a suitably qualified archaeologist.

### 5.2

Each test pit was excavated by a mechanical excavator fitted, where possible, with a flat bladed ditching bucket. In some cases a pecker was required due to the presence of stone and concrete.

### 5.3

The deposits within the test pits were removed in spits to the level required for the ground investigation works.

Areas of potential archaeological interest were cleaned by hand. Where safe to do so within the confines of the deep test pits all archaeological remains encountered that could not be preserved *in-situ* were appropriately excavated to determine the character, extent, quality, date and complexity of the features/deposits present. Where possible these remains were recorded by means of written description, high quality digital photography and measured drawing.

## 6. Results

### 6.1

The results of the watching brief are given below. In the following paragraphs numbers in round brackets indicate unique context numbers issued to deposits during fieldwork while square brackets indicate unique cut or structure numbers.

### 6.2

A total of 16 test pits were excavated in the graving dock area (Figure 2). Details of all 16 test pits are provided in Appendix 1, Tables 1 & 2 while the 5 test pits containing structural archaeological remains (Test Pits 1.1, 1.4, 1.5, 2.3 & 3.4) are described further in the following paragraphs.

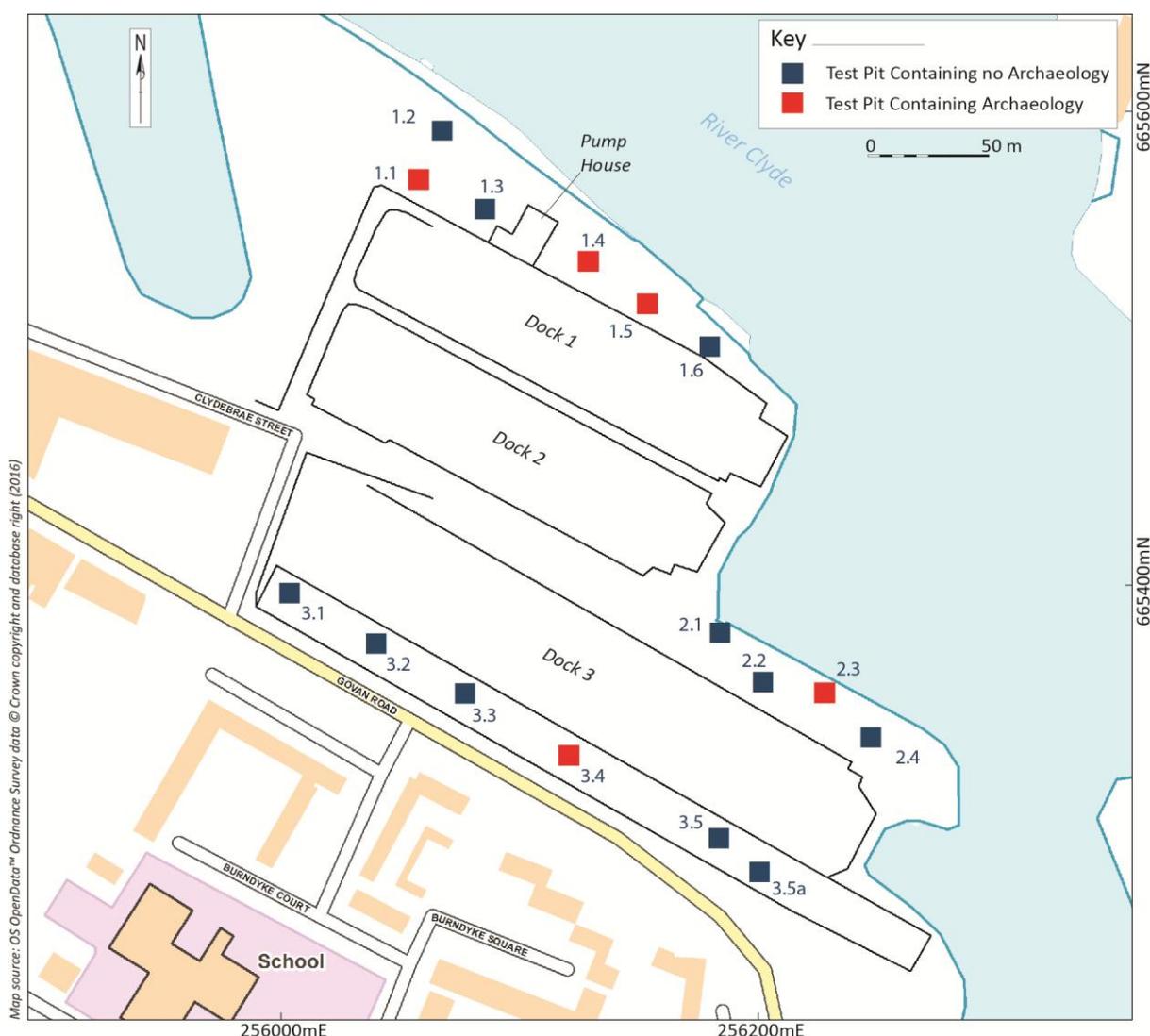


Figure 2: Test Pit Location

### 6.3

Of the 11 test pits that contained no structural archaeology (Figure 2) the deposits comprised sterile sands and clays that extended the full depth of the test pits, the exception being the uppermost layers that had been disturbed by Graving Dock activity. These disturbed layers generally consisted of an upper layer of cobbles with associated concrete beneath.

#### **Test pit 1.1**

### 6.4

Test Pit 1.1 was located near to the north-western corner of Dock 1 (Figure 2). The uppermost deposit of the test pit was composed of an 0.7 m deep layer of general demolition material (001) containing brick, stone, concrete and cobbles in a mid-grey/brown sandy matrix. Beneath this, although only visible in the north-east facing section, were the remains of large sandstone fragments [002] up to approximately 0.15 m in size. Due to the very unstable nature of the test pit this layer could not be fully explored but could represent the remains of a floor or wall of dry stone construction existing to one course in height. Where visible it existed to approximately 0.7 m in length and 0.17 m in height. These sandstone fragments abutted a deposit of orange/grey sand (006) to the west which, where visible, was 0.25m in depth.

