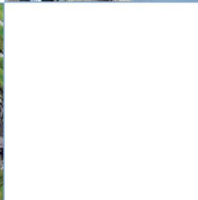
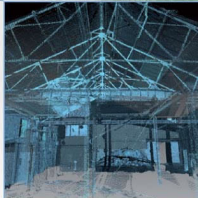


Gasholders No 7 and No 8, Bell Green, Sydenham, Historic Building Recording Final Report

AOC Project No: 23686_K

10th January, 2020



ARCHAEOLOGY

HERITAGE

CONSERVATION

Gasholders No 7 and No 8, Bell Green, Sydenham Historic Building Recording Final Report

On Behalf of: Montagu Evans
Fourth Floor
Exchange Tower
19 Canning Street
Edinburgh
EH3 8EG

On behalf of:
SGN

National Grid Reference (NGR): Gasholder No 7: TQ 36587 72054
Gasholder No 8: TQ 36594 72112

AOC Project No: 23686_K

OASIS No: Gasholder No 7: 309883
Gasholder No 8: 309884

3D Laser Survey produced by: Glanville
Cornerstone House
62 Foxhall Road
Didcot
Oxfordshire
OX11 7AD

Report Prepared by: Diana Sproat
Gemma Hudson
Jamie Humble
Les Capon

This document has been prepared in accordance with AOC standard operating procedures.

Author: Diana Sproat & Gemma Hudson

Date: 10th January 2020

Approved by: Diana Sproat

Date: 10th January 2020

Draft/Final Report Stage: Final

Date: 10th January 2020

Enquiries to: AOC Archaeology Group
Edgefield Industrial Estate
Edgefield Road
Loanhead
EH20 9SY

Tel. 0131 440 3593

Fax. 0131 440 3422

e-mail. admin@aocarchaeology.com

Contents

Page

List of Figures	iv
List of Plates	4
List of Appendices.....	5
<i>Summary</i>	2
1 INTRODUCTION	2
1.1 Project Background	2
1.2 Site Location	2
2 OBJECTIVES	2
3 METHODOLOGY	2
3.1 Introduction	2
3.2 Archive Research	2
3.3 Photographic record	3
3.4 Written record	3
3.5 Measured Survey	3
4 HISTORICAL BACKGROUND	4
5 THE GASHOLDERS.....	12
5.1 Introduction	12
5.2 Gasholder No 7	12
5.3 Gasholder No 8	13
6 DISCUSSION	14
6.1 Background to Guide Framed Gasholders in the UK	14
6.2 Gasholders No 7 and No 8	14
6.3 The Surviving Gasholders at Bell Green in the Wider National Context	14
7 CONCLUSIONS	15
8 REFERENCES	15
8.1 Bibliography and Bibliographical references	15
8.2 Cartographic references	16
8.2 SGN Archive drawings	16
APPENDIX 1: DIGITAL PHOTOGRAPHIC RECORD	17
APPENDIX 2: RECORDS HELD BY THE NATIONAL GAS ARCHIVE	26
APPENDIX 3: HE LISTING ASSESSMENT REPORTS	27
APPENDIX 4: ARCHIVE DRAWINGS OF GASHOLDER NO 7 AND NO 8 HELD BY SGN	28

List of Figures

- Figure 1: Site location plan
 Figure 2: Extract from Ordnance Survey, 1870
 Figure 3: Extract from Ordnance Survey, 1896
 Figure 4: Extract from Ordnance Survey, 1919
 Figure 5: Archive photograph of the entrance to the Bell Green Gasworks, 1932 © National Gas Archive
 Figure 6: Archive photograph of the power house of the Bell Green Gasworks, 1932 © National Gas Archive
 Figure 7: Archive photograph of Gasholders No 7 and No 8 from the south, 1932 © National Gas Archive
 Figure 8: Extract from Ordnance Survey, 1947
 Figure 9: General view of Gasholder No 7 after bomb damage during the War, 1940 © National Gas Archive
 Figure 10: Undated aerial photograph of the Bell Green Gasworks, mid-20th century © National Gas Archive
 Figure 11: Archive plan of the Bell Green Gasworks, 1949 © National Gas Archive
 Figure 12: Archive plan of the Gasholders No 4, 5, 7 and 8 and their associated pipework, 1961 © National Gas Archive
 Figure 13: Archive plan of the Bell Green Gasworks showing the intended demolitions in advance of new development, 1991 © National Gas Archive
 Figure 14: Bell Green, Sydenham, Detailed Site Plan
 Figure 15: Bell Green, Sydenham, Gasholder No 7, detailed site plan
 Figure 16: Bell Green, Sydenham, Gasholder No 7, section of the guide frame
 Figure 17: Bell Green, Sydenham, Gasholder No 7, orthographic images of gasholder, showing all elevations
 Figure 18: Bell Green, Sydenham, Gasholder No 7, north-facing sample elevation
 Figure 19: Bell Green, Sydenham, Gasholder No 8, detailed site plan
 Figure 20: Bell Green, Sydenham, Gasholder No 8, section of the guide frame
 Figure 21: Bell Green, Sydenham, Gasholder No 8, orthographic images of gasholder, showing all elevations
 Figure 22: Bell Green, Sydenham, Gasholder No 8, south-facing sample elevation

List of Plates

- Plate 1: Bell Green, Sydenham, Gasholder Nos 7 & 8, general view from the south-east
 Plate 2: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the south-east
 Plate 3: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the east
 Plate 4: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the ENE
 Plate 5: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the ESE
 Plate 6: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the south
 Plate 7: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the south-east
 Plate 8: Bell Green, Sydenham, Gasholder No 7, detail of the diagonal bracing between the standards from the west
 Plate 9: Bell Green, Sydenham, Gasholder No 7, detail of the diagonal bracing between No 13 and 14 standards from the NNE
 Plate 10: Bell Green, Sydenham, Gasholder No 7, detail of the diagonal bracing between the standards from the NNW
 Plate 11: Bell Green, Sydenham, Gasholder No 7, detail of the base of No 2 standard from the NNE
 Plate 12: Bell Green, Sydenham, Gasholder No 7, detail of the base of No 2 standard from the east
 Plate 13: Bell Green, Sydenham, Gasholder No 7, detail of the guided rollers behind No 1 standard from the SSE
 Plate 14: Bell Green, Sydenham, Gasholder No 7, detail of the guided rollers behind No 2 standard from the north-east
 Plate 15: Bell Green, Sydenham, Gasholder No 7, detail of the guided rollers behind No 4 standard from the SSE
 Plate 16: Bell Green, Sydenham, Gasholder No 7, detail of the guided rollers behind No 7 standard from the SSE
 Plate 17: Bell Green, Sydenham, Gasholder No 7, close detail of the guided rollers behind No 7 standard from the SSE
 Plate 18: Bell Green, Sydenham, Gasholder No 7, general view of the crown of the gasholder from the south-east
 Plate 19: Bell Green, Sydenham, Gasholder No 7, general view of the crown of the gasholder from the ESE
 Plate 20: Bell Green, Sydenham, Gasholder No 7, general view looking up at access ladders and gantries between No 3 and No 4 standards from the SSE
 Plate 21: Bell Green, Sydenham, Gasholder No 7, general view of the tank wall, from the south
 Plate 22: Bell Green, Sydenham, Gasholder No 7, general view of the crown rest frame, from the north © Keltbray
 Plate 23: Bell Green, Sydenham, Gasholder No 7, general view of the central support post, from the north
 Plate 24: Bell Green, Sydenham, Gasholder No 7, general view of the dumping and support frame, from the east
 Plate 25: Bell Green, Sydenham, Gasholder No 7, general view of the outermost upright posts with metal support bracket, and lattice standards within the bell, from the south-east
 Plate 26: Bell Green, Sydenham, Gasholder No 7, detail view of the metal fixture attaching the uprights and dome timbers, from the east
 Plate 27: Bell Green, Sydenham, Gasholder No 7, general view of the pipework to the east of the gasholder from the south-east
 Plate 28: Bell Green, Sydenham, Gasholder No 7, close detail of the pipework to the east side of the gasholder, from the south-west
 Plate 29: Bell Green, Sydenham, Gasholder No 8, general view of the gasholder frame from the SSE
 Plate 30: Bell Green, Sydenham, Gasholder No 8, general view of the gasholder frame from the SSE
 Plate 31: Bell Green, Sydenham, Gasholder No 8, general view of the gasholder frame from the south-west
 Plate 32: Bell Green, Sydenham, Gasholder No 8, general view of the gasholder frame from the SSW
 Plate 33: Bell Green, Sydenham, Gasholder No 8, detail of the diagonal bracing between the standards from the SSE
 Plate 34: Bell Green, Sydenham, Gasholder No 8, detail of the foot of No 4 standard from the south-west

- Plate 35: Bell Green, Sydenham, Gasholder No 8, detail of the foot of No 10 standard from the north
- Plate 36: Bell Green, Sydenham, Gasholder No 2, detail of the foot of No 4 standard from the SSE
- Plate 37: Bell Green, Sydenham, Gasholder No 8, detail of the guided rollers behind No 1 standard from the south-west
- Plate 38: Bell Green, Sydenham, Gasholder No 8, detail of the guided rollers behind No 7 standard from the SSW
- Plate 39: Bell Green, Sydenham, Gasholder No 8, general view of the crown of the gasholder from the south-west
- Plate 40: Bell Green, Sydenham, Gasholder No 8, general view of the crown of the gasholder from the WNW
- Plate 41: Bell Green, Sydenham, Gasholder No 8, general view looking up at the access ladders and gantries between No 4 and No 5 standards from the south-west
- Plate 42: Bell Green, Sydenham, Gasholder No 8, general view of the bell outer lift wall, from the east
- Plate 43: Bell Green, Sydenham, Gasholder No 8, general view of the dumpling and crown rest frame, from the south © Keltbray
- Plate 44: Bell Green, Sydenham, Gasholder No 8, general view of the dumpling with raised linear, radial design
- Plate 45: Bell Green, Sydenham, Gasholder No 8, detail view of the upright posts base within a concrete block, from the south-east
- Plate 46: Bell Green, Sydenham, Gasholder No 8, general view of the outer ring of upright and leaning posts with metal bracket holding them together, from the south-west
- Plate 47: Bell Green, Sydenham, Gasholder No 8, detail of the metal fixtures attaching the upright poles to the dome frame, from the west
- Plate 48: Bell Green, Sydenham, Gasholder No 8, detail view of the I-shape standards attached to the bell inner lift interior wall, from the SSW
- Plate 49: Bell Green, Sydenham, Gasholder No 8, detail view of the inlet/outlet pipe, from the south-west
- Plate 50: Bell Green, Sydenham, Gasholder No 8, detail of small brick enclosure between No 3 and No 4 standards from the south
- Plate 51: Bell Green, Sydenham, Gasholder No 8, general view of the pipework to the south-east of the gasholder from the south-east
- Plate 52: Bell Green, Sydenham, Gasholder No 8, detail of the pipework to the south-east of the gasholder from the east

List of Appendices

Appendix 1: Photographic Register with Plate and Photograph Location Plans

- 1a: Bell Green, Sydenham, Site Plan with plate locations
- 1b: Gasholder No 7 photographic register
- 1c: Bell Green, Sydenham, Gasholder No 7, site plan with locations of photographs taken during the Phase I survey
- 1d: Bell Green, Sydenham, Gasholder No 7, site plan with locations of photographs taken during the Phase II survey
- 1e: Gasholder No 8 photographic register
- 1f: Bell Green, Sydenham, Gasholder No 8, site plan with locations of photographs taken during the Phase I survey
- 1g: Bell Green, Sydenham, Gasholder No 8, site plan with locations of photographs taken during the Phase II survey

Appendix 2: Records Held by the National Gas Archive

Appendix 3: HE Listing Assessment Reports

Appendix 4: SGN Archive Drawings

- 4a: Gasholder No 7, cup-and-grip detail added 07-05-57
- 4b: Gasholder No 7, the tank
- 4c: Gasholder No 7, the framing
- 4d: Gasholder No 7, inlet and outlet pipes
- 4e: Gasholder No 7, standards
- 4f: Gasholder No 7, standards
- 4g: Gasholder No 7, details
- 4h: Gasholder No 8, concrete tank
- 4i: Gasholder No 8, details
- 4j: Gasholder No 8, timber framing
- 4k: Gasholder No 8, details
- 4l: Gasholder No 8, details
- 4m: Gasholder No 8, elevation of standards

Summary

AOC Archaeology Group was commissioned by SGN to undertake an historic building survey of the two redundant gasholders at Bell Green in Sydenham, Greater London.

The two remaining gasholders on the site are Gasholder No 7, built in 1882, and Gasholder No 8 (to the north of No 7) built in 1890. Both are frame-guided 'Type 30' holders constructed to a design by Charles Gandon and were part of the major late 19th century expansion of the former Crystal Palace District Gasworks which originated in the 1850s. The rest of the gasholders and gasworks buildings were demolished in the early 1990s to make way for new development, including a large retail park to the east of the present gasholder compound.

The two surviving gasholders at Bell Green are typical, although not early, examples of wrought iron lattice framed holders. They both have four-lift bells rising on radial rollers from inground tanks. Their construction is more or less identical (No 8 is larger than No 7 by two standards), with only a few minor differences to the overall structural framework such as to the base of the standards and the guided roller carriages. Their timber crown rest frames are typical of their construction date, although the raised linear design on the dumpling of Gasholder No 8 is unusual.

1 INTRODUCTION

1.1 Project Background

1.1.1 AOC Archaeology Group was commissioned by SGN to undertake a survey of the two redundant gasholders at Bell Green in Sydenham, Greater London. The work has been undertaken in advance of a wider programme involving the decommissioning and dismantling of the remaining redundant gasholders in the UK operated by SGN. A Phase I survey was carried out prior to the demolition of the gasholders and a Phase II survey was then completed during demolition to record the interior of the below ground tanks.

1.2 Site Location

1.2.1 The two gasholders are located in Lower Sydenham within the London Borough of Lewisham to the east side of Perry Hill and to the north side of Perry Rise (B227). They are situated within a gasholder compound 1.8 acres in size (Figure 1). The NGR of the gasholders are:

Gasholder No 7: TQ 36587 72054

Gasholder No 8: TQ 36594 72112

To the east is a large retail park and to the north is the Tudor Livesey Sport and Social Club.

2 OBJECTIVES

2.1 The objective of the historic building survey was to create a 'preservation by record' of the redundant gasholders immediately prior to and during their demolition through archive research, written record, photographic record and measured survey. An additional objective was to identify the history and development of the gasworks site from its origins to its decommissioning and provide an overview of the gasholders within their wider regional and national context.

3 METHODOLOGY

3.1 Introduction

3.1.1 The work was undertaken to a brief provided by Montagu Evans (2017a) and included an archive search for early or original plans and elevations of the gasholder and an on-site written, photographic and measured survey record.

3.2 Archive Research

3.2.1 A general map-regression exercise was undertaken on the site to determine the general history and development of the gasworks and gasholders at Bell Green. All publicly accessible pre-Ordnance Survey maps and Ordnance Survey maps were viewed, and a selection have been included in this report.

3.2.2 The following archives were consulted to identify early/original archives and drawings of the site/gasholders:

- The English Heritage Archives

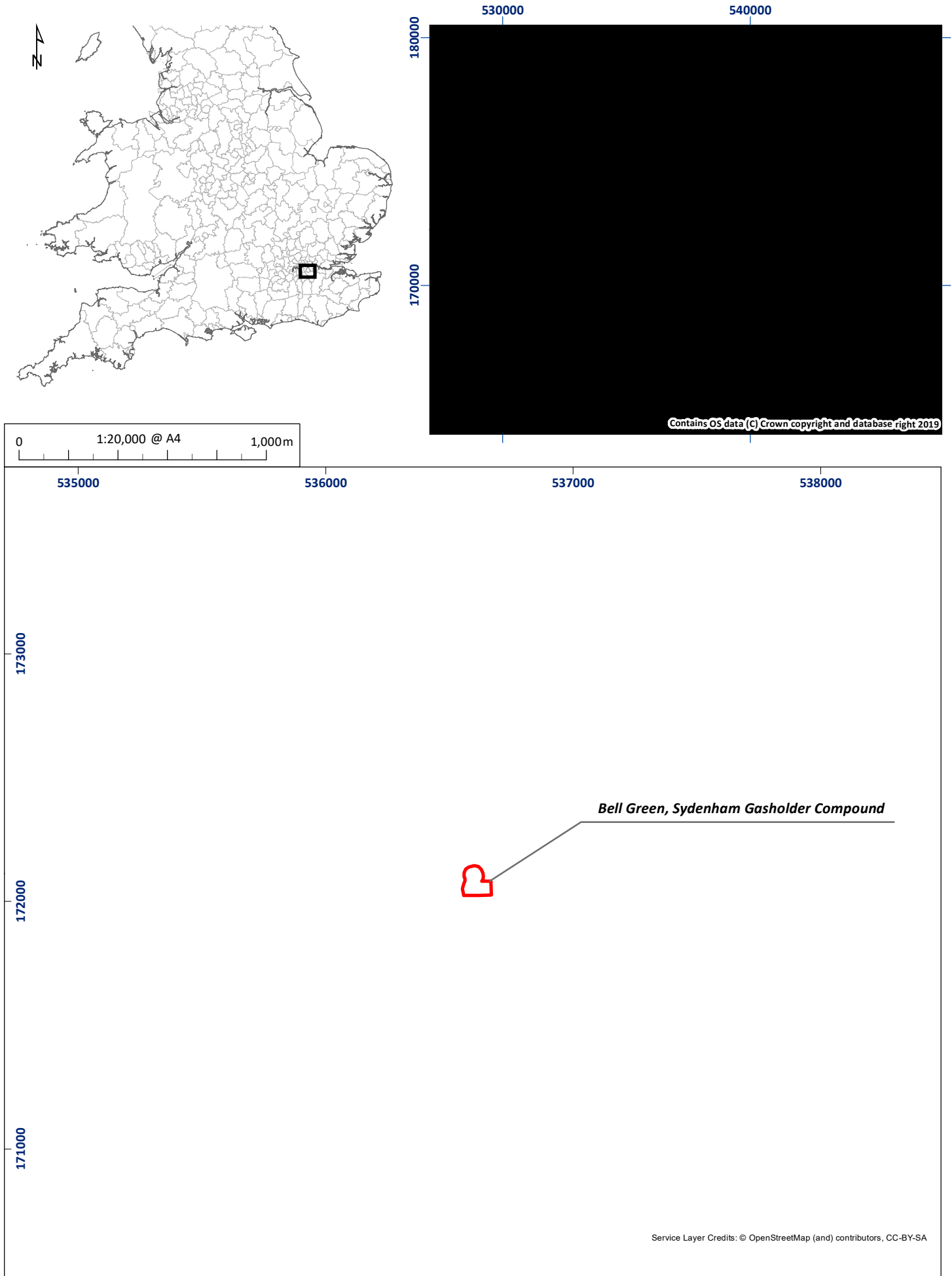


Figure 1: Site location plan

01/23686K/REP_PII/01/01

- No records (drawn or photographic) of the gasholders are known to exist in these archives.
- National Gas Archive, Warrington
 - A number of records for the Sydenham gasworks site are held within these archives. These have been listed in Appendix 2, and a selection of archive plans and photographs have been included in this report.
- National Monuments Record, Swindon
 - No records (drawn or photographic) of the gasholders are known to exist in these archives (at the time of writing the structures are not listed). However, some directors' and committee meeting minutes are stored in the archives, Ref Nos: B/CPG B/Ph.G; B/SLon.G; B/SMet.G; B/Sy.CG; B/Syd.G; B/WPG; B/WWG; B/WEq.G and B/WPCG. These are noted to be stored in the London Metropolitan Archives in London.
- Additional archive drawings dating from the 1960s – 1990s are also currently being held by SGN. These were supplied to AOC via the demolition contractor, Keltbray, during the Phase II works, and a selection of relevant drawings relating to Gasholders No 7 and No 8 have been included here in Appendix 4.

3.3 Photographic record

- 3.3.1 A general exterior photographic survey was undertaken of the gasholders in colour digital using a digital SLR camera in both .JPG and .RAW format during both phases of the works. In addition, detail shots of features such as structural elements, pipework, stairs and roller carriages were also taken. A discreetly placed 1m or 0.5m ranging pole was placed in all shots where access and health and safety allowed for scale. All photographs have been given the reference 'SYD' followed by the Gasholder No '07' or '08' and then the reference number of the digital image.
- 3.3.2 A register of photographs was taken on site and can be found in Appendix 1, and a selection of digital photographs have also been used as plates to illustrate this report (Plates 1 – 52).
- 3.3.3 In addition, several photographs were taken by the demolition contractors, Keltbray, during the Phase II works, from a crane during the demolition process, which allowed general views of the opened-up holder to be observed and viewed (Plates 22 & 43).

3.4 Written record

- 3.4.1 A written survey was undertaken of the exterior of the gasholders using AOC *pro forma* recording sheets with comment on condition, construction, features, fixtures and fittings, modern interventions, architectural and structural detail, evidence for phasing and function and anything else pertinent to the historic record.

3.5 Measured Survey

- 3.5.1 The measured survey was undertaken by Glanville, and the raw point cloud data was supplied to AOC by SGN. From this outsourced data plans, sections and sample elevations, together with detailed point cloud data showing the entirety of each gasholder in elevation, have been reproduced in this report as Figures 15 - 22. For a detailed methodology of the on-site laser scan survey, the original contractor should be contacted at the following address:

Glanville
 Cornerstone House
 62 Foxhall Road
 Didcot
 Oxfordshire
 OX11 7AD
 01235 515550
www.glanvillegroup.com

4 HISTORICAL BACKGROUND

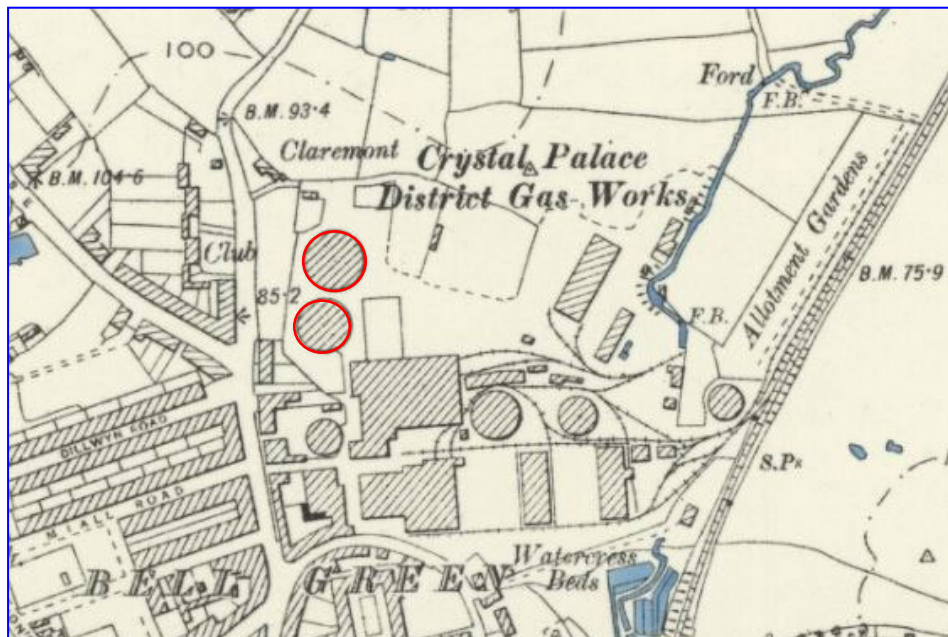
- 4.1 The gasworks site at Bell Green originated as the North Surrey Gas Company in 1853 (Montagu Evans 2017b). It was then acquired a year later by the Crystal Palace District Gas Company. The 1870 Ordnance Survey map shows the extent of the gasworks some 17 years after its establishment, comprising a single gasholder with a large rectangular building to its south-east (possibly a retort house) and additional tanks to the east (Figure 2). There is also another smaller gasworks located to the south of Southend Lane and Bell Green which contains two smaller gasholders with an adjacent gasworks buildings to the north.



Figure 2: Extract from Ordnance Survey map, 1870
(the future position of Gasholders No 7 and No 8 are outlined in blue, to the north of the original gasworks)

- 4.2 In the mid-1880s, George Livesey, a major figure in the history of gas production, was appointed chairman of the company. George Thomas Livesey (1834 – 1908) was the eldest son of Thomas Livesey, also renowned in the gas industry of the 19th century. In 1855 he was made assistant engineer at the South Metropolitan Company (apprenticed under his father since the age of 14) and gradually took over the management of the

works in the next seven years, appointed as an engineer in 1862 (Institute of Civil Engineers 1908). At the time, he personally oversaw the expansion of the gasworks site at Old Kent Road. He was appointed secretary of the company after his father's death in 1871 and over the next 10 years was responsible for many innovations and inventions in the gas industry including the 'Livesey Washer' and the Livesey Scrubber' (*ibid*). Once director of the Crystal Palace District Company in 1885, he oversaw the expansion of the Sydenham works – as he had done at Old Kent Road in the 1860s – the result of which can be seen in the 1896 Ordnance Survey map (Figure 3). Here, five more gasholders, all larger than the original, have been added to the north and east of the site since the 1870 map. The original gasworks building has also been expanded and joined by four other large structures and smaller ancillary gasworks buildings with an extensive tramway now around the site. It is here that we can see Gasholders No 7 and No 8 – now the only surviving holders on the site – for the first time (outlined in red in Figure 3). Gasholder No 7 was constructed in 1882 and Gasholder No 8 in 1890, both to the same design by Charles Gandon (1837 – 1902) who had previously worked for the Ottoman Gas Company in Smyrna in Turkey (HE 2017a; HE 2017b). Gandon at the time resided at Abergeldie Lodge,



adjacent to Gasholder No 7, and he was also President of the Society of Engineers and Gas Institute between 1885 – 1888 (HoL/HoP 2017). George Livesey is also credited with having a hand in the design of the gasholders (*ibid*). Also at the time of the great expansion, Livesey involved the company in profit-sharing or co-partnership, which saw fair employment practices, consultation and elected board members (Montagu Evans 2017b). This effectively de-centralised control of the gasworks.

Figure 3: Extract from Ordnance Survey map, 1896 (the surviving gasholders No 7 (south) and No 8 (north) are circled in red)

- 4.3 The Crystal Palace District Gas Company became the South Suburban Gas Company in 1904, and a few years later in 1911, a memorial hall was built in the memory of George Livesey to the north of the site for his contribution to the Sydenham gasworks and gas engineering industry in general. A report in the Gas Journal that same year describes the gasworks at this time noting that the district supply covered 15 square miles with 380 employees in total (Montagu Evans 2017b). There was also a brickworks on the site which was able to produce firebricks on site for construction and repair of the gasworks buildings (Montagu Evans 2016). A few years prior, in 1907, flying lifts had been added to both the No 7 and No 8 gasholders, so they now consisted of four-lift bells rising on radial rollers from inground tanks (HE 2017a; HE 2017b). In 1912, the company purchased the undertakings of Bromley and Cray and the West Kent companies (Gas Journal 1929).
- 4.4 The 1919 Ordnance Survey map shows the extent of the gasworks in the early 20th century (Figure 4). Only one small additional gasholder was added to the north-east of the site, and more land was purchased to the south to expand one of the retort houses. More tramways were also added and some gasworks buildings

enlarged. That same year the company also acquired the Dartford Company and the Northfleet Company, meaning that the area of district supply reached 175 square miles (Gas Journal 1929).



Figure 4: Extract from Ordnance Survey map, 1919 (the surviving gasholders No 7 (south) and No 8 (north) are circled in red)

4.5 In 1929, the Gas Journal reported on a site visit by the Institute of Gas Engineers, and several photographs of the works were published in this article, including the main entrance (Figure 5), the power house (Figure 6) and the Gasholders No 7 and No 8 themselves (Figure 7). The total manufacturing capacity at the works at the time was described as being 52,250 therms of coal gas and 12,600 therms of water gas. There were four retort houses on the site, one of which was not in use, the largest of which (No 5) had the capacity to burn 290 tons of coal in 24 hours using 170 retorts (Gas Journal 1932, 584). The gasholders themselves (four at this time) are noted as having a capacity of 7,500,000 ft³ (212,376m³), the largest (No 8) holding 3,500,00 ft³ (99,109m³). A visit by the London and Southern District Junior Gas Association in April 1932 also offers a brief description of the site as noted in the Gas Journal of the time, providing similar detail of the site to the 1929 article.

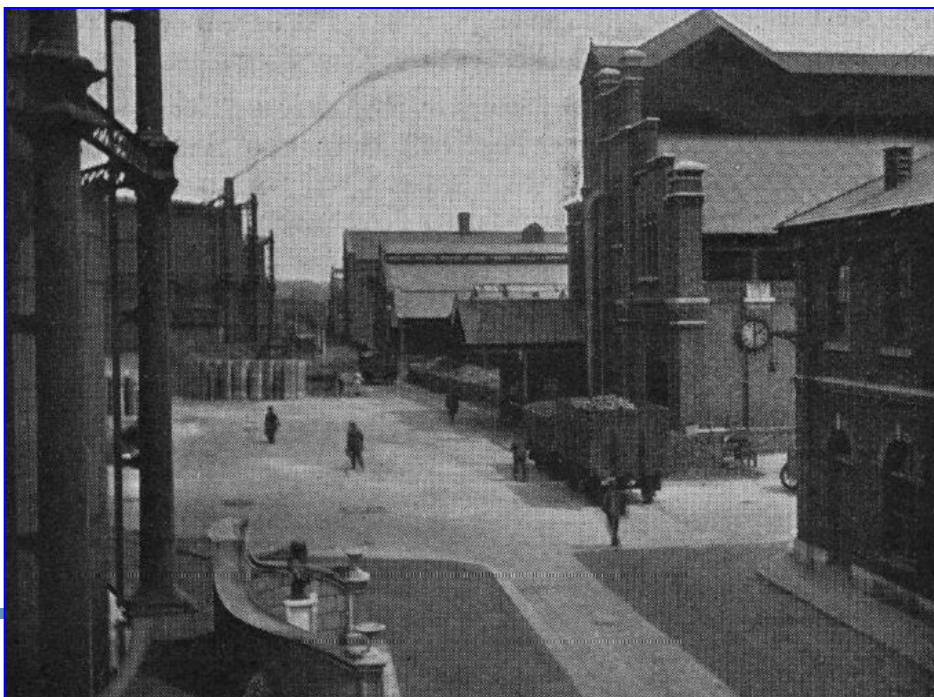


Figure 5: Archive photograph of the entrance to the Bell Green Gasworks, 1932 © National Gas Archive

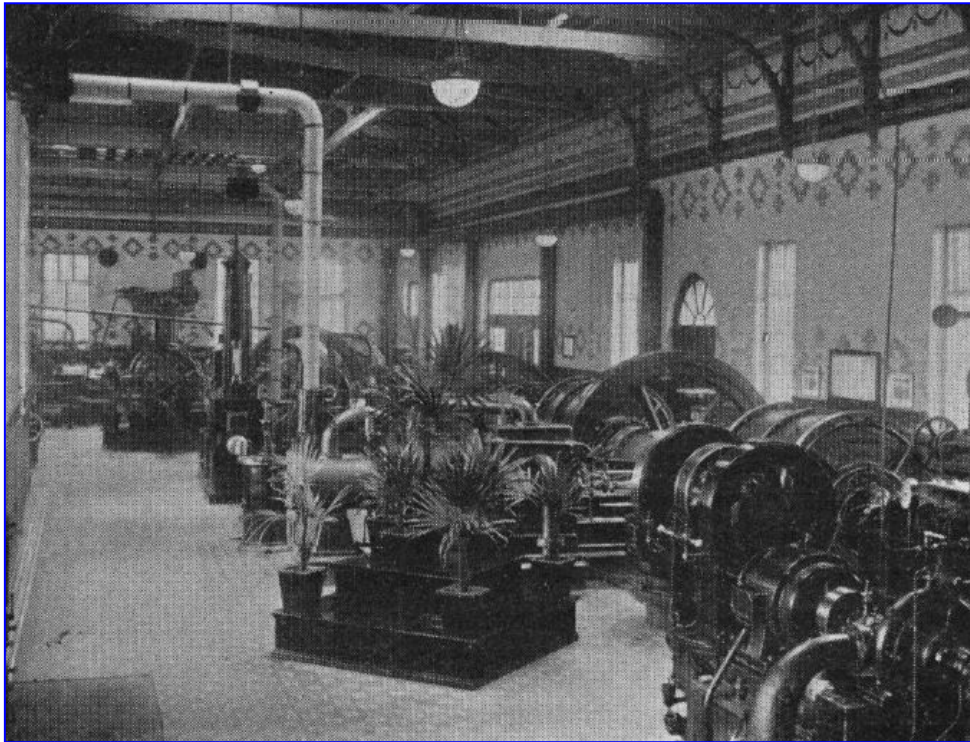


Figure 6: Archive photograph of the power house at the Bell Green Gasworks, 1932 © National Gas Archive

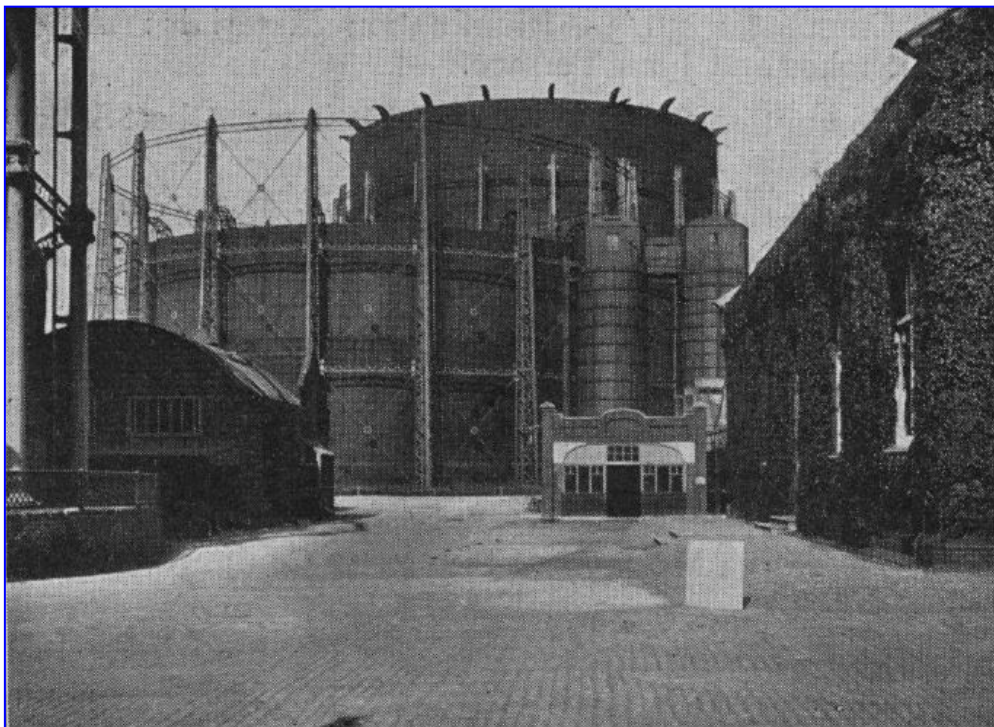


Figure 7: Archive photograph of Gasholders No 7 and No 8 from the south, 1932 © National Gas Archive

- 4.6 By the middle of the 20th century, the gasworks had not dramatically changed, although two more small gasholders were added to the east of the site, as can be seen in the 1947 Ordnance Survey map (Figure 8). In 1949, the gasworks was placed under the control of the South Eastern Gas Board, and a few photographs of this era of the gasworks site exist in the National Gas Archive, including bomb damage to the site during the War in 1940 (Figure 9) and another larger undated aerial photograph of the site dating to the mid-20th century (Figure 10). An archive plan of the works from 1949 also shows the extent of the gasworks at the time (Figure 11). Here, Gasholder No 7 is annotated as holding 2,044,923 ft³ (57,906m³) and No 8 as holding 3,325,681 ft³ (94,173m³). Various buildings are also annotated around the site, including a garage repair shop and a laboratory to the immediate east of holders, with purifiers to the west of Gasholder No 4. The retort houses and other plant were then located to the south and south-east of the site, with smaller gasholders No 6 and No 9 to the east boundary of the site adjacent to the railway line. The circular structure to the north of Gasholder No 9 is actually identified as an oil tank, and Gasholder No 5, to the east of No 4, held mixed benzolised gas. Curiously, the original gasholder on the site to the south of No 7, which is present on the 1947 Ordnance Survey map to the east of the main headquarters building, is not shown on this plan.