### 6.5

Beneath sandstone blocks [002] lay an 0.25 m deep layer of mid-brown firmly compacted sandy silt containing frequent charcoal fleck inclusions (005). This lay above a deposit of orange/grey sand (003) 0.13 m in depth which, in turn, lay over a mid brown sand (004) with frequent rounded and sub-angular stone inclusions up to 0.25 m in size. This latter deposit extended beyond the base of the 3 m deep test pit.

#### **Test Pit 1.4**

### 6.6

Test Pit 1.4 was located to the east of the upstanding though ruinous former pump house (Figure 2). Beneath a cobbled surface layer (016), where the cobbles were approximately 0.15 m wide by 0.25 m in length and 0.2 m in depth, a deposit of dark brown silty sand (017), 0.10 m in depth, was present. This formed the bedding layer for the stone cobbles (016) above.

### 6.7

On the south-western edge of the test pit, very close to the surface and immediately below the sand bedding layer (017), were the remains of a north-west to south-east running red brick wall [073]. This wall, which ran parallel to Graving Dock 1, was approximately 0.15 m wide and existed to only one course in width and height. The brick appeared to correspond to the edge of the cobble surface.

### 6.8

Beneath the cobble bedding layer (017) a 1 m deep deposit of mid brown sand (018) was present which, in turn, lay over a mid-brown sandy clay (019) extending beyond the base of the 3 m deep test pit.

#### **Test Pit 1.5**

### 6.9

Test Pit 1.5 was located to the south-east of Test Pit 1.4 (Figure 2). The surface deposit here comprised a grey/brown silty sand topsoil (020) 0.10 m in depth. Beneath this and running along the full north-eastern side of the trench, a red brick foundation wall [021] was present (Plate 1). This foundation wall was 0.82 m in depth which corresponded to eight courses of brick, with each course stepping out slightly from the top down (Plate

1). Each of the non-frogged bricks measured approximately 0.2 m in length by 0.1 m in width and were 0.07 m in depth. They were bonded by a likely concrete based mortar. Directly beneath the topsoil and abutting against the north-eastern edge of the brick wall [021] were two courses of cobbles (026), each of which were approximately 0.15 m wide by 0.25 m in length and were 0.25 m in depth. The cobbles were not exposed enough to fully ascertain their relationship with the brick wall but it is possible they form some kind of edge to the wall.

#### 6.10

The red brick wall foundation [021] sat directly on top of a 0.35 m deep concrete layer (022). Beneath this concrete was a deposit of mid-brown clay with frequent charcoal fleck inclusions (023). It measured approximately 0.2 m in depth and sat on top of a mid-brown clay (024) which extended beyond the base of the 3 m deep test pit.



Plate 1: Foundation wall [021] in test pit 1.5

#### 6.11

Immediately beneath the topsoil (020) at the eastern edge of the test pit, protruding into the trench by approximately 0.25 m from the north-eastern and south-eastern sections, were the remains of a level concrete surface (025) which existed to approximately 0.25 m in depth.

### Test Pit 2.3

#### 6.12

Test Pit 2.3 was positioned off the north-eastern end of Dock 2 and sat in the centre of two south-east to north-west running rail lines. Beneath a cobbled surface layer (042), similar to that in test pit 1.4 (016), was a deposit of mid-brown sand (043) approximately 0.10 m in depth which acted as a bedding deposit for the cobbles. Below this sand layer was a level concrete surface (043) measuring approximately 0.12 m in depth which, in turn, sat above a thin dark brown sand layer (044) measuring approximately 0.05 m in depth.

#### 6.13

Beneath the thin dark sand deposit (044) was a very large sandstone block [049] measuring at least 1.80 m in length by 0.40 m in height (Plate 2). In section this sandstone block [049] appeared to have had two vertical features cut through it that were located at either end of the test pit (Plate 2). The cut on the north-western side [048] measured 0.17 m in width by 0.4 m in depth while that on the south-eastern side [051] was narrower measuring 0.12 m in width by 0.40 m in depth. The primary fills of each cut comprised sandstone fragments (047 & 052 respectively) which appear to have been used to fill the base of the cuts while the secondary deposit comprised concrete (046 & 050 respectively).

#### 6.14

The large sandstone block [049] and associated cuts [048 & 051] sat directly on top of a further layer of concrete (053), the dimensions of which were not ascertained due to test pit excavation not proceeding beyond this point.



Plate 2: Sandstone block [049] in test pit 2.3

### Test Pit 3.4

#### 6.15

Test Pit 3.4 was located just south of centre from Dock 3 (Figure 2). Beneath a cobbled surface layer (068), similar to that in Test Pits 1.4 and 2.3 (016 & 042 respectively), was a deposit of mid-brown sand (043) approximately 0.10 m in depth which acted as a bedding deposit for the cobbles. Below this sand deposit was a layer of 0.25m deep concrete (070). Beneath this concrete layer was a deposit of grey/brown sand (071) which extended beyond the base of the 2.7 m deep test pit.

#### 6.16

Within sand deposit (071), and located in the centre of the test pit near the north-eastern most section, was a large upright wooden post [072]. The unstable nature of the deposits within the test pit prevented full investigation, however, it appeared to be square in shape, measuring approximately 0.3 m by 0.3 m. It extended from approximately 1.2 m below the surface to beyond the base of the test pit at 2.7 m in depth. No clear evidence of an associated cut was visible within the test pit suggesting the post may have been either pile driven into the sand (071) or that the sand was backfilled around it.

## 7. Discussion and Summary

### 7.1

Of the 16 test pits monitored as part of the archaeological watching brief 5 contained distinct features and deposits most likely relating to graving dock buildings and other structures while the remaining 11 contained layers of sterile sands and clays. It is possible that the absence of clear structural remains within these 11 test pits was due to truncation during later graving dock use, however, the limited size of the test pits prevent this being fully understood. Due to the sterile nature of the sands and clays within these test pits it was not possible to ascertain whether they were natural in origin or redeposited. If redeposited they most likely relate to build up of material during construction of the graving docks.

### 7.2

Overall the distinct industrial archaeological structures and deposits uncovered appeared to lie broadly between the surface and 1.3 m in depth although, in the specific case of Test Pit 3.4 where an upright wooden pole was present, archaeological remains were seen extending beyond 2.7 m in depth. In general the stratigraphy encountered was not complicated, although some degree of complexity was seen in Test Pit 2.3, and did not appear to be truncated.