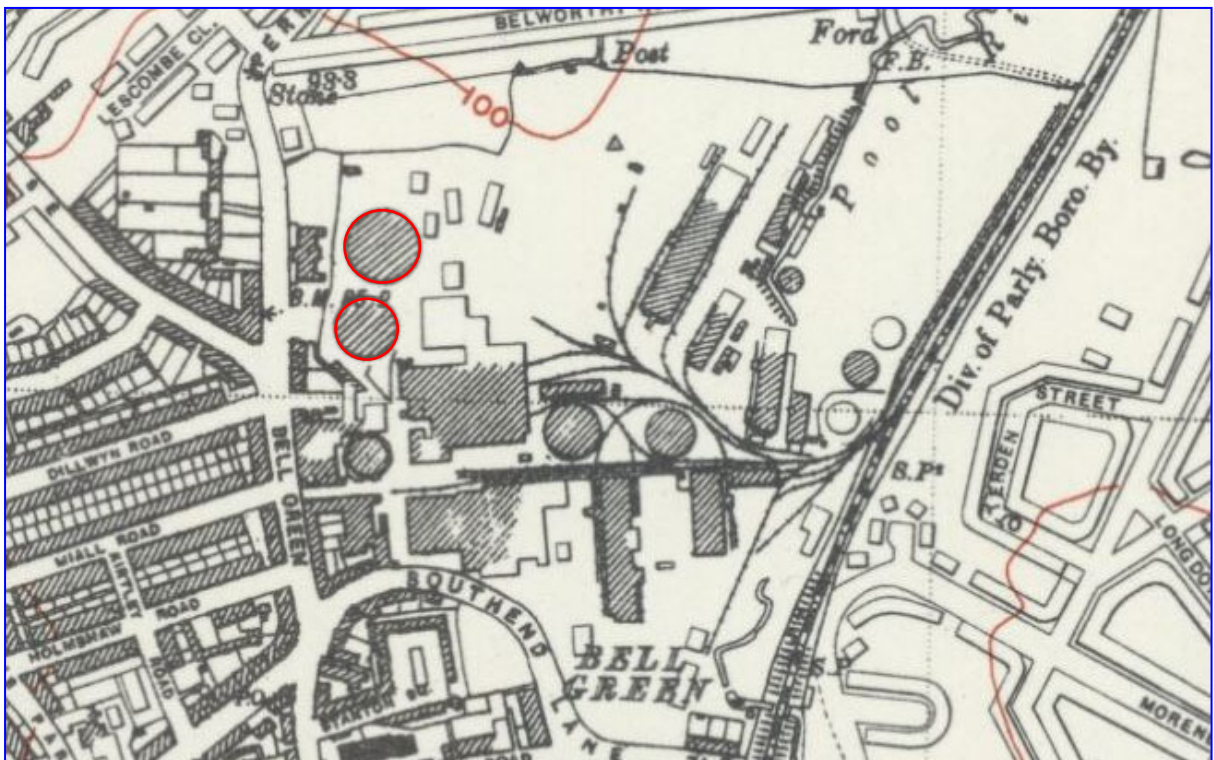


Figure 8: Extract from Ordnance Survey map, 1947 (the surviving gasholders No 7 (south) and No 8 (north) are circled in red)

- 4.7 By the mid-20th century the company also had works at Bromley, Dartford, Sevenoaks, Tonbridge and gasholder sites at St Mary Cray, Crayford, Belvedere and Greenhithe (Montagu Evans 2017b). Modifications to the gasholders of these sites between 1940 and 1960 were planned and recorded by the gas company with drawn plans, elevations, sections and details of individual features. Digital versions of these drawings relating to Gasholders No 7 and 8 can be found in Appendix 4, supplied by the demolition contractor (Keltbray) via SGN during the Phase II works, who currently hold the archive. An archive plan dating from 1961 shows the gasholders together with Gasholders No 4 and 5 to the east, and the pipework associated with the input and output of gas in detail (Figure 12). In 1969, gas production on the site ceased, and by the 1980s only four gasholders remained on the site, Nos 7, 8, 4 and 5. All the buildings and Gasholders 4 and 5 were then demolished in the 1990s to make way for new development, including a large retail park. An archive plan of

the site dating to 1991 shows the intended demolitions and retentions on the site at the time in advance of the development (Figure 13). Both Gasholders No 7 and 8 were decommissioned in 2012.

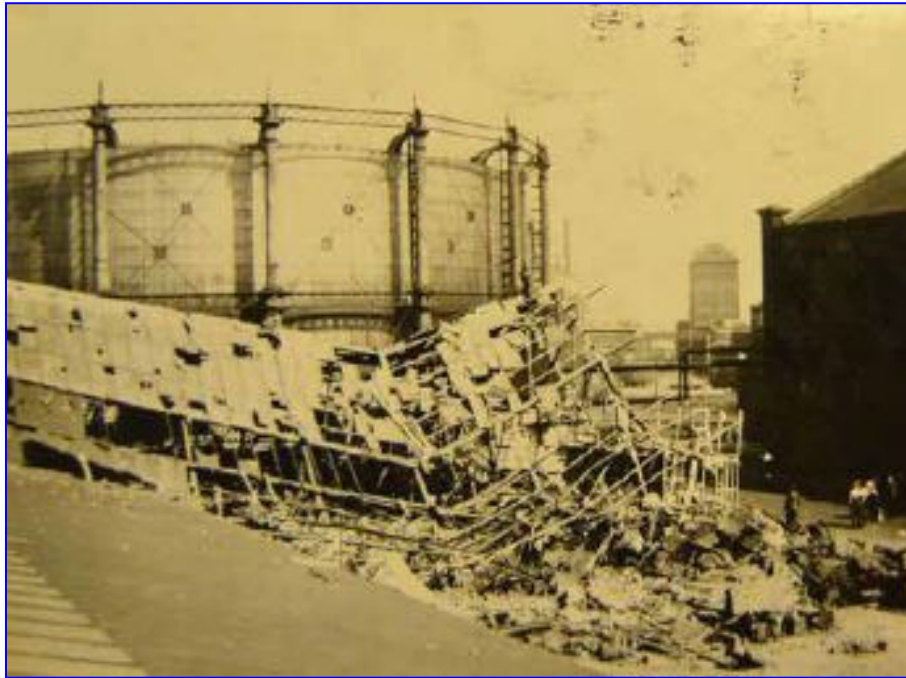


Figure 9: General view of Gasholder No 7 after bomb damage during the War, 1940 © National Gas Archive



Figure 10: Undated aerial photograph of the Bell Green Gasworks, ca. mid-20th century © National Gas Archive
Gasholders No 7 and 8 can be seen in the foreground behind the 1911 Livesey Hall, with Gasholders No 4 and 5 in the background behind the purifiers. The large building to the centre-left of the photograph is one of the retort houses

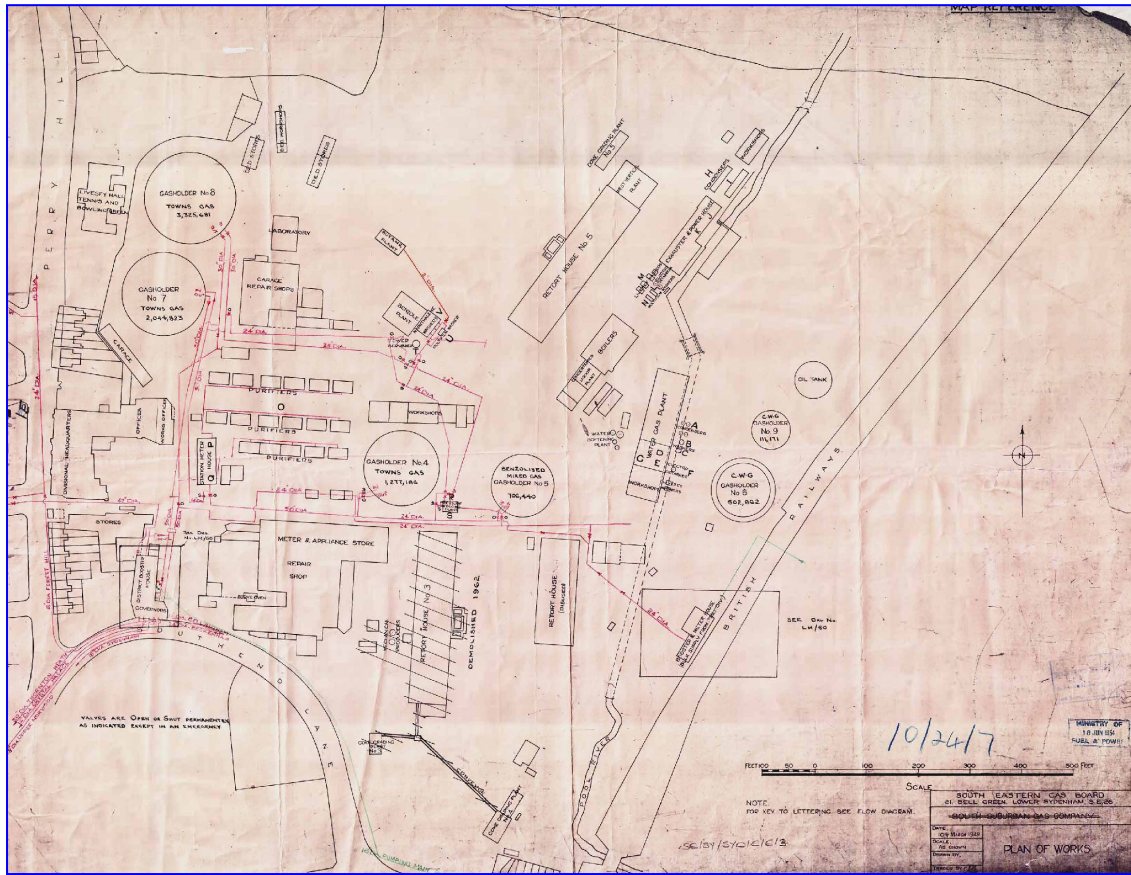


Figure 11: Archive plan of the Bell Green Gasworks, 1949 © National Gas Archive

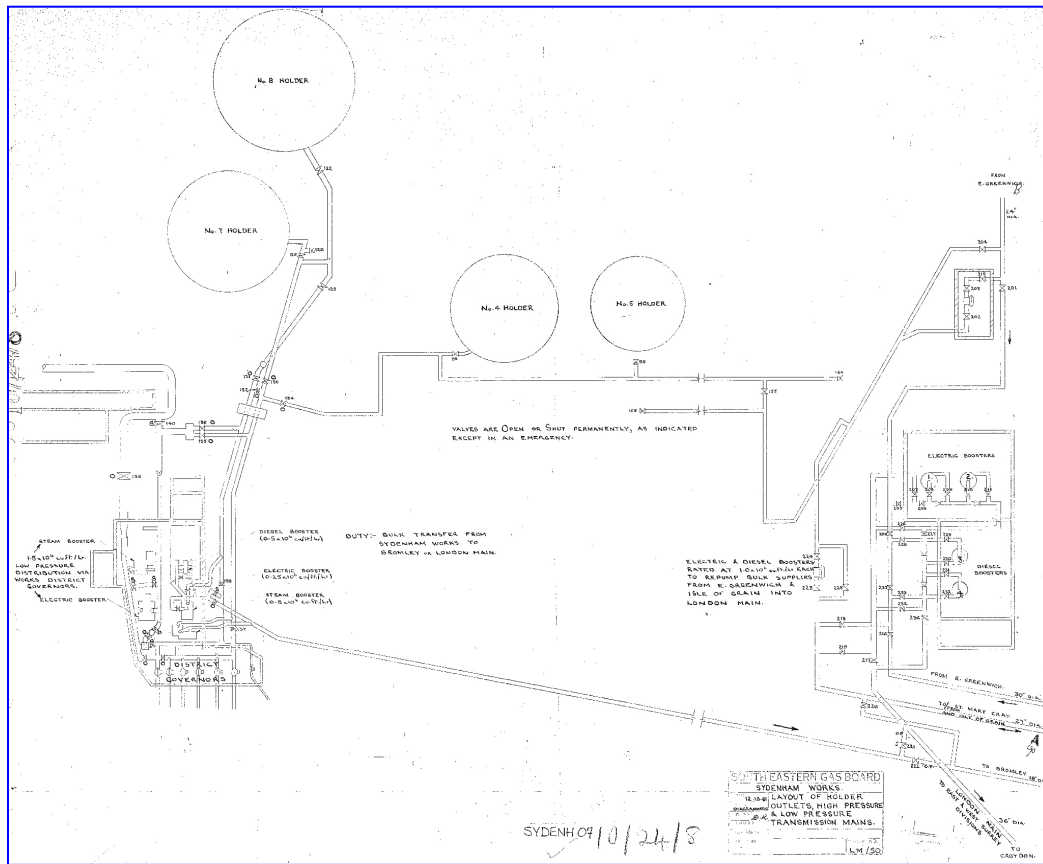


Figure 12: Archive plan of the Gasholder Nos 4, 5, 7 and 8 and their associated pipework, 1961 © National Gas Archive

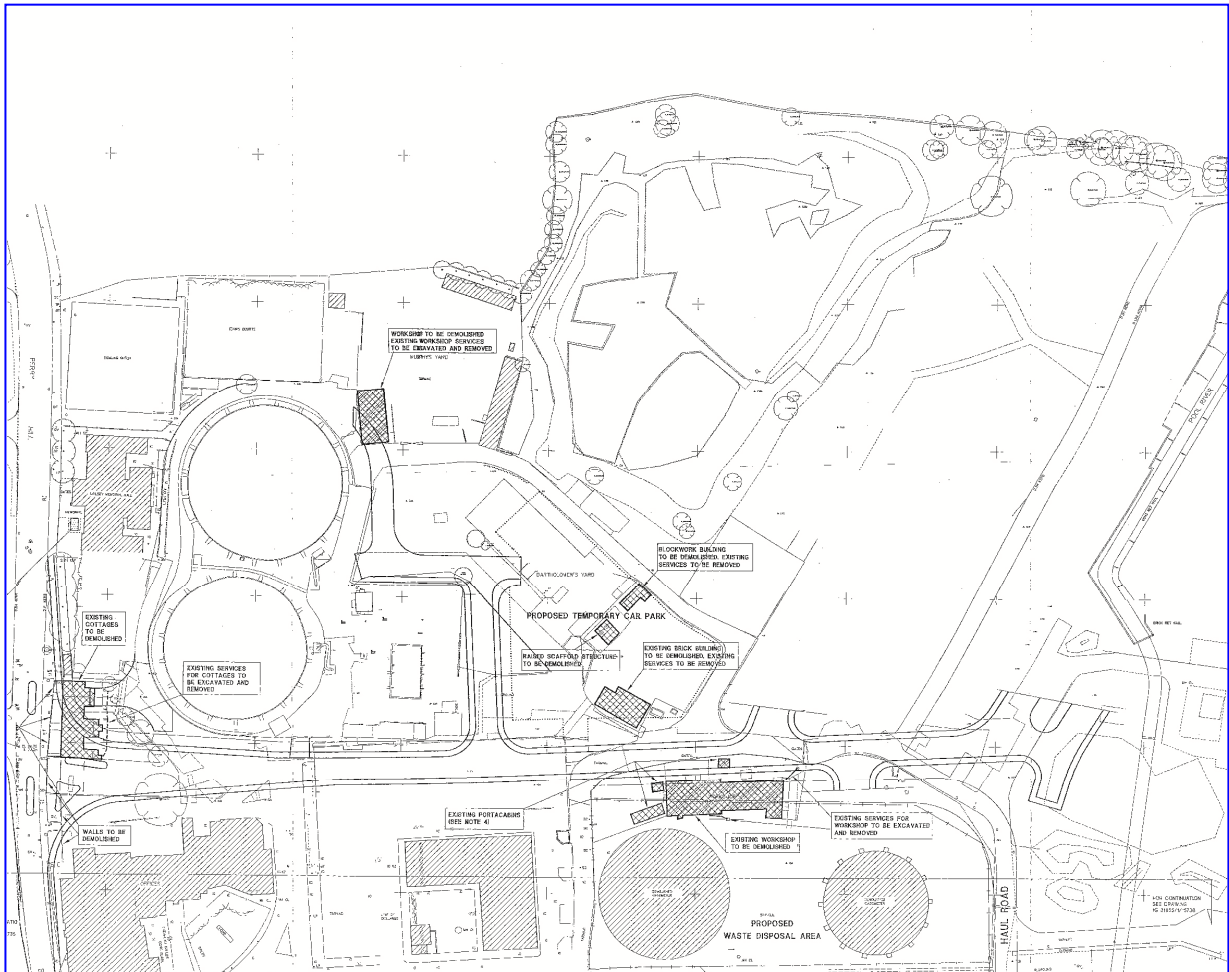


Figure 13: Archive plan of the Bell Green Gasworks in advance of intended new development, 1991 © National Gas Archive

5 THE GASHOLDERS

5.1 Introduction

5.1.1 Gasholders No 7 and 8 are both frame-guided gasholders built in 1882 and 1890 respectively by engineer Charles Gandon (Figure 14 - 22; Plate 1).

5.2 Gasholder No 7

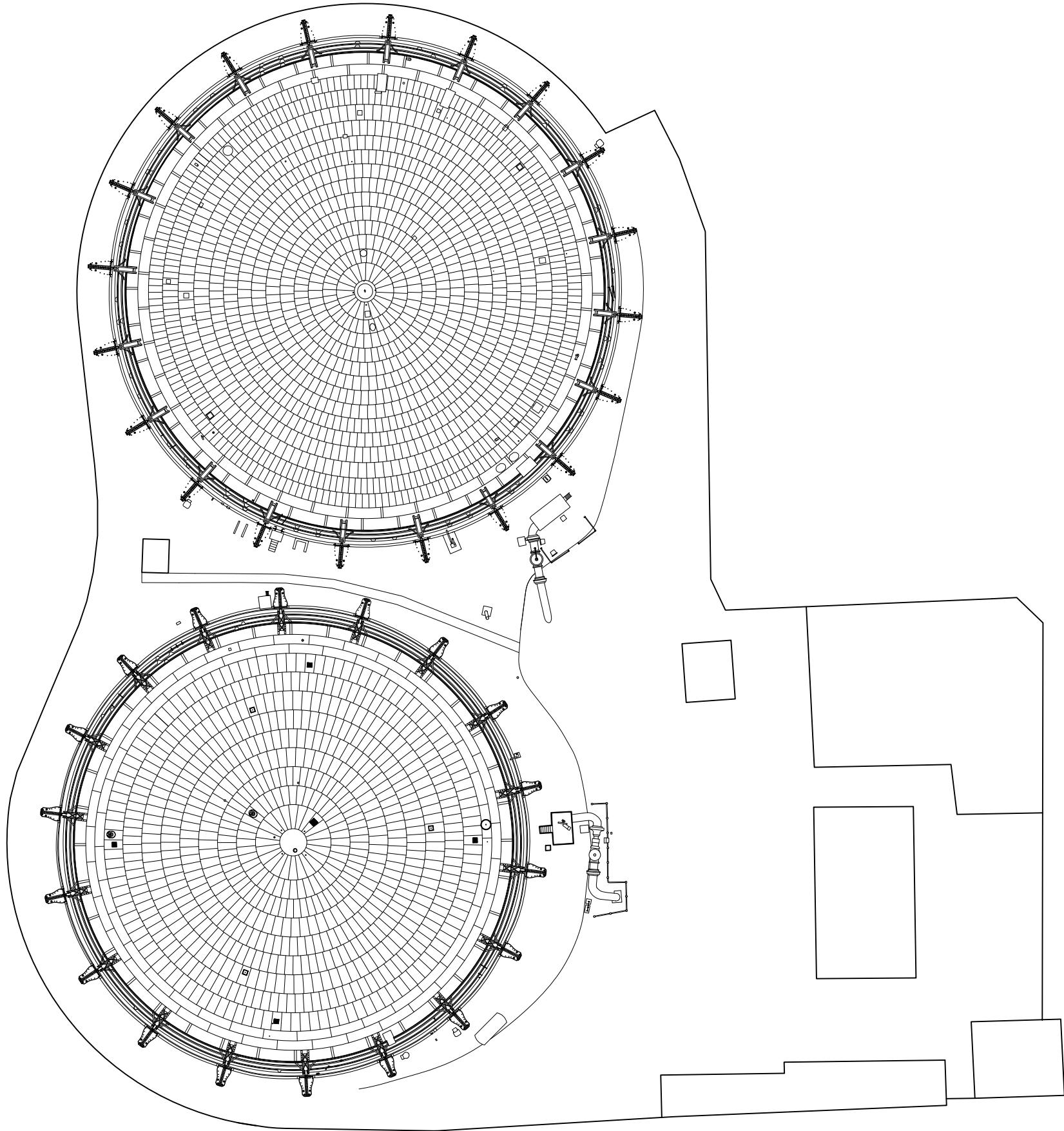
5.2.1 Gasholder No 7 was built in 1882 and is a four lift frame-guided gasholder with a later flying lift added in 1907. It consists of 18 wrought iron T-section lattice standards, tapering towards the top, supporting three tiers of horizontal members formed of I-section latticed girders (Figures 14 - 18; Plates 1 - 7). Between each standard there are diagonal bracing bars with circular tensioning rings (Plate 8 - 10). Plates 11 & 12 show the shaped foot at the base of each standard and detail of the riveted wrought iron diagonal bracing to each, bolted to the ground surface directly in front of the brick wall of the tank (Figure 15). The guided rollers behind each stanchion are flanged radial rollers, painted white with some signs of rusting (Figure 16; Plates 13 - 17). The crown of the gasholder comprises riveted panels (Plates 18 & 19). The ladder system for accessing the top of the holder is located to the south-east side between No 3 and No 4 standards and consists of a vertical inclined ladder with safety loops with small gantry rest platforms (Plate 20). The tank is set below ground, formed of steel sheets rivetted together (Plate 21).