### 7.3

Given the restricted size of the test pits and the sometimes unstable nature of the deposits encountered within them it was not always possible to fully clean, investigate and record features and deposits of potential archaeological interest. Because of this opportunity for interpretation was often limited but it did appear clear that all the visible remains encountered likely dated from the Graving Dock activity between the late nineteenth and late twentieth centuries.

### 7.4

As might be expected on an industrial site of this nature the remains encountered generally related to brick, sandstone and concrete layers some of which appeared to represent walls and surfaces. Although test pits were not opened over the entire Graving Dock complex there appeared to be a concentration of industrial archaeological remains along the northern side of Dock 1. Historic OS maps of the area do show a concentration of buildings in this area when compared to Docks 2 and 3 which would correspond to the increased presence of potential sub surface structural remains here.

### 7.5

The re-deposited sands and clays uncovered both within the test pits containing no or little industrial archaeology and beneath the industrial archaeology that was encountered most likely relate to ground disturbance that occurred during the construction of the graving docks. Although no evidence was uncovered within the test pits for this these deposits could potential mask pre-graving dock activity.

### 7.6

Although no obvious river deposits were uncovered during the test pitting, if any of the lower deposits were found to comprise undisturbed fluvial layers originating from the River Clyde, there would be potential that they too could hold archaeological evidence relating to periods prior to the Graving Docks.

## 8. Recommendations

### 8.1

Given the archaeological watching brief reported on above has shown that archaeological remains relating to the former Graving Docks do survive it would be recommended that any further phases of ground disturbance that are undertaken as part of pre-planning work are subject to an archaeological watching brief.

### 8.2

Northlight Heritage would stress that these recommendations are intended for guidance only. Final decisions on the requirement for further mitigation would be agreed after consultation with the local planning authority and Historic Environment Scotland.

## 9. List of Sources

Dalglis, C & Driscoll, S 2009, *Historic Govan: Archaeology and Development*. Series: The Scottish burgh survey. Historic Scotland: Edinburgh, UK.

Ordnance Survey First Edition 25 inch to the mile series, Lanarkshire, Sheet VI.9, Surveyed 1858 & Published 1865.

Ordnance Survey Second Edition 25 inch to the mile series, Lanarkshire, Sheet 006.09, Revised 1893/94 & Published 1896.

<http://www.hiddenglasgow.com/GovanGravingDocks/engineering/index2.htm> (Last viewed 7th June 2016)

<http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html> (Last viewed 13th June 2016)

## 10. Appendices

### APPENDIX 1: Tables / Concordances

Table 1: Context Information

<i>Context No.</i>	<i>Type</i>	<i>Approx Length (m)</i>	<i>Approx Width (m)</i>	<i>Approx Depth (m)</i>	<i>Description/Interpretation</i>	<i>Stratigraphy and/or phasing info</i>
001	Deposit	Unknown	Unknown	0.70	General demolition material including brick, stone and concrete rubble	Above 006
002	Structure	Unknown	Unknown	0.17	Remains of a floor surface or wall composed of sandstone blocks - only visible in the north-east facing section. Instability of trench prevented full investigation	Above 005 Below 006
003	Deposit	Unknown	Unknown	0.15	Orange/grey sand	Above 004 Below 005
004	Deposit	Unknown	Unknown	0.20	Mid brown sand with frequent round and sub-angular stone inclusions <0.25 m in size	Below 003
005	Deposit	Unknown	Unknown	0.22	Mid brown firmly compacted sandy silt with frequent charcoal flecks	Above 003 Below 002
006	Deposit	Unknown	Unknown	Unknown	Orange/grey sand	Above 002 Below 001
007	Deposit	Unknown	Unknown	0.20	Grey/brown silty sand topsoil	Above 008
008	Deposit	Unknown	Unknown	0.30	Light brown clay	Above 009 Below 007
009	Deposit	Unknown	Unknown	Unknown	Dark brown sandy clay	Below 008
010	Deposit	Unknown	Unknown	0.20	Grey/brown silty sand topsoil	Above 011
011	Deposit	Unknown	Unknown	0.20	Concrete surface	Above 012 Below 010
012	Deposit	Unknown	Unknown	0.25	Dark brown silty sand with occasional small stone inclusions	Above 013 Below 011
013	Deposit	Unknown	Unknown	1.15	Grey sand	Above 014 Below 012

<i>Context No.</i>	<i>Type</i>	<i>Approx Length (m)</i>	<i>Approx Width (m)</i>	<i>Approx Depth (m)</i>	<i>Description/Interpretation</i>	<i>Stratigraphy and/or phasing info</i>
014	Structure	Unknown	Unknown	0.14	Possible sandstone surface/wall	Above 015 Below 013
015	Deposit	Unknown	Unknown	Unknown	Grey/brown sandy clay	Below 014
016	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 017
017	Deposit	Unknown	Unknown	0.10	Dark brown silty sand bedding for cobbled surface 016	Above 073 Below 016
018	Deposit	Unknown	Unknown	1.00	Mid brown sand	Above 019 Below 073
019	Deposit	Unknown	Unknown	Unknown	Mid brown sandy clay	Below 018
020	Deposit	Unknown	Unknown	0.10	Grey/brown silty sand topsoil	Above 021
021	Structure	Unknown	Unknown	0.82	Stepped red brick foundation wall, 8 courses deep	Above 022 Below 020
022	Deposit	Unknown	Unknown	0.35	Concrete foundation for wall 021	Above 023 Below 021
023	Deposit	Unknown	Unknown	0.20	Mid brown clay with frequent charcoal flecks	Above 024 Below 022
024	Deposit	Unknown	Unknown	Unknown	Mid brown clay	Below 023
025	Deposit	Unknown	Unknown	0.25	Possible remains of a concrete surface, only visible in N and E sections	Above 023 Below 020
026	Structure	Unknown	Unknown	0.20	Two courses wide of cobbles butting the northern side of 021	Above 021
027	Deposit	Unknown	Unknown	0.15	Dark grey gravel/clinker, contained polythene	Above 028 Below 075
028	Deposit	Unknown	Unknown	0.10	Dark brown sandy clay with red brick fragments throughout	Above 029 Below 027
029	Deposit	Unknown	Unknown	2.00	Mid brown sandy clay with sandstone inclusions	Above 030 Below 028
030	Deposit	Unknown	Unknown	Unknown	Grey/orange sand with frequent angular stone inclusions	Below 029
031	Deposit	Unknown	Unknown	0.30	Concrete surface only visible at eastern end of trench	Above 075 Below 074

<i>Context No.</i>	<i>Type</i>	<i>Approx Length (m)</i>	<i>Approx Width (m)</i>	<i>Approx Depth (m)</i>	<i>Description/Interpretation</i>	<i>Stratigraphy and/or phasing info</i>
032	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 033
033	Deposit	Unknown	Unknown	0.10	Dark brown silty sand bedding for cobbled surface 032	Above 034 Below 032
034	Deposit	Unknown	Unknown	0.20	Concrete surface	Above 035 Below 033
035	Deposit	Unknown	Unknown	0.20	Light brown sand	Above 036 Below 034
036	Deposit	Unknown	Unknown	Unknown	Dark brown/grey silty sand	Below 035
037	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 038
038	Deposit	Unknown	Unknown	0.10	Dark brown silty sand bedding for cobbled surface 037	Above 039 Below 037
039	Deposit	Unknown	Unknown	0.2	Concrete surface	Above 040 Below 038
040	Deposit	Unknown	Unknown	2.00	Light brown sand	Above 041 Below 039
041	Deposit	Unknown	Unknown	Unknown	Dark brown sandy clay	Below 040
042	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 043
043	Deposit	Unknown	Unknown	0.10	Mid brown sand bedding for cobbled surface 042	Above 044 Below 042
044	Deposit	Unknown	Unknown	0.20	Concrete surface	Above 045 Below 043
045	Deposit	Unknown	Unknown	0.05	Dark brown sand	Above 046 & 050 Below 044
046	Fill	Unknown	Unknown	0.20	Concrete secondary fill of 048	Above 047 Below 045
047	Fill	Unknown	Unknown	0.20	Sandstone fragment primary infill of cut 048	Above 048 Below 046
048	Cut	Unknown	0.16	0.40	Cut through sandstone surface 049	Above 049 Below 047
049	Structure	Unknown	Unknown	0.40	Possible sandstone surface	Above 053

<i>Context No.</i>	<i>Type</i>	<i>Approx Length (m)</i>	<i>Approx Width (m)</i>	<i>Approx Depth (m)</i>	<i>Description/Interpretation</i>	<i>Stratigraphy and/or phasing info</i>
						Below 048 & 051
050	Fill	Unknown	Unknown	0.20	Concrete secondary fill of 051	Above 052 Below 045
051	Cut	Unknown	0.13	0.20	Cut through sandstone surface 049	Above 049 Below 052
052	Fill	Unknown	0.13	0.20	Sandstone fragment primary fill of cut 051	Above 051 Below 050
053	Deposit	Unknown	Unknown	Unknown	Concrete surface	Below 049
054	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 055
055	Deposit	Unknown	Unknown	0.10	Mid brown sand bedding for cobbled surface 054	Above 056 Below 054
056	Deposit	Unknown	Unknown	0.20	Concrete surface	Above 057 Below 055
057	Deposit	Unknown	Unknown	Unknown	Orange/grey sand	Below 056
058	Deposit	Unknown	Unknown	Unknown	Orange sand	n/a
059	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 060
060	Deposit	Unknown	Unknown	0.10	Mid brown sand bedding for cobbled surface 059	Above 061 Below 059
061	Deposit	Unknown	Unknown	0.20	Concrete surface	Above 062 Below 060
062	Deposit	Unknown	Unknown	0.90	Mid brown sand	Above 063 Below 061
063	Deposit	Unknown	Unknown	Unknown	Concrete surface in northern half of trench running E-W	Below 062
064	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 065
065	Deposit	Unknown	Unknown	0.10	Mid brown sand bedding for cobbled surface 059	Above 066 Below 064
066	Deposit	Unknown	Unknown	0.20	Concrete surface	Above 067 Below 065

<i>Context No.</i>	<i>Type</i>	<i>Approx Length (m)</i>	<i>Approx Width (m)</i>	<i>Approx Depth (m)</i>	<i>Description/Interpretation</i>	<i>Stratigraphy and/or phasing info</i>
067	Deposit	Unknown	Unknown	Unknown	Orange/grey sand	Below 066
068	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 069
069	Deposit	Unknown	Unknown	0.10	Mid brown sand bedding for cobbled surface 059	Above 070 Below 068
070	Deposit	Unknown	Unknown	0.20	Concrete surface	Above 071 Below 069
071	Deposit	Unknown	Unknown	2.20	Grey/brown sand	Above 072 Below 070
072	Structure	0.30	0.30	Unknown	Wooden beam, starts at 1.20 m in depth and still visible at 2.50 m	Below 071
073	Structure	Unknown	0.15	0.15	Red brick wall running in an north-west to south-east direction - visible on the south-western edge of TP4, Dock 1. Exits to only one course in width and height	Above 018 Below 017
074	Deposit	Unknown	Unknown	0.10	Grey/brown silty sand topsoil	Above 031
075	Deposit	Unknown	Unknown	0.10	Mid brown firmly compacted sand	Above 027 Below 031
076	Structure	Unknown	Unknown	0.20	Cobbled surface, cobble size approximately 0.20 x 0.15 x 0.20m deep	Above 077
077	Deposit	Unknown	Unknown	0.10	Mid brown sand bedding for cobbled surface 076	Above 078 Below 076
078	Deposit	Unknown	Unknown	1.50	Grey/brown sand	Above 079 Below 077
079	Deposit	Unknown	Unknown	Unknown	Concrete base in northern half of trench	Below 078
080	Deposit	Unknown	Unknown	Unknown	General demolition material including brick, stone and concrete rubble and mid brown sand	n/a