5.2.2 The gasholder was observed during the Phase II works after the removal of the crown. A detailed drawing of the rest frame for the crown can be found in the archive drawings supplied by SGN (see Appendix 4c). The rest frame comprises four rings of upright circular posts and a dome structure, which is comprised of timbers that are set within a central cylindrical concrete support pier and radiate out like the spokes of a wheel (Plates 22 & 23). They rest upon six timber rings supported by the uprights. At the base of the tank is a concrete dumpling with steep sides and a flat top in which the upright posts are set (Plate 24). The uprights in the outermost ring are set into a concrete block on the dumpling slope with an additional angled inner and outer post to provide bracing to the overall structure. These angled posts support the additional two rings of timbers on the dome, hence the requirement for only four rings of uprights. All the timbers are tied together using iron braces (Plates 25 & 26; detail on Appendix 4c). Above the braces there are additional timbers which splay out on either side of the uprights to offer additional support to the rings above. These additional supports are only present on the outer ring of multiple posts. On the top of the support posts are metal triangular fixtures into which both the dome rings and spokes slot (Plate 26). Additional cut timbers following the spoke alignment are then situated in between the main spokes which are cut to the length of the gap between two adjacent rings, presumably to lessen the gaps in the structure and thereby provide more support to the crown when the bell is lowered fully (see Plate 22).

5.2.3 On the interior of the bell inner lift are lattice-work steel standards (Plate 25). Alternate standards are lattice design, with I-shaped plain standards in between.

5.2.4 Additional features associated with the gasholder include a large area of pipework (the main gas main), a relatively later addition to the site supplied by Westwood & Wrights of Brierley Hill (Plates 27 & 28).

Gasholder No. 8



Gasholder No. 7

Figure 14: Bell Green, Sydenham, Site Plan

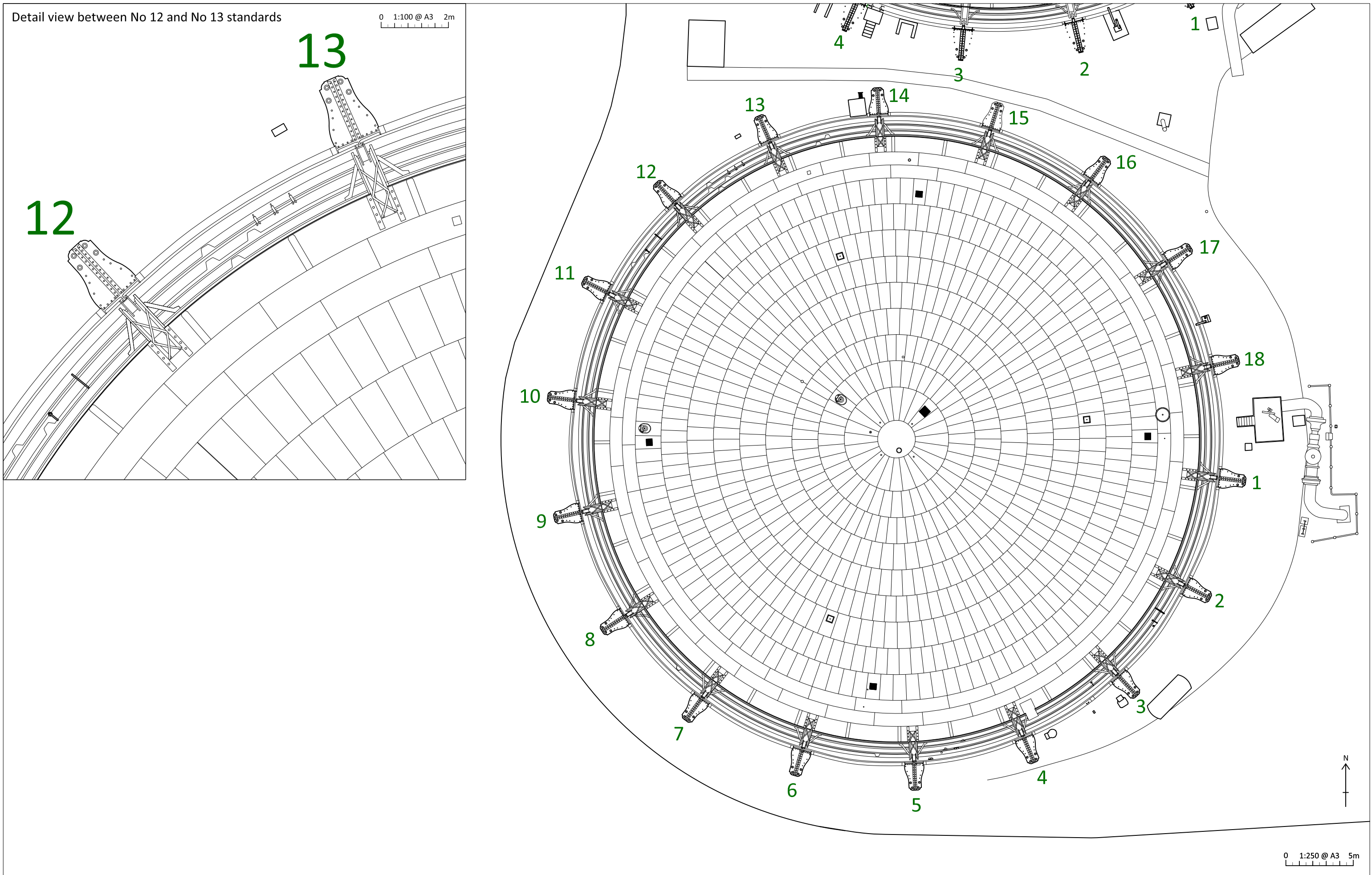


Figure 15: Bell Green, Sydenham, Gasholder No 7, detailed site plan

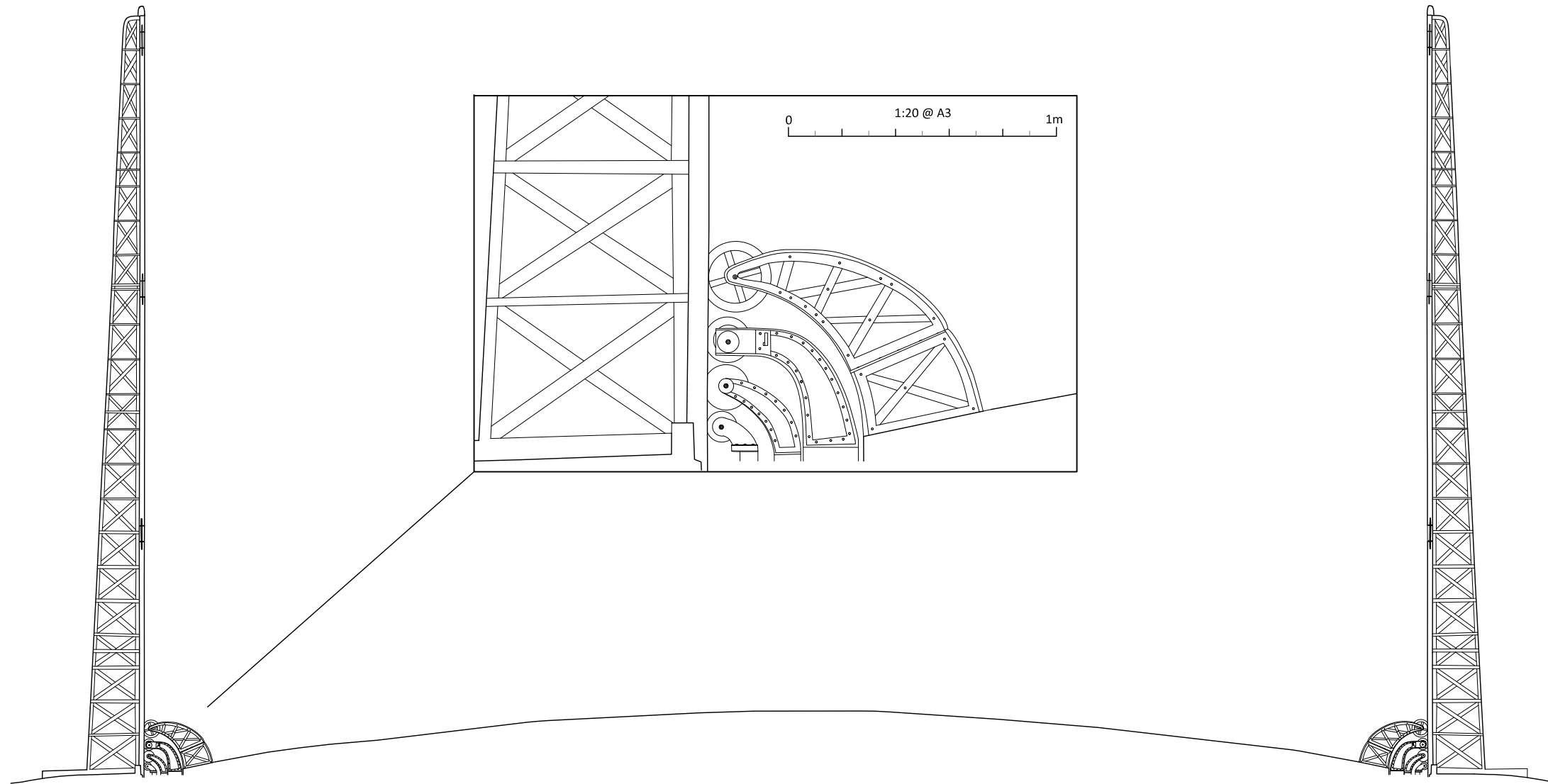
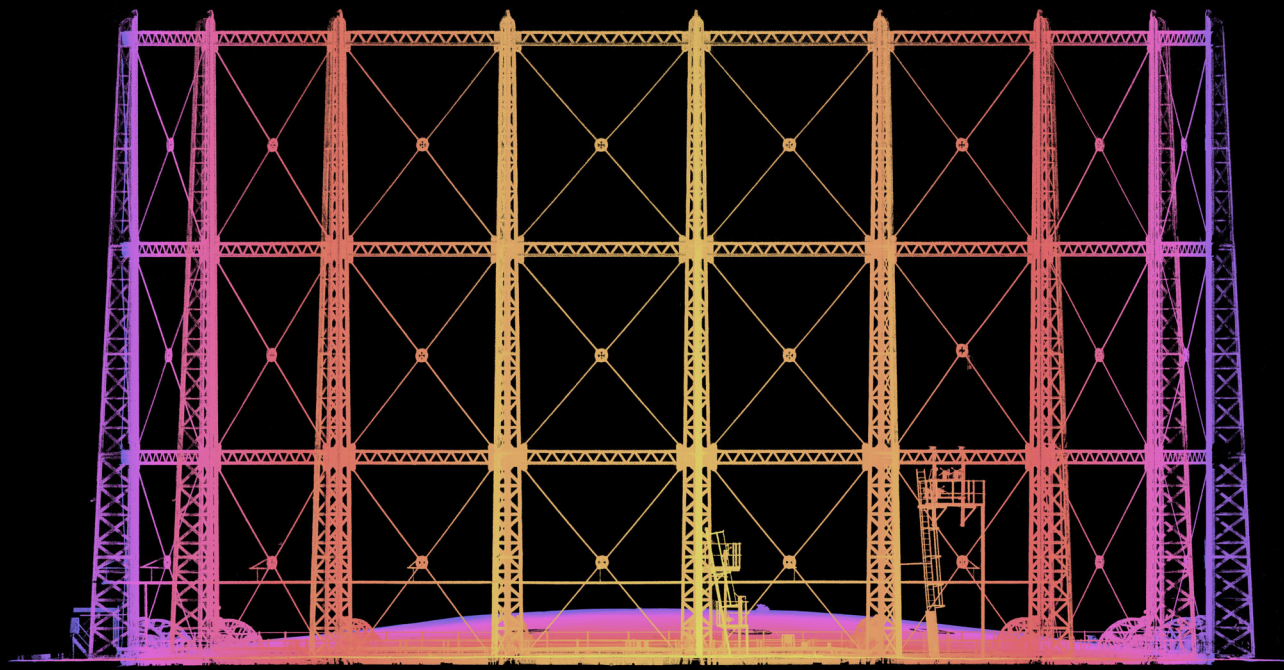
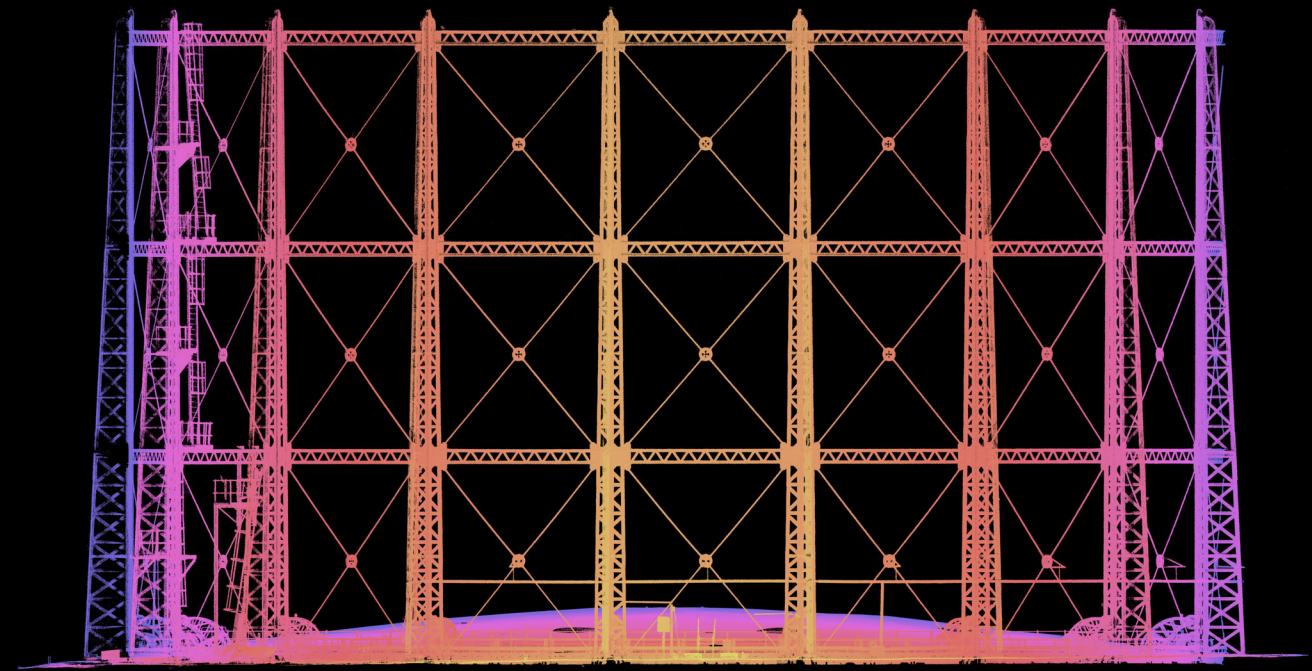


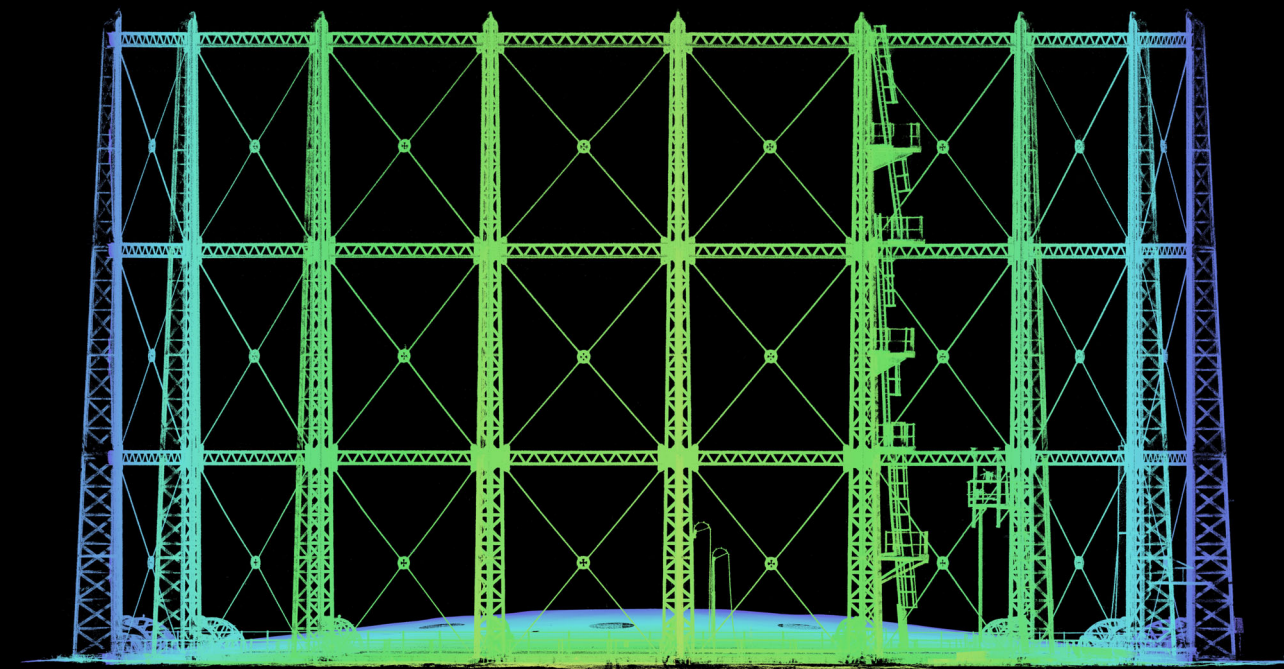
Figure 16: Bell Green, Sydenham, Gasholder No 7, section