Table 2: Test Pit Information

Test Pit No.	Length (m)	Width (m)	Depth (m)	Contexts	Archaeology Present
1.1	2.00	0.60	3.00	001 - 006	Yes, see paragraph 6.4-6.5
1.2	2.00	0.60	3.00	007 - 009	No
1.3	2.00	0.60	3.00	010 - 015	No
1.4	2.00	0.60	3.00	016 - 019	Yes, see paragraph 6.6-6.8
1.5	2.00	0.60	3.00	020 - 026	Yes, see paragraph 6.9-6.11
1.6	2.00	0.60	3.00	027 – 031, 074 - 075	No
2.1	2.00	0.60	3.00	037 - 041	No
2.2	2.00	0.60	3.00	032 - 036	No
2.3	2.00	0.60	0.85	042 - 053	Yes, see paragraph 6.12-6.14
2.4	2.00	0.60	2.20	054 - 057	No
3.1	2.00	0.60	3.00	058	No
3.2	2.00	0.60	1.40	059 – 063	No
3.3	2.00	0.60	3.00	064 – 067	No
3.4	2.00	0.60	2.70	068 – 072	Yes, see paragraph 6.15-6.17
3.5	2.00	0.60	1.40	076 – 079	No
3.5a	2.00	0.60	0.50	080	No

Table 3: Drawings

Drawing No.	Sheet No.	Context	Subject	Scale
001	001	001 - 005	North facing section of Test Pit 1.1	1:10
002	002	010 - 015	East facing section of Test Pit 1.3	1:10
003	002	020 - 024	South facing section of Test Pit 1.5	1:10
004	002	021, 022, 024 - 026	Sketch plan of Test Pit 1.5	n/a
005	003	042 - 053	North facing section of Test Pit 2.3	1:10

Table 4: Digital Photographs

Photo No.	Area	Description	From (Site)
1	Dock 1	Upstanding listed building on dock 1	W
2	Dock 1	Pre excavation, TP1.1	N
3	Dock 1	General shot of western end of dock 1	E
4	Dock 1	Pre excavation, TP1.1	E
5	Dock 1	Mid excavation, TP1.1	E
6	Dock 1	Mid excavation, TP1.1	E
7	Dock 1	Mid excavation, TP1.1	E
8	Dock 1	Mid excavation, TP1.1, showing possible wall/floor	N
9	Dock 1	Mid excavation, TP1.1, showing possible wall/floor	N
10	Dock 1	Mid excavation, TP1.1, showing possible wall/floor	N
11	Dock 1	Pre excavation, TP1.2	SE
12	Dock 1	General shot along dock 1	W

<i>Photo No.</i>	<i>Area</i>	<i>Description</i>	<i>From (Site)</i>
13	n/a	General shot towards entrance	NE
14	Dock 1	Working shot	E
15	n/a	General shot of western end of docks	E
16	n/a	General shot across River Clyde	SE
17	Dock 1	Pre excavation, TP1.2	NE
18	Dock 1	Mid excavation, TP1.2	NE
19	Dock 1	Post excavation, TP1.2	N
20	Dock 1	Pre excavation, TP1.3	W
21	Dock 1	Working shot	W
22	Dock 1	Mid excavation, TP1.3 showing concrete surface	W
23	Dock 1	East facing section TP1.3	W
24	Dock 1	East facing section TP1.3	W
25	Dock 1	Post excavation, TP1.3	W
26	Dock 1	Pre excavation, TP1.4	W
27	Dock 1	General shot down dock 1	W
28	Docks 1, 2 & 3	General shot across docks	NE
29	Dock 1	Upstanding listed building on dock 1	E
30	Dock 1	General shot across River Clyde	SW
31	Dock 1	General shot down dock 1	W
32	Dock 1	Mid excavation, TP1.4	SW
33	Dock 1	Mid excavation, TP1.4	SW
34	Dock 1	Mid excavation, TP1.4	W
35	Dock 1	Post excavation, TP1.4	W
36	Dock 1	Pre excavation, TP1.5	W
37	Dock 1	Mid excavation, TP1.5	W
38	Dock 1	Mid excavation, TP1.5	S
39	Dock 1	Mid excavation, TP1.5, possible wall exposed	E
40	Dock 1	Mid excavation TP1.5, foundation wall	SE
41	Dock 1	Mid excavation TP1.5, foundation wall	SE
42	Dock 1	Mid excavation TP1.5, foundation wall	W
43	Dock 1	Mid excavation TP1.5, foundation wall	E
44	Dock 1	Mid excavation TP1.5, foundation wall	S
45	Dock 1	Mid excavation TP1.5, foundation wall	E
46	Dock 1	Mid excavation TP1.5, foundation wall	W
47	Dock 1	Post excavation, TP1.5	E
48	Dock 1	Post excavation, TP1.5	E
49	Dock 1	Pre excavation, TP1.6	E
50	Dock 1	Mid excavation, TP1.6, edge of concrete surface	E
51	Dock 1	Mid excavation, TP1.6, edge of concrete surface	E
52	Dock 1	North facing section, TP1.6	N
53	Dock 1	North facing section, TP1.6	N
54	n/a	General shot across River Clyde	SW
55	Dock 1	General shot down dock 1	W
56	Dock 2	General shot down dock 2	E
57	Docks 1, 2 & 3	General shot across docks	S
58	Docks 1,4	General shot across docks	SE
59	Dock 2	Pre excavation, TP2.1	E
60	Dock 2	Mid excavation, TP2.1, concrete base	E
61	Dock 2	Mid excavation, TP2.1	E
62	Dock 2	North facing section, TP2.1	N
63	Dock 2	North facing section, TP2.1	N
64	Dock 2	Post excavation, TP2.1	E