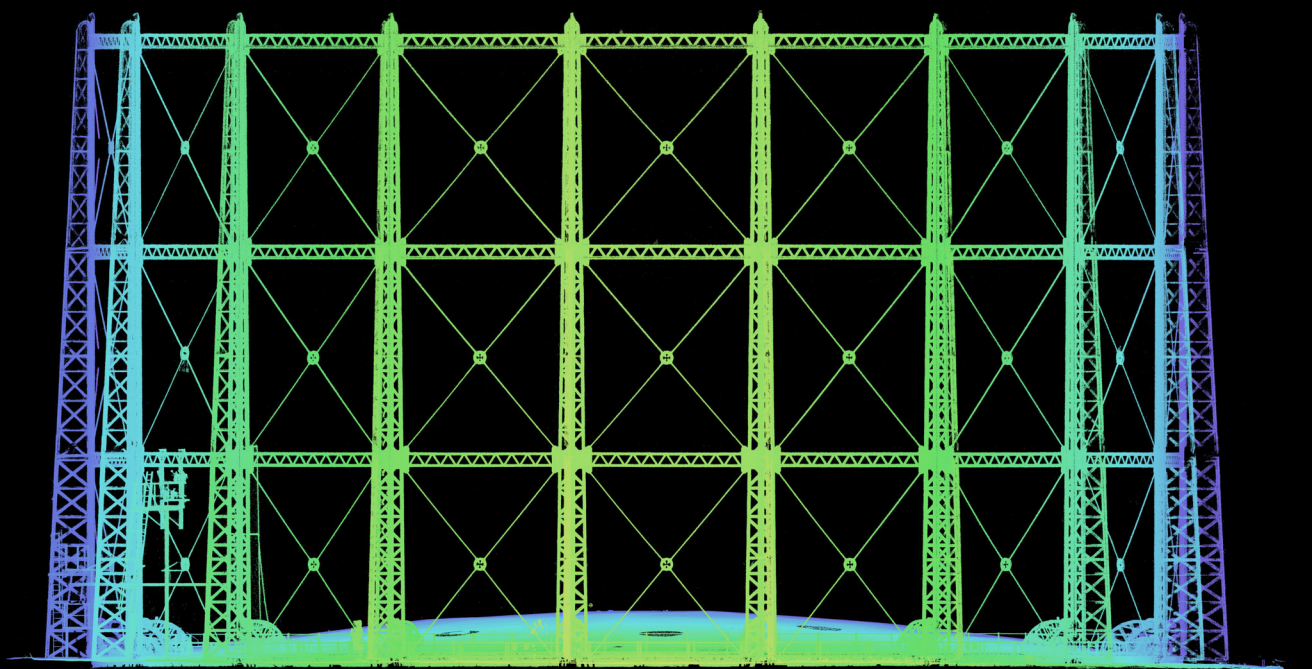
North Elevation



East Elevation



South Elevation



West Elevation

Figure 17: Bell Green, Sydenham, Gasholder No 7, orthographic elevations from point cloud data

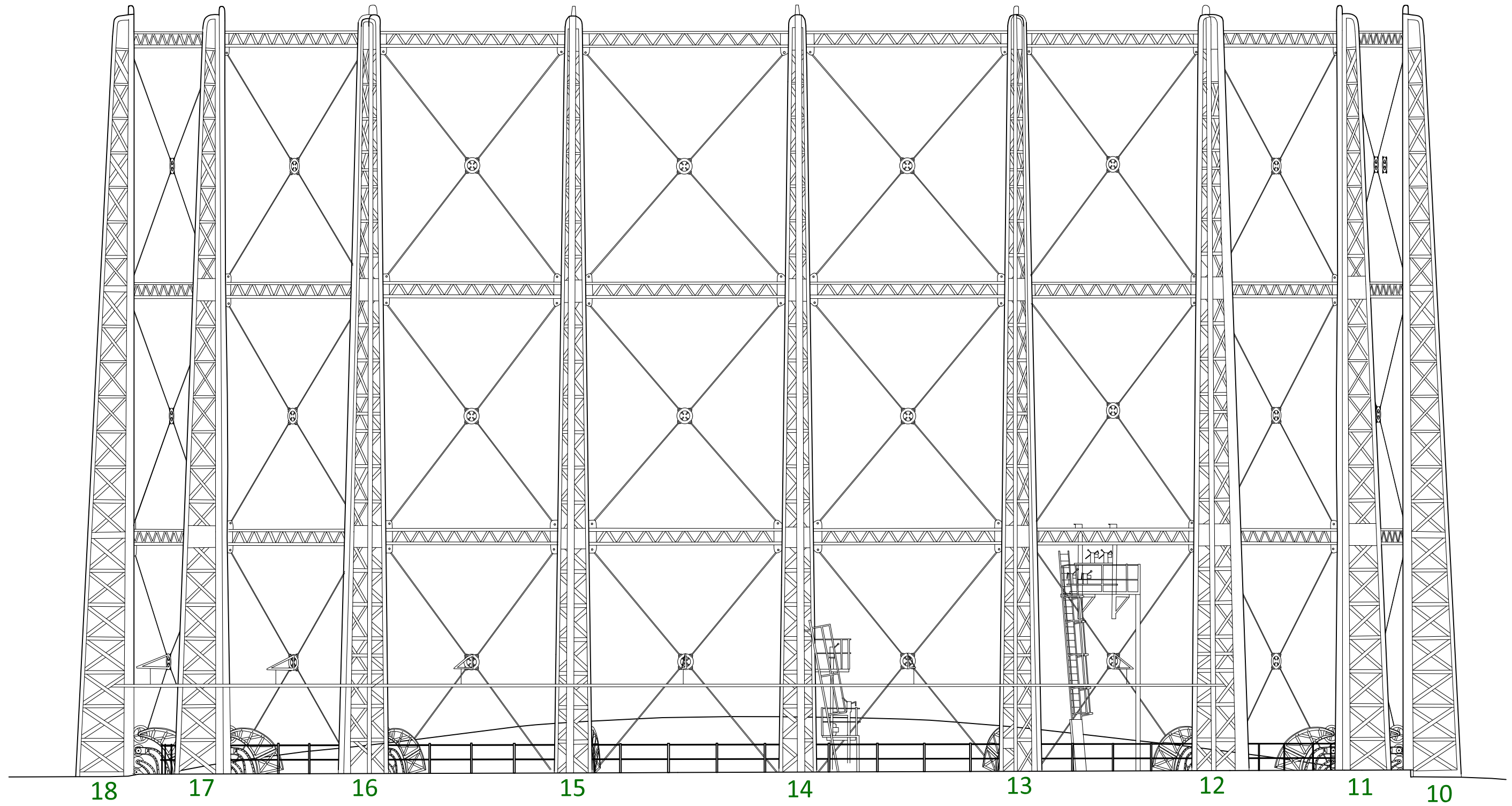


Figure 18: Bell Green, Sydenham, Gasholder No 7, north-facing elevation

0 1:150 @ A3 5m

01/23686K/REP_P11/18/01

5.3 Gasholder No 8

- 5.3.1 Gasholder No 8 is almost identical to No 7 in form and style, a four lift frame-guided gasholder with a later flying lift added in 1907. However, this gasholder is slightly larger comprising 20 wrought iron T-section lattice standards, tapering towards the top, supporting three tiers of horizontal members formed of I-section latticed girders (Figures 19 - 22; Plates 29 - 32). Between each standard there are diagonal bracing bars with circular tensioning rings (Plate 33). The standards are almost identical to the No 7 holder, although here there is a solid section of iron to the foot of the holder, and the footplate is thinner and more tapered in shape (Figure 19; Plate 34 - 36). The guided rollers, as with No 7, are flanged radial rollers, although here the roller carriages are solid, as opposed to the diagonal steel bracing on the No 7 rollers (Figure 20; Plates 37 & 38). The crown is again identical to the No 7 holder, comprising riveted sections with additional riveted panels to the outer circumference (Plates 39 & 40). The ladder system here is located to the SSW side of the holder between No 4 and No 5 standards and consists of a vertical inclined ladder with safety loops and small gantry rest platforms (Plate 41). The tank is set below ground, formed of steel sheets riveted together (Plate 42).
- 5.3.2 The gasholder was observed during the Phase II works after the removal of the crown. A detailed drawing of the rest frame for the crown can be found in the archive drawings supplied by SGN (see Appendix 4j). The rest frame comprises two rings of upright circular posts and a dome structure, which is comprised of timbers that are set within a central cuboid concrete support pier and radiate out like the spokes of a wheel (Plate 43). They rest upon six timber rings supported by the uprights. At the base of the tank is a concrete dumpling with steep sides and a flat top (Plate 44). The dumpling is shaped with raised linear blocks arranged in a radial pattern on its slope, with the upright posts set within the blocks (Plate 45). The two rings of uprights support six rings on the dome above via additional angled inner and outer posts. The upright and angled posts are tied together using iron braces (Plate 46; detail on Appendix 4j). Above the braces there are additional timbers which splay out on either side of the uprights to offer additional support to the rings above. The additional supports are connected to neighbouring uprights via a splayed-out staple shape (Plate 46). These additional supports are only present on the outer ring of posts. On the top of the support posts are metal triangular fixtures into which the dome rings spokes and uprights slot (Plate 47). Additional cut timbers following the spoke alignment are then situated in between the main spokes which are cut to the length of the gap between two adjacent rings, although most of these had been knocked off during the crown removal (see Plate 43).
- 5.3.3 On the interior of the bell inner lift are plain, I-shaped standards with triangular tops supporting the crown kerb joint (Plate 48).
- 5.3.4 On the south-east of the tank interior is the inlet/outlet pipe (Plate 49).
- 5.3.5 Again, there are few additional features associated with the gasholder. There is another small access stair and small brick enclosure to the SSW side of the holder between No 3 and No 4 standards, and (as with No 7) a large array of relatively new pipework (the main gas main) to the south-east side (Plates 50 – 52).

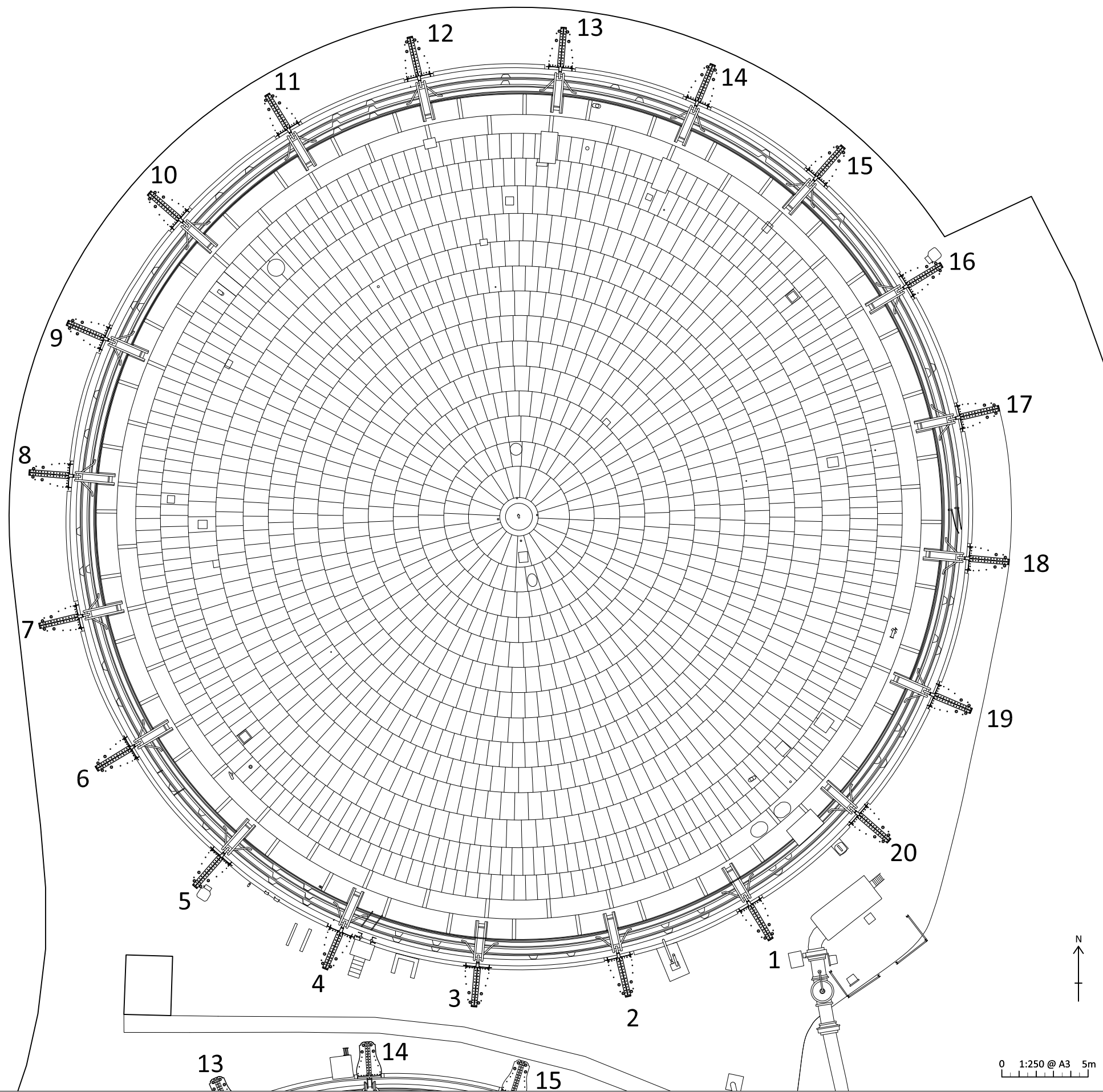
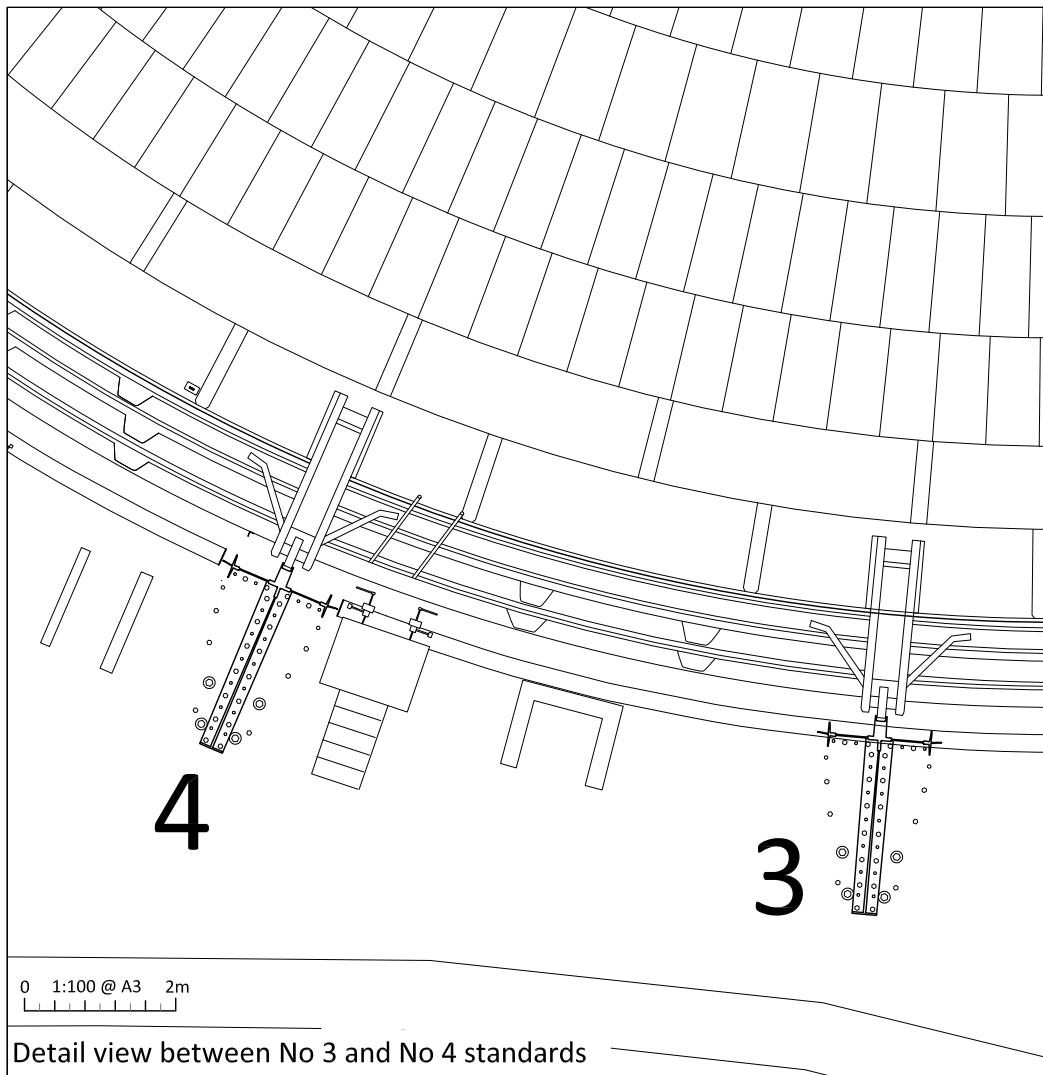


Figure 19: Bell Green, Sydenham, Gasholder No 8, detailed site plan

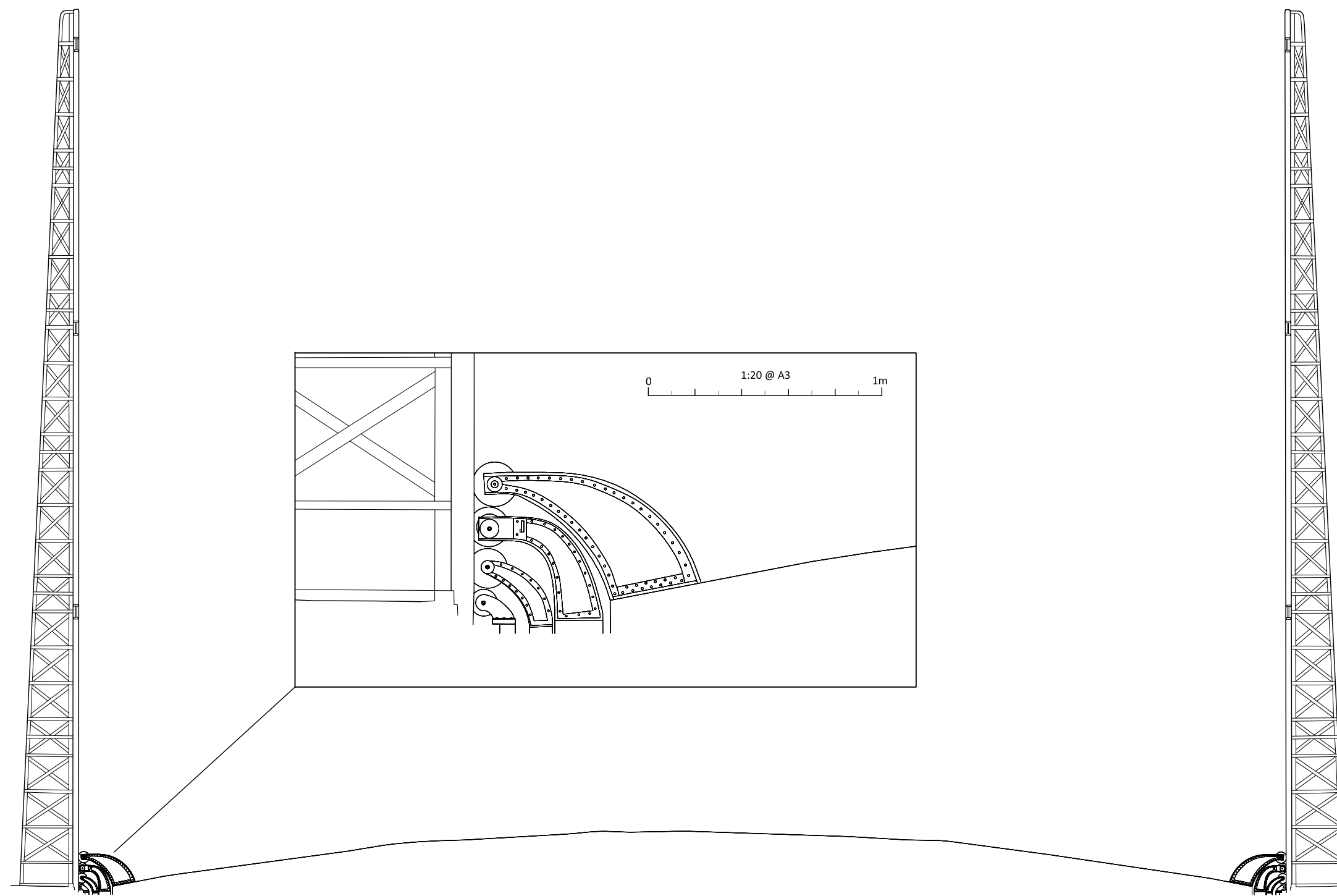
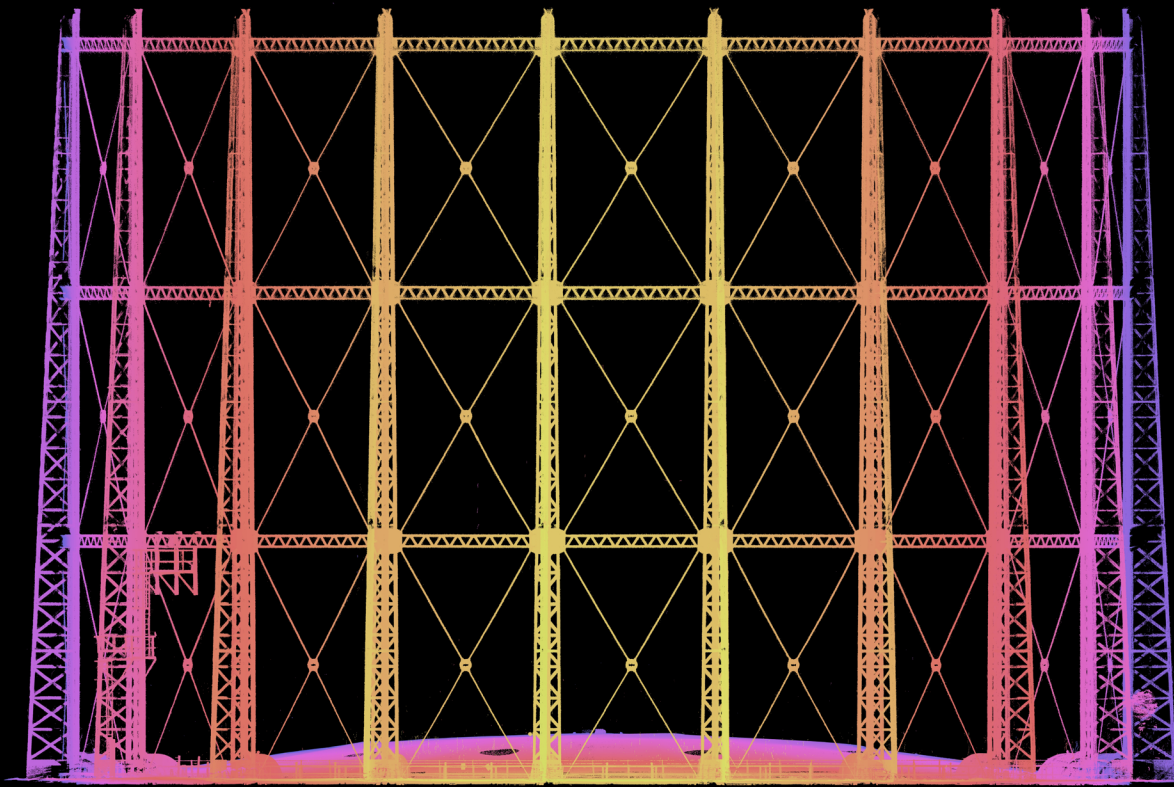
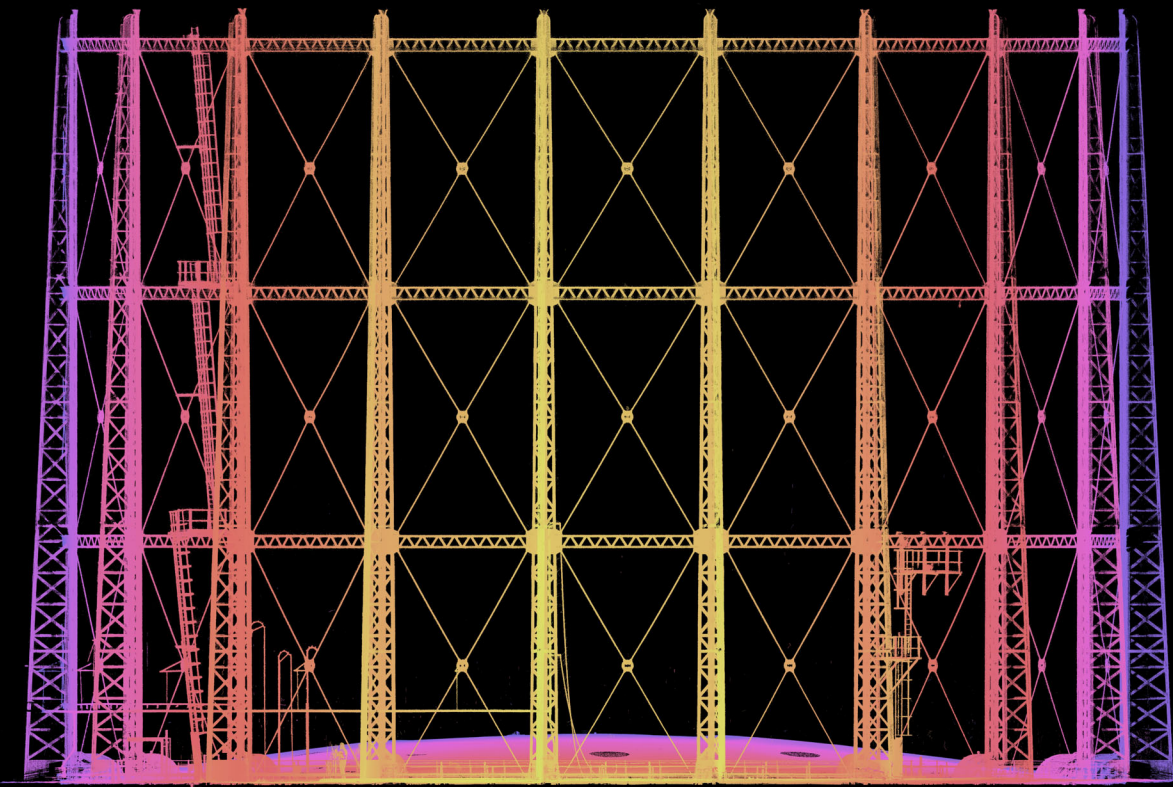


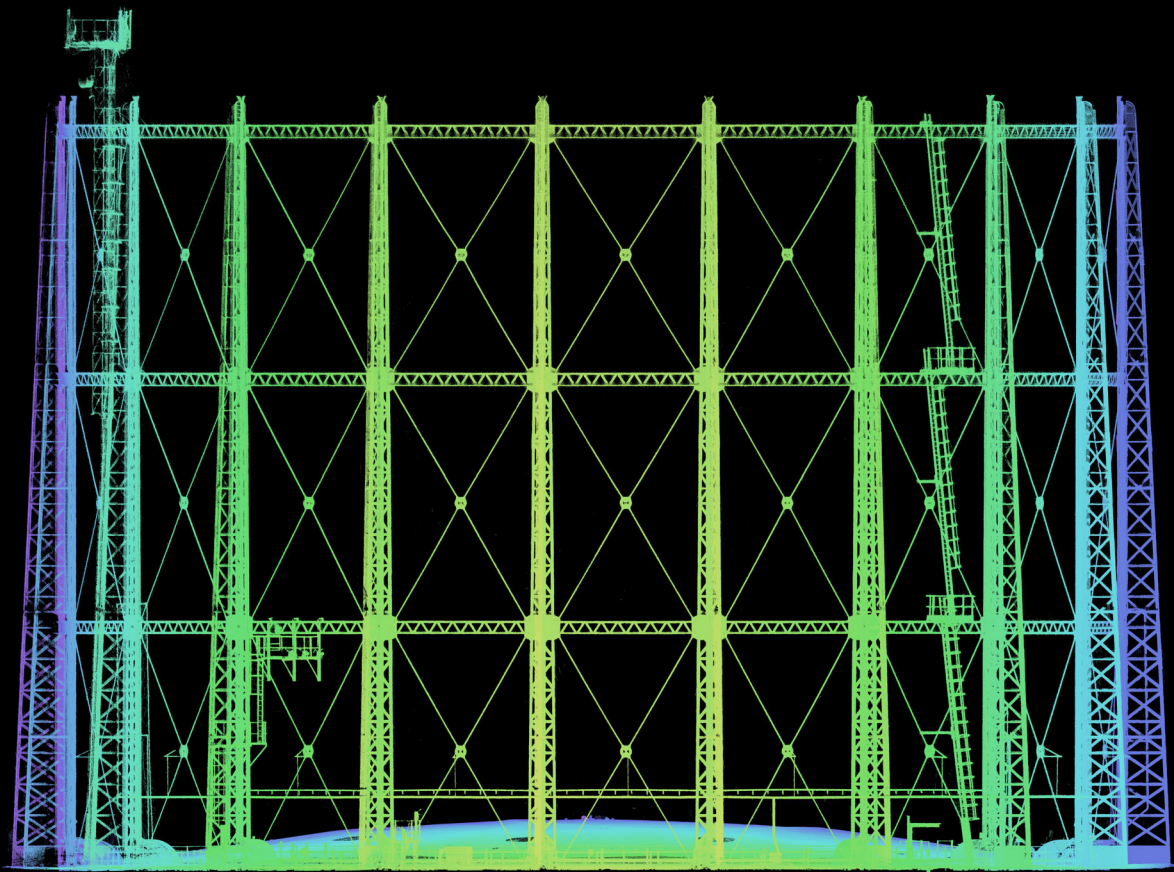
Figure 20: Bell Green, Sydenham, Gasholder No 8, section



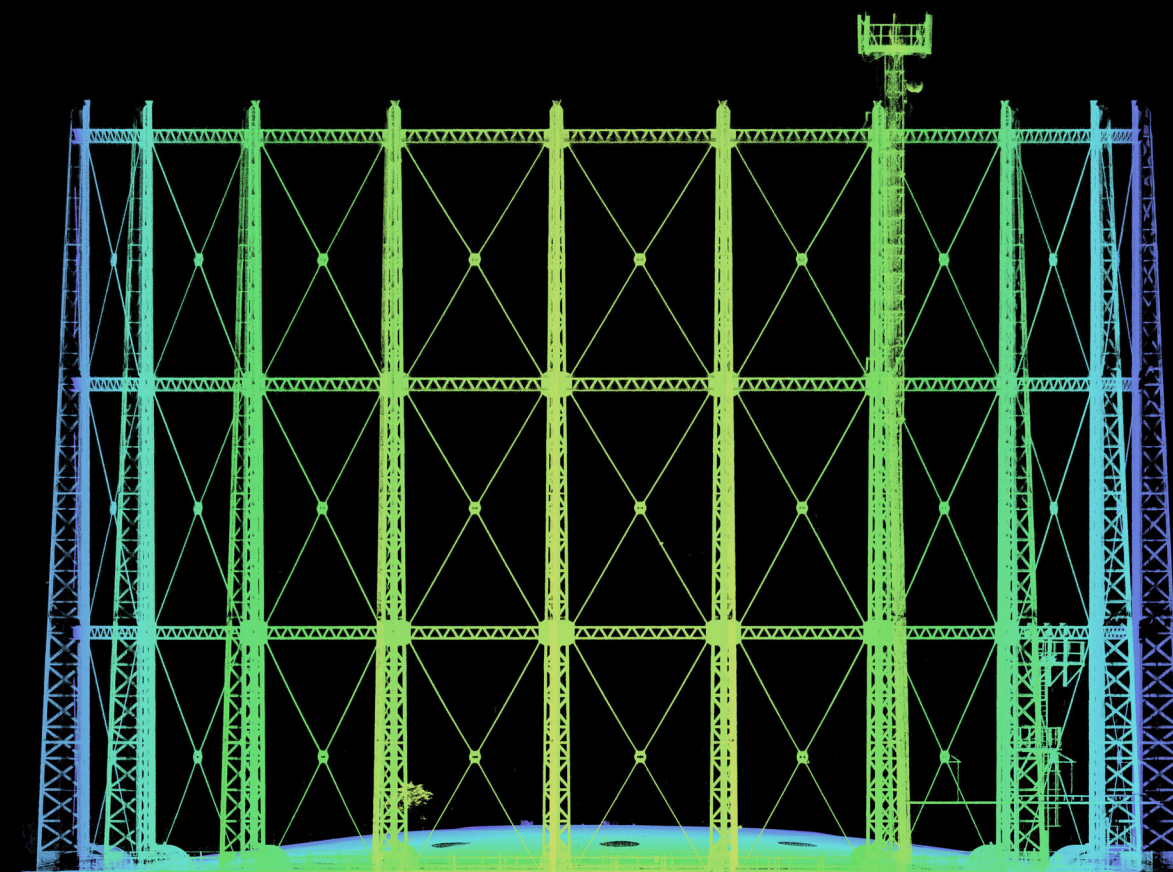
North Elevation



East Elevation



South Elevation



West Elevation

Figure 21: Bell Green, Sydenham, Gasholder No 8, orthographic elevations from point cloud data

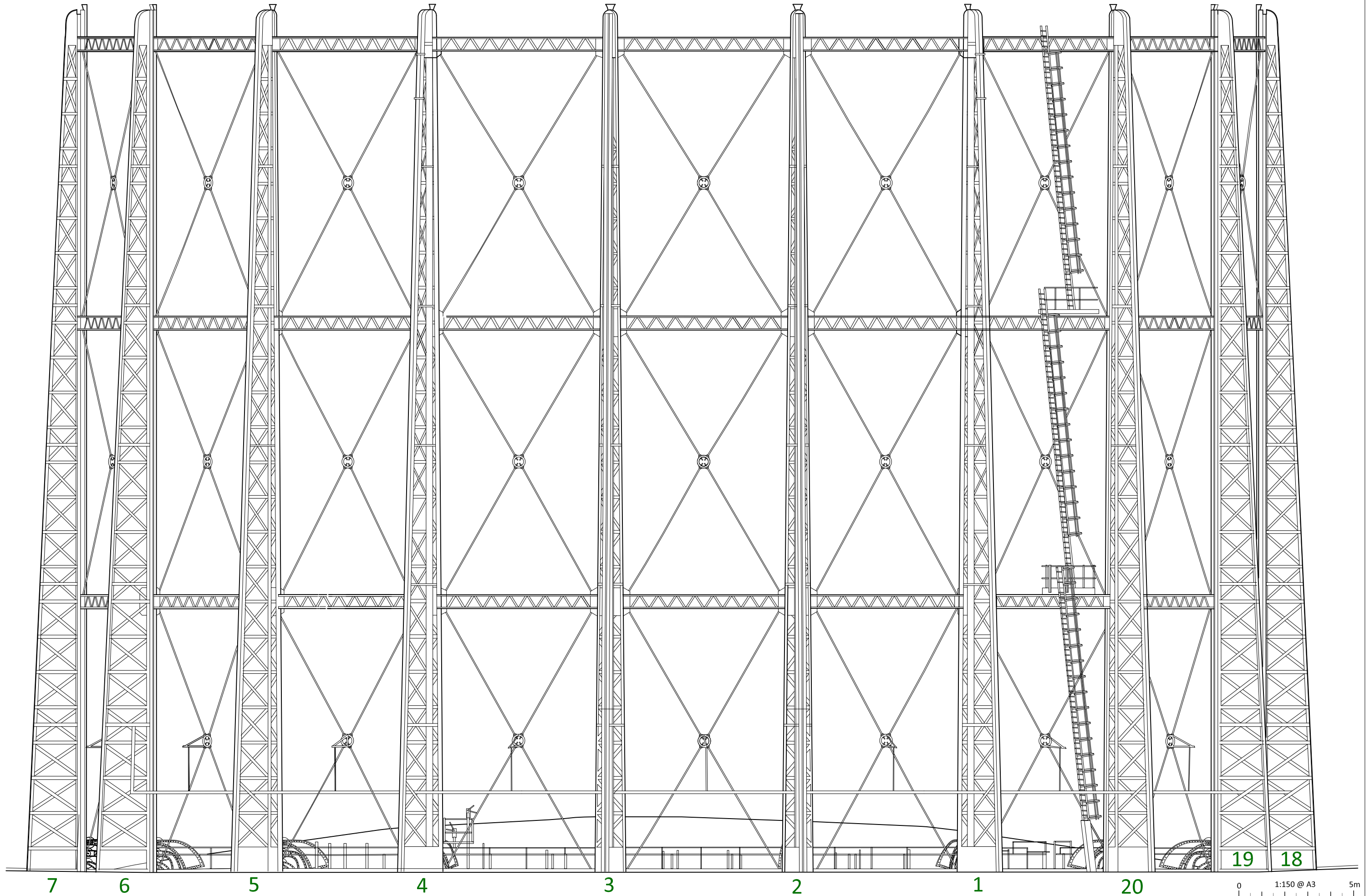


Figure 22: Bell Green, Sydenham, Gasholder No 8, south-facing elevation



Plate 1: Bell Green, Sydenham, Gasholders No 7 & 8, general view from the south-east