<i>Photo No.</i>	<i>Area</i>	<i>Description</i>	<i>From (Site)</i>
65	Dock 2	Post excavation, TP2.1	E
66	Dock 2	Pre excavation, TP2.2	W
67	Dock 2	Mid excavation, TP2.2	W
68	Dock 2	Post excavation, TP2.2	W
69	Dock 2	North facing section, TP2.2	N
70	Dock 2	Pre excavation, TP2.3	W
71	Dock 2	Mid excavation, TP2.3, sandstone surface	W
72	Dock 2	Mid excavation, TP2.3, sandstone surface	S
73	Dock 2	Mid excavation, TP2.3, sandstone surface	W
74	Dock 2	Mid excavation, TP2.3, sandstone surface	S
75	Dock 2	Mid excavation, TP2.3, sandstone surface	W
76	Dock 2	Pre excavation, TP2.4	W
77	Dock 2	Post excavation, TP2.4	W
78	Dock 2	North facing section, TP2.4	N
79	Dock 3	Pre excavation, TP3.1	N
80	Dock 3	South facing section, TP3.1	S
81	Dock 3	Post excavation, TP3.1	W
82	Docks 1, 2 & 3	General shot across docks	SW
83	Docks 1, 2 & 3	General shot across docks	W
84	Dock 3	General shot across dock 3	W
85	Dock 3	Pre excavation, TP3.2	W
86	Dock 3	Mid excavation, TP3.2, concrete surface	W
87	Dock 3	Mid excavation, TP3.2, concrete surface	W
88	Dock 3	Mid excavation, TP3.2, concrete surface	S
89	Dock 3	Pre excavation, TP3.3	W
90	Dock 3	Post excavation, TP3.3	W
91	Dock 3	Post excavation, TP3.3	W
92	Dock 3	Pre excavation, TP3.4	W
93	Docks 1, 2 & 3	General shot across docks	SW
94	Docks 1, 2 & 3	General shot across docks	S
95	Docks 1 & 2	General shot across docks	E
96	Docks 1, 2 & 3	General shot across docks	SE
97	Dock 3	Mid excavation, TP3.4, wooden post	W
98	Dock 3	Mid excavation, TP3.4, wooden post	W
99	Dock 3	Mid excavation, TP3.4, wooden post	W
100	Dock 3	Mid excavation, TP3.4, wooden post	W
101	Dock 3	Mid excavation, TP3.4, wooden post	W
102	Docks 1, 2 & 3	General shot across docks	SE
103	Dock2 1 & 2	General shot across River Clyde	SW
104	Dock 3	General shot of eastern end of dock 3	NW
105	Docks 1, 2 & 3	General shot across docks	SE
106	Dock 3	Pre excavation, TP3.5	SW
107	Dock 3	Post excavation, TP3.5	N
108	Dock 3	Post excavation, TP3.5	N
109	Dock 3	Mid-excavation, TP3.5a	E
110	Dock 3	Post-excavation, TP3.5a	E

## APPENDIX 2: Stage 1 Written Scheme of Investigation

Govan Graving Docks, 18 Clydebrae Street, Glasgow

*Ground Investigation*

*Archaeological Works*

*Written Scheme of Investigation*

Prepared by David Sneddon

### **1.0 Non-Technical Summary**

This document sets out Northlight Heritage's Written Scheme of Investigation, on behalf of ZM Architecture, for archaeological works relating to ground investigation on the site of Govan Graving Docks, 18 Clydebrae Street, Glasgow.

This document establishes actions and products required to achieve Stage 1 of a potentially three-stage process, Stage 2 being any further work, including fieldwork arising from Stage 1, such as the development and implementation of a mitigation strategy to deal with any significant archaeology identified or recovered during Stage 1, and Stage 3 being the further analysis of any materials recovered during the field work in either or both Stages 1 and 2 and/or the preparation of a final report on all works constituting preservation by record for publication, as appropriate.

### **2.0 Site Location and Description**

The proposed development site is located at the Govan Graving Docks, 18 Clydebrae Street, Glasgow (NGR: NS 56090 65463). The site is currently disused and is bound by the River Clyde to the north and east, Govan Road to the south and Clydebrae and Stag Streets to the west.

### **3.0 Archaeological and Historical Background**

The heritage interest at the site centres on the presence of three former graving docks and associated structures protected as a Category A Listed Building (LB33336, NMRS No. NS56NE 118, WoSAS Pin 11738).

The dock complex was built for the Clyde Navigation Trust between 1869 and 1898, a time when the Clyde shipyards led the world in the building of sophisticated merchant ships. Given this the complex is of architectural and historic interest in an international context and of major significance in terms of the history of the world shipbuilding.

The northernmost graving dock (Graving Dock 1, NMRS No. NS56NE 118.1) is the oldest of the group (1869-1875), followed by the centre dock (Graving Dock 2, NMRS No. NS56NE 118.2, 1883-1886) and finally the southern dock (Graving Dock 3, NMRS No. NS56NE 118.3, 1894-1898). Docks 1 and 3 were each the deepest in Britain when built.

### **4.0 Project Objectives**

The project objectives are to:

- establish the presence or absence of any archaeological remains which may be encountered during ground breaking works;

- determine the character, extent and significance of any archaeological deposits encountered;
- excavate and record any significant archaeological features or sites encountered during the watching brief that cannot be avoided to ensure preservation through record;
- make sure that the needs for archaeological conservation and recording are met without causing any unnecessary delay or disturbance to the development.

## 5.0 Methodology

### 5.1 *Watching Brief*

The main stages of ground disturbance relating to the ground investigation works will be monitored by a suitably qualified archaeologist. The proposed trial pit locations within the listed eastern part of the Graving Docks site are attached.

Given the relatively small scale of the proposed ground investigation it is anticipated that one archaeologist will be sufficient to monitor all works.

Material will be removed from test pits by a mechanical excavator to the first archaeological horizon or to natural subsoil, whichever is encountered first. Where possible the excavator will be fitted with a flat bladed ditching bucket, however, given at least the upper deposits are suspected to comprise of stone and other hard material, it is likely that a toothed bucket will be utilised throughout much of the test pitting.

Sufficient time will be allowed for the archaeologist conducting the watching brief to obtain an appropriate record of any identified archaeology prior to any further ground investigation work taking place in that area. Where safe to do so any archaeological features encountered will be cleaned by hand to help determine the date of the deposits, their character and extent. Where limited archaeological remains are encountered during the watching brief features and deposits will be excavated and recorded by written description on pro forma recording sheets, by photograph and by measured drawing.

Where appropriate all archaeologically significant excavated feature fills and deposits will be sampled for artefactual and palaeo-environmental evidence. This could also include micromorphological sampling in order to address key issues relating to soil development at the site.