Plate 2: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the south-east



Plate 3: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the east



Plate 4: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the ENE



Plate 5: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the ESE



Plate 6: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the south



Plate 7: Bell Green, Sydenham, Gasholder No 7, general view of the gasholder frame from the south-east



Plate 8: Bell Green, Sydenham, Gasholder No 7, detail of the diagonal bracing between the standards from the west



Plate 9: Bell Green, Sydenham, Gasholder No 7, detail of the diagonal bracing between No 13 and 14 standards from the NNE



Plate 10: Bell Green, Sydenham, Gasholder No 7, detail of the diagonal bracing between the standards from the NNW



Plate 11: Bell Green, Sydenham, Gasholder No 7, detail of the base of No 2 standard from the NNE



Plate 12: Bell Green, Sydenham, Gasholder No 7, detail of the base of No 2 standard from the east



Plate 13: Bell Green, Sydenham, Gasholder No 7, detail of the guided rollers behind No 1 standard from the SSE



Plate 14: Bell Green, Sydenham, Gasholder No 7, detail of the guided rollers behind No 2 standard from the north-east



Plate 15: Bell Green, Sydenham, Gasholder No 7, detail of the guided rollers behind No 4 standard from the SSE



Plate 16: Bell Green, Sydenham, Gasholder No 7, detail of the guided rollers behind No 7 standard from the SSE



Plate 17: Bell Green, Sydenham, Gasholder No 7, close detail of the guided rollers behind No 7 standard from the SSE



Plate 18: Bell Green, Sydenham, Gasholder No 7, general view of the crown of the gasholder from the south-east



Plate 19: Bell Green, Sydenham, Gasholder No 7, general view of the crown of the gasholder from the ESE



Plate 20: Bell Green, Sydenham, Gasholder No 7, general view looking up at access ladders and gantries between No 3 and No 4 standards from the SSE



Plate 21: Bell Green, Sydenham, Gasholder No 7, general view of the tank wall, from the south



Plate 22: Bell Green, Sydenham, Gasholder No 7, general view of the crown rest frame, from the north
© Keltbray



Plate 23: Bell Green, Sydenham, Gasholder No 7, general view of the central support post, from the north



Plate 24: Bell Green, Sydenham, Gasholder No 7, general view of the dumping and support frame, from the east



Plate 25: Bell Green, Sydenham, Gasholder No 7, general view of the outermost upright posts with metal support bracket, and lattice standards within the bell, from the south-east



Plate 26: Bell Green, Sydenham, Gasholder No 7, detail view of the metal fixture attaching the uprights and dome timbers, from the east



Plate 27: Bell Green, Sydenham, Gasholder No 7, general view of the pipework to the east of the gasholder from the south-east



Plate 28: Bell Green, Sydenham, Gasholder No 7, close detail of the pipework to the east side of the gasholder, from the south-west



Plate 29: Bell Green, Sydenham, Gasholder No 8, general view of the gasholder frame from the SSE



Plate 30: Bell Green, Sydenham, Gasholder No 8, general view of the gasholder frame from the SSE



Plate 31: Bell Green, Sydenham, Gasholder No 8, general view of the gasholder frame from the south-west



Plate 32: Bell Green, Sydenham, Gasholder No 8, general view of the gasholder frame from the SSW



Plate 33: Bell Green, Sydenham, Gasholder No 8, detail of the diagonal bracing between the standards from the SSE



Plate 34: Bell Green, Sydenham, Gasholder No 8, detail of the foot of No 4 standard from the south-west



Plate 35: Bell Green, Sydenham, Gasholder No 8, detail of the foot of No 10 standard from the north

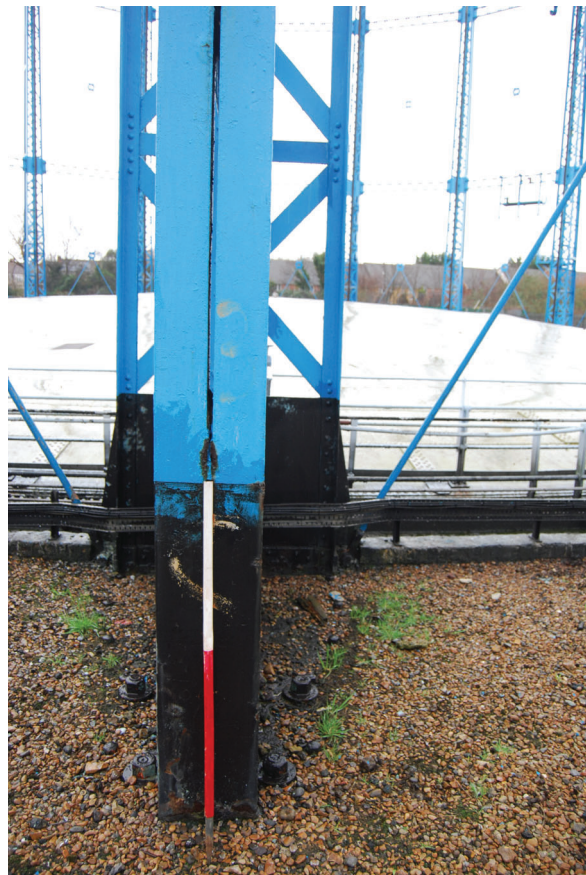


Plate 36: Bell Green, Sydenham, Gasholder No 2, detail of the foot of No 4 standard from the SSE



Plate 37: Bell Green, Sydenham, Gasholder No 8, detail of the guided rollers behind No 1 standard from the south-west



Plate 38: Bell Green, Sydenham, Gasholder No 8, detail of the guided rollers behind No 7 standard from the SSW

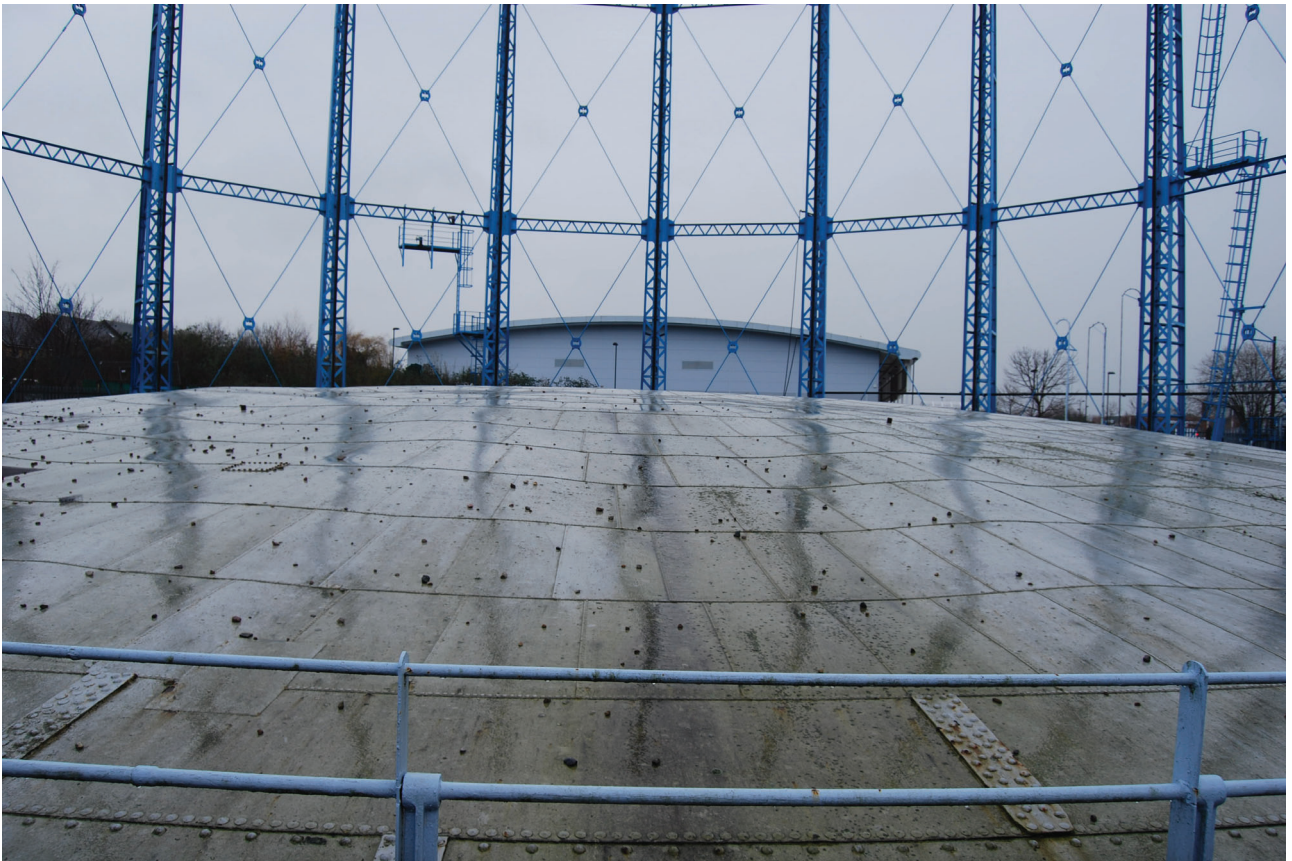


Plate 39: Bell Green, Sydenham, Gasholder No 8, general view of the crown of the gasholder from the south-west

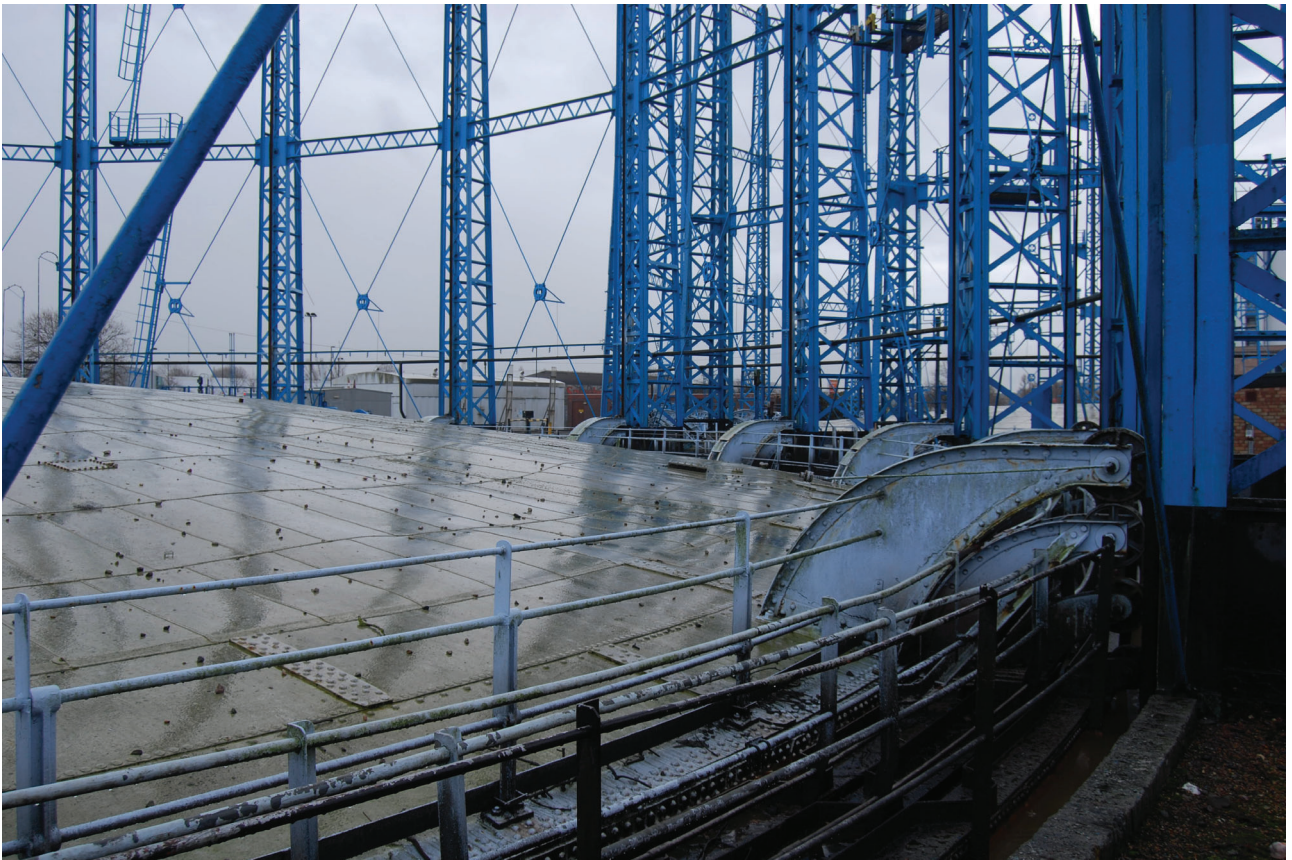


Plate 40: Bell Green, Sydenham, Gasholder No 8, general view of the crown of the gasholder from the WNW



Plate 41: Bell Green, Sydenham, Gasholder No 8, general view looking up at the access ladders and gantries between No 4 and No 5 standards from the south-west



Plate 42: Bell Green, Sydenham, Gasholder No 8, general view of the bell outer lift wall, from the east



Plate 43: Bell Green, Sydenham, Gasholder No 8, general view of the dumping and crown rest frame, from the south © Keltbray



Plate 44: Bell Green, Sydenham, Gasholder No 8, general view of the dumping with raised linear, radial design



Plate 45: Bell Green, Sydenham, Gasholder No 8, detail view of the upright posts base within a concrete block, from the south-east



Plate 46: Bell Green, Sydenham, Gasholder No 8, general view of the outer ring of upright and leaning posts with metal bracket holding them together, from the south-west



Plate 47: Bell Green, Sydenham, Gasholder No 8, detail of the metal fixtures attaching the upright poles to the dome frame, from the west



Plate 48: Bell Green, Sydenham, Gasholder No 8, detail view of the I-shape standards attached to the bell inner lift interior wall, from the SSW



Plate 49: Bell Green, Sydenham, Gasholder No 8, detail view of the inlet/outlet pipe, from the south-west



Plate 50: Bell Green, Sydenham, Gasholder No 8, detail of small brick enclosure between No 3 and No 4 standards from the south



Plate 51: Bell Green, Sydenham, Gasholder No 8, general view of the pipework to the south-east of the gasholder from the south-east



Plate 52: Bell Green, Sydenham, Gasholder No 8, detail of the pipework to the south-east of the gasholder from the east

6 DISCUSSION

6.1 Background to Guide Framed Gasholders in the UK

6.1.1 The industry of creating gas from burning coal was first realised in the 1790s, with the gas initially stored below ground and then later in iron tanks immersed in water (HE 2017a). Gasholders first emerged in the UK in the early 19th century associated with mills and (later) factories, a small gasworks providing light and heat for industry. However, as early as the 1810s, German Friedrich Winzer saw the potential of having more centralised gasworks which then disseminated supply to a wider area, and started the Gas Light and Coke Company in 1812 (Thomas 2014). Soon, larger gasworks appeared in industrial towns, and the need for more inventive engineering to store the gas was required, although this didn't take off substantially until the middle of the 19th century. The first gasholders were rectangular, but the advantages of a circular holder were soon realised, with telescopic gasholders with guide towers invented in 1824 (HE 2017a). Innovations in ironwork and structural engineering throughout the early 19th century was a catalyst for developing more efficient and well-engineered gasholders which began with the column guided gasholders, columns supporting the gasholder tank as it rose and fell. Eventually, guide framed gasholders became more popular. This involved an extensive framework erected around the gasholder either in steel or iron (Thomas 2010; 2014). Between the 1870s – 1890s there was a huge change in the design of guide frames both in terms of their structural materials, engineering and appearance (Tucker 2000). Larger holders constructed of wrought iron rather than cast-iron became more commonplace which allowed taller and bigger holders to be constructed.

6.2 Gasholders No 7 and No 8

6.2.1 The superstructure of the gasholders at Bell Green comprised a number of upright radial standards, braced with tie-bars. Throughout the late 19th and early 20th century, the style and type of bracing changed and varied. At Bell Green, No 7 and No 8 have diagonal or 'cross' bracing which is held in place by a central tension ring. Other gasholders had more elaborate and complex forms of diagonal bracing such as the nearby larger Gasholder No 1 at the former Blackwall Lane Gasworks at Greenwich (Sproat *et al* 2018). The insertion of 'flying lifts' was also fairly common as demand for gas increased with the general increase in the local London population. Both No 7 and No 8 holders had flying lifts added in the 1910s, and these were additional vessels which were inserted into the gasholder and, rather than being moved by the guided rails, were operated by a system of cables and pulleys (*ibid*).

6.2.2 Both gasholders have a timber crown rest frame situation atop a concrete dumpling which was common of gasholders of this date such as at Greenwich (Sproat *et al* 2019). However, the raised linear radial design of the dumpling in Gasholder No 8 is unusual, as well as the central concrete support post in both.

6.3 The Surviving Gasholders at Bell Green in the Wider National Context

6.3.1 The gasholders at Bell Green are a survival of the typical expansion of a late 19th century gasworks in London. In terms of construction, the gasholders, consisting of wrought iron lattice guide frames and T-shaped standards, was a major breakthrough in the construction of larger gasholders, first pioneered in 1876 (Tucker 2000). This has been assigned a 'Type 30' gasholders in the 2000 Heritage England (then English Heritage) survey into late 19th century London gasholders, the first example of which in London appears in Hove in 1876, a design by John Paddon (Tucker 2000, 53). The design lends itself well to providing a very strong and stable large gasholder; at Hove the holder was 75ft (22.86m) high (*ibid*). The T-section standards provided a large amount of stability, and other gasholder designers continued this tradition at Poplar (designed by Harry Jones in 1876 – 1878), Kennington (designed by Corbat Woodall in 1877 – 1879) and finally at Sydenham. Eventually, the cumbersome nature of having to manufacture the T-section as opposed to other styles led to its decline and I-section standards became more popular.

7 CONCLUSIONS

- 7.1 The two remaining gasholders at Bell Green are fairly typical examples of a frame-guided holder from the 1880s/1890s, both with four-lift bells rising on radial rollers from inground tanks. With only a few minor differences between the two (and No 8 being larger by two standards) their construction is more or less identical, with only a few minor differences to the overall structural framework such as to the base of the standards and the style of the guided roller carriages.
- 7.2 The two surviving gasholders at Bell Green are typical, although not early, examples of wrought iron lattice framed holders.

8 REFERENCES

8.1 Bibliography and Bibliographical references

Gas Journal 1932 'London Juniors' Visit to Lower Sydenham Gas-Works', *Gas Journal*, April 13th 1932, p 90

Historic England (HE) 2017a *Assessment Report: Gasholder No 7 Bell Green, Sydenham, London Borough of Lewisham*.

Historic England (HE) 2017b *Assessment Report: Gasholder No 8 Bell Green, Sydenham, London Borough of Lewisham*.

HoP/HoL (Head of Planning and Head of Law) 2017 *Gasholders 7 and 8, Bell Green Gas Works, Bell Green, Sydenham, London*. Report to consider whether the structures should be locally listed.