All archaeological finds will be dealt with by the on-site archaeologists. The general practice will be to bulk recover artefacts by context which date from the nineteenth or twentieth century's. Should significant finds be encountered from earlier occupation phases of the site there may be the requirement for three-dimensionally recording prior to up-lifting. Finds which are of particular sensitivity or importance may require specialist conservation assessment.

Where particularly extensive, numerous or complex archaeological deposits or features are proven to be present the developer, Historic Environment Scotland (HES) and the West of Scotland Archaeology Service (WoSAS), acting on behalf of the planning authority, will be informed and discussions, including a site meeting if deemed necessary and appropriate, will be held between all relevant parties to agree the most appropriate strategy. Where preservation *in situ* is not feasible this will generally comprise a need to develop a stage 2 mitigation strategy to excavate and record any significant archaeological features or sites to ensure preservation through record.

WoSAS, acting on behalf of the planning authority, and HES will be the final judge of significance in any case and may require full excavation of features to be destroyed by the proposals.

### 5.2 *Human Remains*

Should human remains be encountered, the local police, HES, WoSAS and the developer will be notified immediately and thereafter prescribed procedure for their treatment will be followed, in accordance with legal requirements.

### 5.3 *Project Monitoring*

HES, WoSAS and the developer will be notified immediately of any unexpectedly significant or complex discoveries, or other unexpected occurrences which might significantly affect the archaeological work and/or the development. In that event, all finds and features will be left *in situ* until arrangements have been agreed for safeguarding or recording them.

An archaeological project manager will be appointed for all the works outlined above and the manager will be the first point of contact for any project-related liaison with HES, WoSAS and the developer or the developer's agent for all formal logistical, administrative and financial aspects of the project.

It will be important to ensure that all formal communications, instructions and/or requests (including any proposed amendments to on-site strategies) are ultimately made in writing to the project manager, to ensure organisational, administrative and financial efficiency.

Any site visitors, including representatives of HES and WoSAS will be required to conform to the health and safety regime in place during the fieldwork programme.

## **6.0 Reporting, Archive & Small Finds Arrangements**

Following completion of the fieldwork, a report on the fieldwork will be prepared, outlining the main results and incorporating lists of all features, finds, samples, photographs and drawings. This report will be produced as an electronic report (and a desk-top published document where this is required). The report will also include recommendations for further mitigation measures appropriate to the remains encountered. Implementation of any recommendations offered would, however, only follow consultation with HES and WoSAS.

The report will be prepared, in structural and textual content terms, to the standard of the traditional Data Structure Report (DSR) as defined by Historic Scotland, in their "Project Design, Implementation and Archiving" document (Historic Scotland Archaeological Procedure Paper 2, 1996). The report will provide "a structure or organisation to the primary records" of the fieldwork, forming "a basis for further work". It will be "essentially, an initial organisation on paper of the information retrieved from the site" and consist "of a narrative account of the contexts...discovered, including field interpretations and a set of lists. It is not intended for publication, but will itself be archived." A project archive will be prepared and made ready for submission within six months of the completion of all fieldwork or post-excavation work (as appropriate). The resultant site archive will be deposited with the National Monuments Records for Scotland.

A short report detailing the results will also be submitted for publication in *Discovery and Excavation in Scotland* and to *OASIS*.

Copies of the DSR will be provided to HES, WoSAS the developer and to the National Monuments Record for Scotland. Further copies can be distributed to other recipients if requested and specified.

The results of the Stage 1 watching brief and DSR will inform the need for further (Stage 2) fieldwork or further (Stage 3) analysis of materials/generation of a report for publication. Where appropriate and on request any DSR produced as part of Stage 1 or Stage 2 mitigation will be followed the production of a costed Post-

excavation Research Design (PERD) specifying any work deemed necessary in order to complete the project. Publication, where required, would normally be sought in a suitable academic journal. The post-excavation process is essential to bring a piece of archaeological work to completion.

The laws relating to Treasure Trove and *Bona Vacantia* in Scotland apply to all finds where the original owner cannot be identified. This includes all material recovered during archaeological fieldwork. Accordingly, all assemblages recovered from archaeological fieldwork are claimed automatically by the Crown and must be reported to the Scottish Archaeological Finds Allocation Panel through its secretariat, the Treasure Trove Unit. In the event of the discovery of small finds during the evaluation or any subsequent stages of work, a filled-out copy of the form "Declaration of an Archaeological Assemblage from Fieldwork" and two copies of the pertinent Data Structure Report will be submitted to the Panel at the conclusion of the fieldwork. The Panel will then be responsible for recommending to the Queen's and Lord Treasurer's Remembrancer (QLTR) which museum should be allocated the finds.

All artefacts will be stored temporarily by Northlight until a decision has been made by the Panel regarding the museum which will be allocated the finds for permanent curation. All finds will be transferred to the appropriate museum within six months of completion of the fieldwork, if no post-excavation work is required, or at the end of the latest finishing post-excavation programme.

In the event that unallocated finds recovered from the ground investigation or any later stages of work require to be removed from Scotland, for the purposes of post-excavation analysis, there is a legal requirement to obtain the consent of the QLTR, in the form of a loan agreement. Initially, an indication of intent would be registered with the Treasure Trove Secretariat at the National Museums of Scotland, after which formal consent would be applied for using the form "Application for authority to borrow unallocated Treasure Trove for research purposes". A consent form, signed by the QLTR and specifying conditions (such as the period during which finds may be held outside Scotland) would then be issued. Receipt of this signed consent form will be required before items may be removed from the country.

### **7.0 Timetable**

It is expected that the watching brief during ground investigation will be undertaken during June 2016.

The DSR will be submitted within 4 weeks of completion of field work. If required any PERD will be submitted within 3 months of HES and WoSAS agreement to the DSR and any final publication will be submitted within a year of agreement to the PERD.

### **8.0 Staffing**

Project Manager – David Sneddon

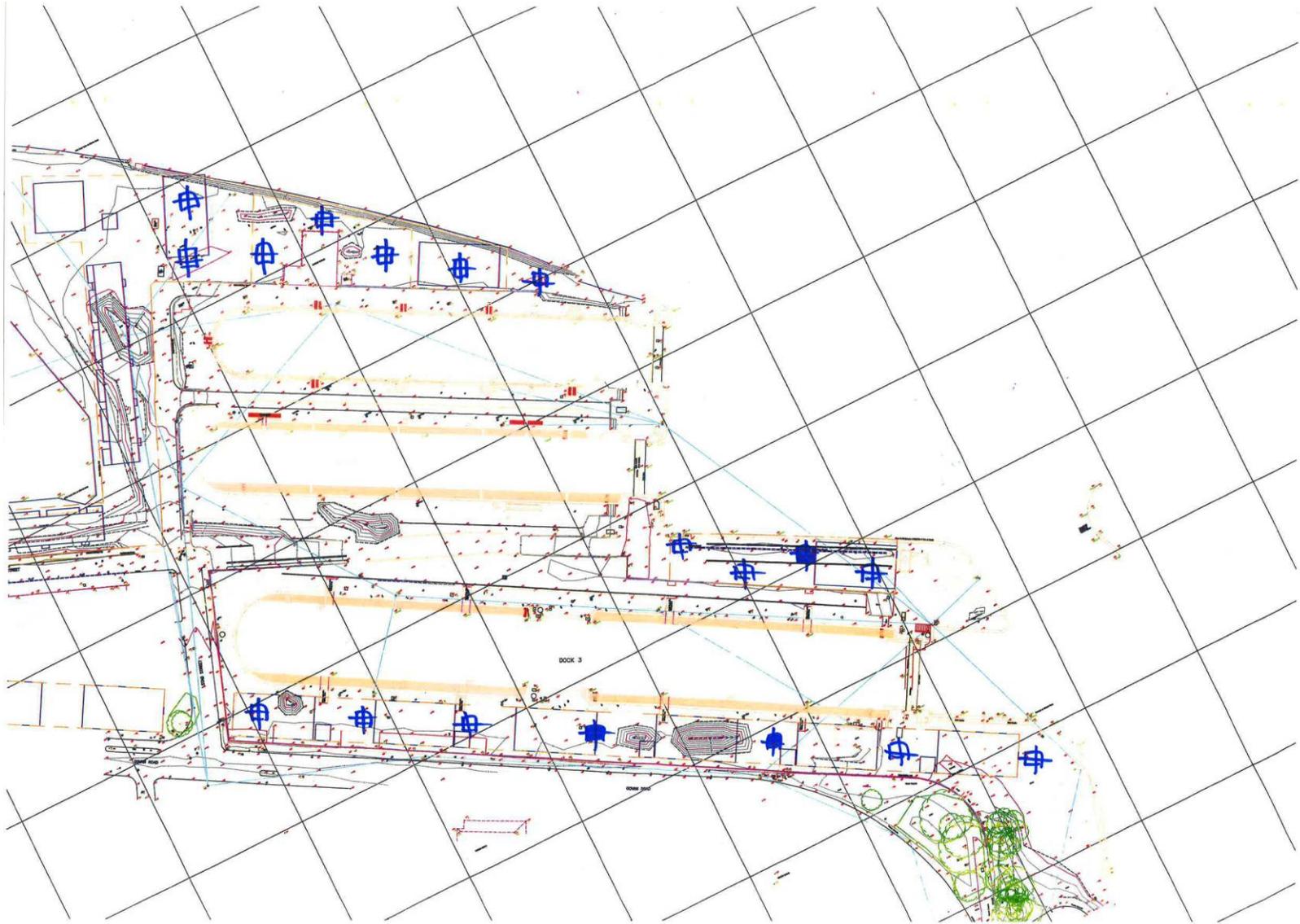
Project Director – TBC

### **9.0 Health and Safety**

Prior to fieldwork commencing a risk assessment of the project will be undertaken. Northlight Heritage, as part of York Archaeological Trust, adheres to all standard Health and Safety regulations governing fieldwork projects.

Northlight Heritage also possesses appropriate third party/public liability insurance cover, proof of which may be supplied upon request.

10.0 Trial Pit Location Plan



## APPENDIX 3: DES

<b>LOCAL AUTHORITY:</b>	City of Glasgow
<b>PROJECT TITLE/SITE NAME:</b>	Govan Graving Docks
<b>PROJECT CODE:</b>	607
<b>PARISH:</b>	Glasgow (City of Glasgow)
<b>NAME OF CONTRIBUTOR:</b>	Steven Black
<b>NAME OF ORGANISATION:</b>	Northlight Heritage
<b>TYPE(S) OF PROJECT:</b>	Watching brief
<b>NMRS NO(S):</b>	NS56NE 118
<b>SITE/MONUMENT TYPE(S):</b>	Category A Listed Building - Former Graving Docks
<b>SIGNIFICANT FINDS:</b>	None
<b>NGR (2 letters, 8 or 10 figures)</b>	NS 56090 65463
<b>START DATE (this season)</b>	8 <sup>th</sup> June 2016
<b>END DATE (this season)</b>	10 <sup>th</sup> June 2016
<b>PREVIOUS WORK (incl. DES ref.)</b>	None known
<b>MAIN (NARRATIVE) DESCRIPTION:</b> (May include information from other fields)	An archaeological watching brief was undertaken during ground investigation work at Govan Graving Docks, 18 Clydebrae, Glasgow on behalf of New City Vision Ltd. The work was conducted between 8 <sup>th</sup> and 10 <sup>th</sup> June 2016 and focused on the area around three former graving docks, along with their associated structures, all protected as a Category A Listed Building (LB33336). A series of 16 test pits were excavated as part of the ground investigation works. Distinct structural archaeology was noted in 5 of the test pits all of which appeared to relate the graving docks and took the form of various brick, sandstone and concrete walls and surfaces.
<b>PROPOSED FUTURE WORK:</b>	Watching brief on secondary phase of test pitting
<b>CAPTION(S) FOR ILLUSTRS:</b>	n/a
<b>SPONSOR OR FUNDING BODY:</b>	New City Vision Ltd.
<b>ADDRESS OF MAIN CONTRIBUTOR:</b>	Northlight Heritage, Studio 406, South Block, 64 Osborne Street, Glasgow G1 5QT
<b>EMAIL ADDRESS:</b>	northlight@yorkat.co.uk
<b>ARCHIVE LOCATION (intended/deposited)</b>	National Monuments Record of Scotland (intended)