Institute of Civil Engineers 1908 *George Thomas Livesey: Obituary*.

https://www.gracesguide.co.uk/George_Thomas_Livesey#cite_note-2, Accessed 8th March 2018

Montagu Evans 2016 *Southern Gas Networks: Portfolio Sites Heritage Review*.

Montagu Evans 2017a *Historic Building Recording Brief for Sites at Park Lane, Worthing; Marsh Lane, Salisbury; St James Road, Carshalton; Bell Green, Sydenham; Old Kent Road, Southwark; Blackwall Lane, Greenwich*. Unpublished Method Statement for SGN.

Montagu Evans 2017b *Heritage Statement: Gasholder Site Bell Green*. Unpublished heritage statement supporting a planning application for new development. Planning Ref Nos: DC/05/59375; DC/05/58884 and DC/11/78646/7/8 & 9

Sproat, D, Humble, J & Capon, L 2018 *SGN Gasholder Heritage Review: Blackwall Lane, Greenwich Historic Building Recording Survey (Phase I)*.

Sproat, D, Humble, J, Capon, L, Hudson, G & Wright, P 2019 *SGN Gasholder Heritage Review: Blackwall Lane, Greenwich Historic Building Recording Final Report*.

Thomas, R 2010 *Gasholders and Their Tanks: A Profile of the Construction of Different Types of Gasholders, Their Tanks and their Occurrence on Former Gasworks Sites*.

<http://www.eugris.info/newsdownloads/Gasholders%20and%20their%20tanks.pdf>, Accessed 8th March 2018

Thomas, R 2014 *Gasworks Profile B: Gasholders and Their Tanks*. Parsons Brinckerhoff: Bristol

Trueman, M 2002a *Gasholders: Step 3 Report for Monuments Protection Programme*. Heritage England.

Tucker, M 2000 *London Gasholders Survey: The Development of the Gasholder in London in the Later Nineteenth Century*. Independent report for Heritage England (then English Heritage).

Velosi Certificate Bureau 2003a *Water Sealed Gasholder Basic Record: Gasholder No 7*.

Velosi Certificate Bureau 2003b *Water Sealed Gasholder Basic Record: Gasholder No 7*.

8.2 Cartographic references

1870	Ordnance Survey	<i>Kent Sheet VII</i>
1896	Ordnance Survey	<i>London Sheet XV.NE</i>
1919	Ordnance Survey	<i>London Sheet S</i>
1934	Ordnance Survey	<i>Kent Sheet VII.SE</i>
1946	Ordnance Survey	<i>London Sheet S</i>

8.2 SGN Archive drawings

Gasholder No 7, cup-and-grip detail added 07-05-57

Gasholder No 7, the tank

Gasholder No 7, the framing

Gasholder No 7, inlet and outlet pipes

Gasholder No 7, standards

Gasholder No 7, standards

Gasholder No 7, details

Gasholder No 8, concrete tank

Gasholder No 8, details

Gasholder No 8, timber framing

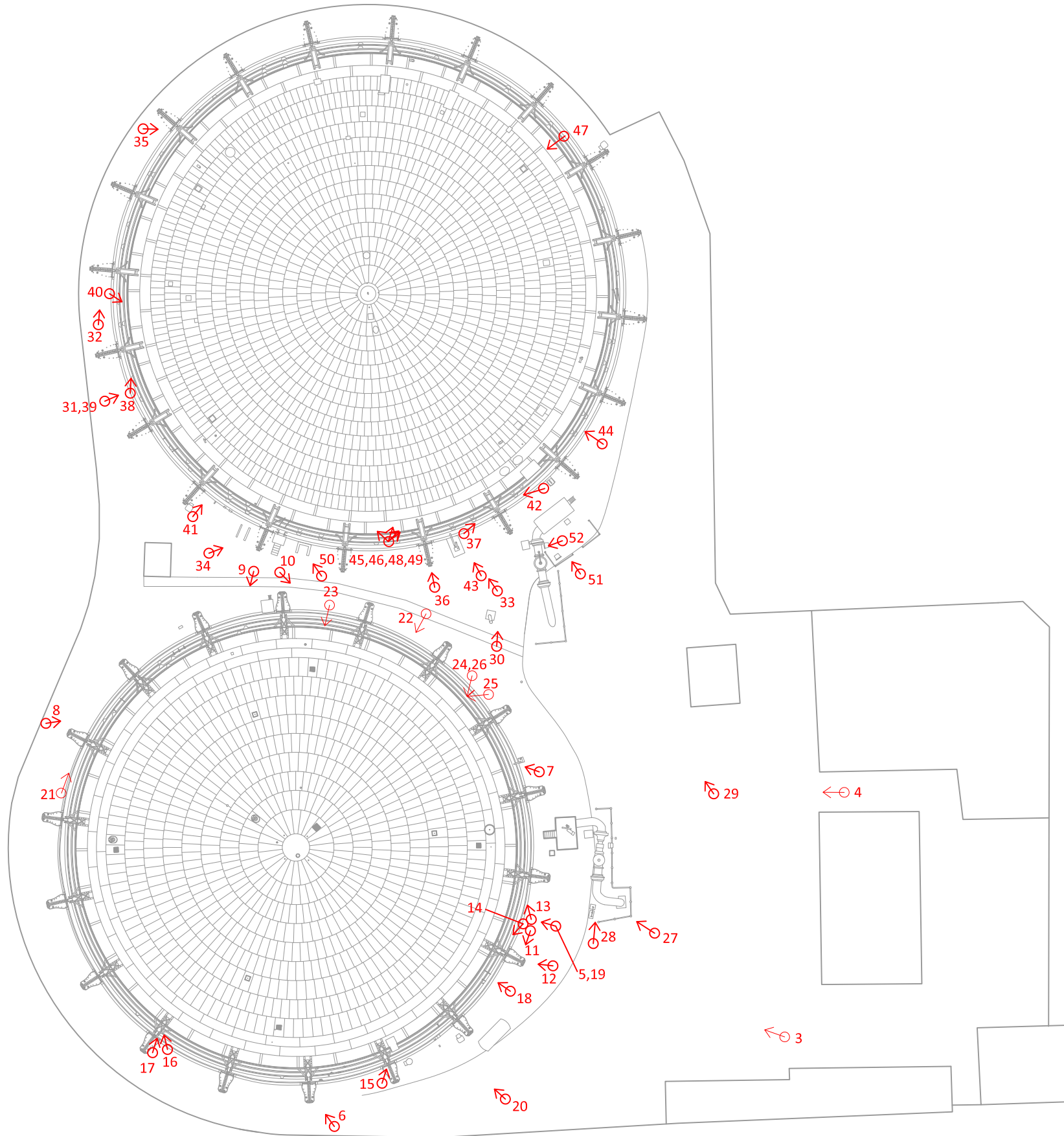
Gasholder No 8, details

Gasholder No 8, details

Gasholder No 8, elevation of standards

APPENDIX 1: DIGITAL PHOTOGRAPHIC RECORD WITH PLATE AND PHOTOGRAPH LOCATION PLANS

Gasholder No. 8



Gasholder No. 7

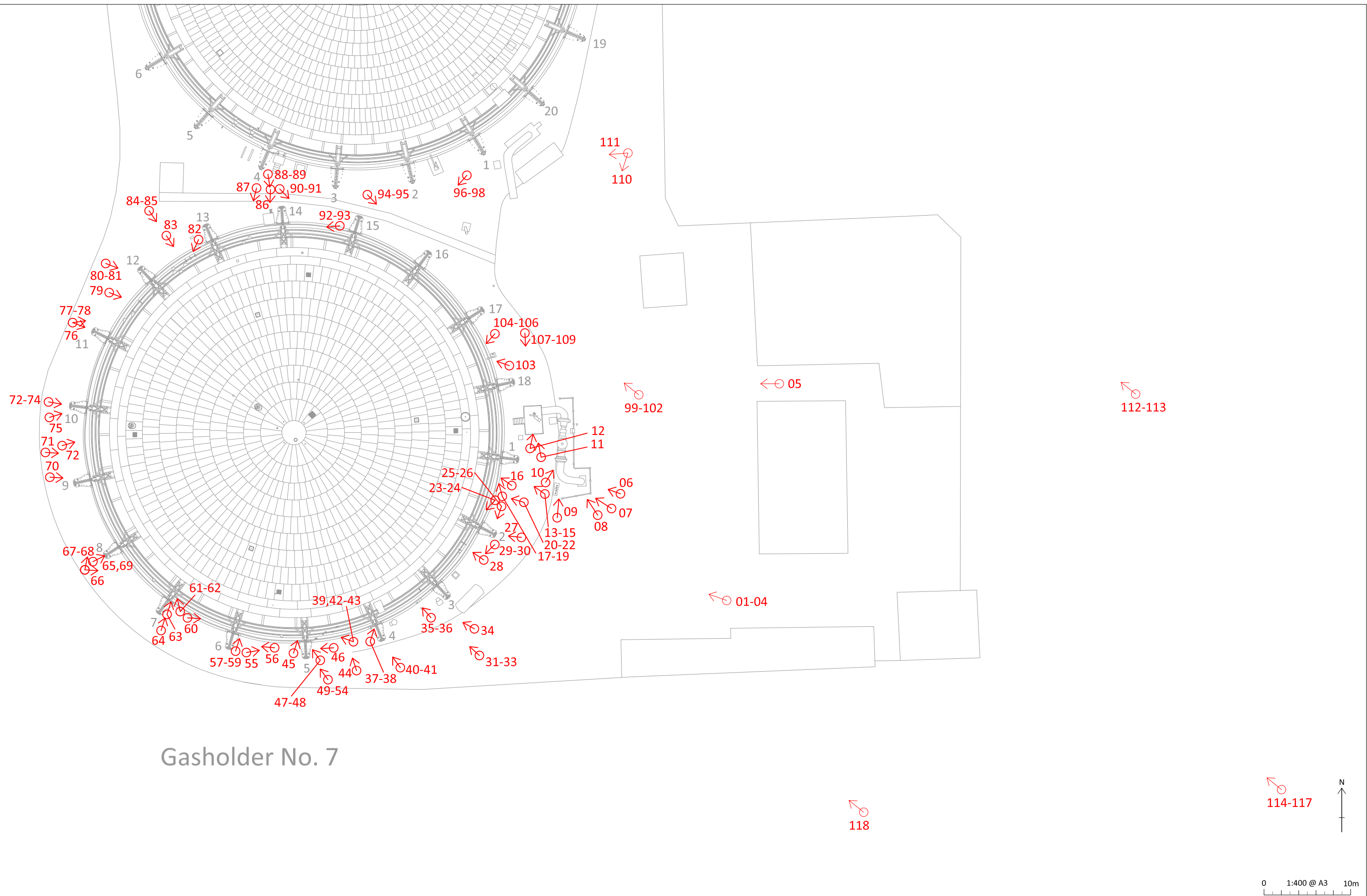
Appendix 1b: Gasholder No 7, photographic register

Frame	Description	Taken From	Date	Taken By
SYD_07_001	General view of the gasholder frame	SE	15/01/2018	AOC
SYD_07_002	General view of the gasholder frame	SE	15/01/2018	AOC
SYD_07_003	General view of the gasholder frame	SE	15/01/2018	AOC
SYD_07_004	General view of the gasholder frame	E	15/01/2018	AOC
SYD_07_005	General view of the gasholder frame	ENE	15/01/2018	AOC
SYD_07_006	Detail of pipework to the E side of the gasholder	SSE	15/01/2018	AOC
SYD_07_007	Detail of pipework to the E side of the gasholder	SE	15/01/2018	AOC
SYD_07_008	Detail of pipework to the E side of the gasholder	ESE	15/01/2018	AOC
SYD_07_009	Close detail of the pipework to the E side of the gasholder showing makers' plaque	SW	15/01/2018	AOC
SYD_07_010	Close detail of the pipework to the E side of the gasholder	SSW	15/01/2018	AOC
SYD_07_011	Close detail of the pipework to the E side of the gasholder	S	15/01/2018	AOC
SYD_07_012	Close detail of the pipework to the E side of the gasholder	S	15/01/2018	AOC
SYD_07_013	Detail of No 1 standard	SE	15/01/2018	AOC
SYD_07_014	Detail of No 1 standard	SE	15/01/2018	AOC
SYD_07_015	Detail of No 1 standard	SE	15/01/2018	AOC
SYD_07_016	Detail of guided roller behind No 1 standard	SE	15/01/2018	AOC
SYD_07_017	Close detail of guided roller behind No 1 standard	SSE	15/01/2018	AOC
SYD_07_018	Close detail of guided roller behind No 1 standard	SSE	15/01/2018	AOC
SYD_07_019	Close detail of guided roller behind No 1 standard	SSE	15/01/2018	AOC
SYD_07_020	General view looking at crown of gasholder and frame to the WNW side	ESE	15/01/2018	AOC
SYD_07_021	General view looking at crown of gasholder and frame to the WNW side	ESE	15/01/2018	AOC
SYD_07_022	General view looking at crown of gasholder and frame to the WNW side	ESE	15/01/2018	AOC
SYD_07_023	Detail of guided roller behind No 2 standard	NE	15/01/2018	AOC
SYD_07_024	Detail of guided roller behind No 2 standard	NE	15/01/2018	AOC
SYD_07_025	Detail of the foot of No 2 standard	NNE	15/01/2018	AOC
SYD_07_026	Detail looking up at No 2 standard	NNE	15/01/2018	AOC
SYD_07_027	Detail of the foot of No 2 standard	E	15/01/2018	AOC
SYD_07_028	General view of the crown of the gasholder from the SE side	SE	15/01/2018	AOC
SYD_07_029	Detail of the foot of No 3 standard	NE	15/01/2018	AOC
SYD_07_030	General view looking at the SSW side of the gasholder, including the crown and the guided roller behind No 4 standard	ESE	15/01/2018	AOC
SYD_07_031	General view looking at the diagonal bracing between No 7 and No 8 standards	S	15/01/2018	AOC
SYD_07_032	General view looking up at the gasholder frame, including the stairs	SSE	15/01/2018	AOC
SYD_07_033	General view looking up at the gasholder frame, including the stairs	SSE	15/01/2018	AOC
SYD_07_034	Detail of No 4 standard (and the 'No 7' sign) to the base of the gasholder	SSE	15/01/2018	AOC
SYD_07_035	Detail of small feature between No 3 and No 4 standards	SSE	15/01/2018	AOC
SYD_07_036	Detail of small feature between No 3 and No 4 standards	SSE	15/01/2018	AOC
SYD_07_037	Close detail of the metalwork to the front of No 4 standard also showing guided roller behind the framing	SSE	15/01/2018	AOC
SYD_07_038	Close detail of the metalwork to the front of No 4 standard also showing guided roller behind the framing	SSE	15/01/2018	AOC
SYD_07_039	General view looking at the framing of the S side of the gasholder	E	15/01/2018	AOC
SYD_07_040	General view looking up at No 4 standard	SSE	15/01/2018	AOC
SYD_07_041	General view of No 4 standard	SSE	15/01/2018	AOC
SYD_07_042	Detail looking at the top of the tank between No 4 and No 5 standards	ESE	15/01/2018	AOC
SYD_07_043	General view looking at the top of the frame	ESE	15/01/2018	AOC
SYD_07_044	Detail of the circular tension fixing between No 4 and No 5 standard to	S	15/01/2018	AOC

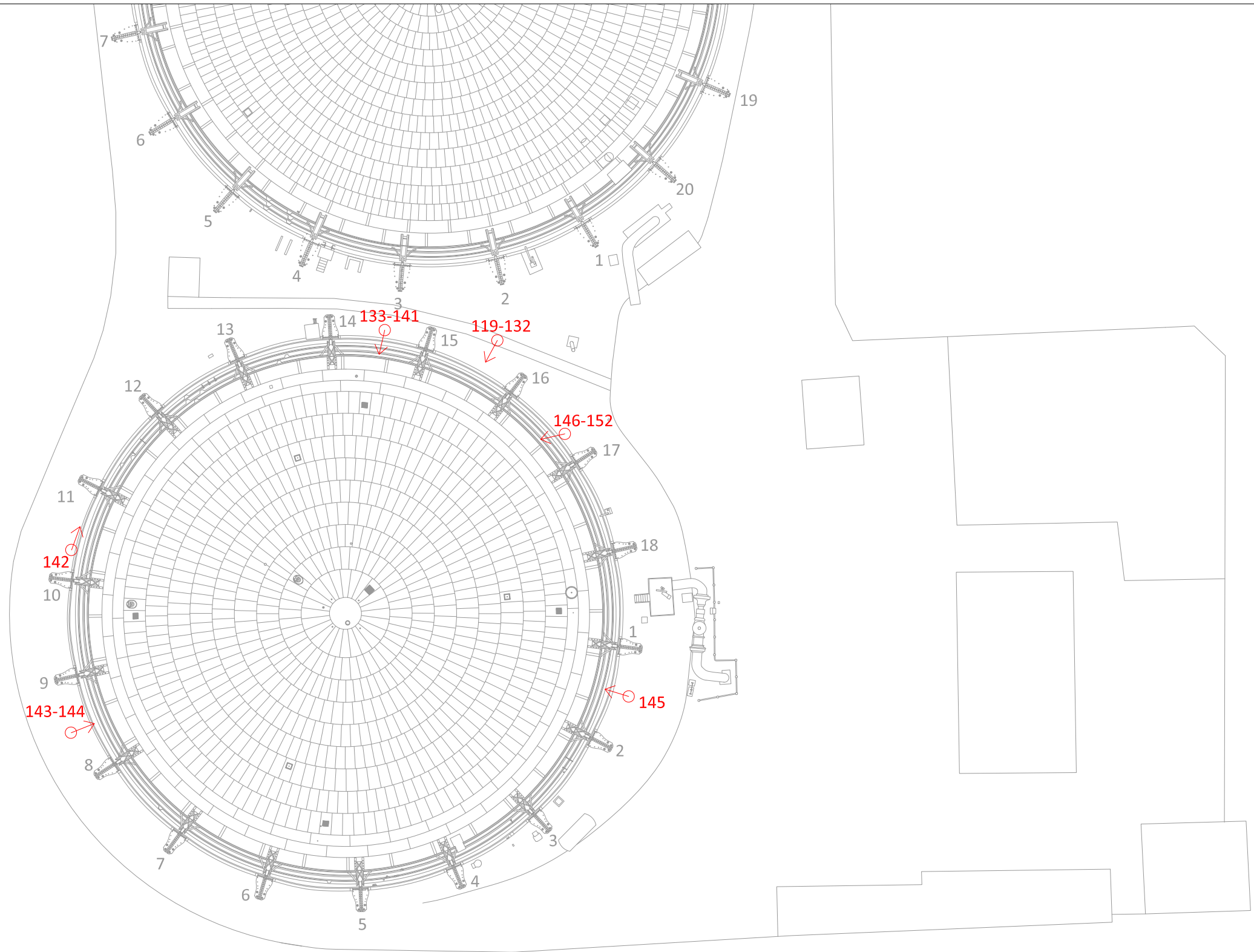
	the S side of the gasholder			
SYD_07_045	Detail looking down at the metalwork of the base of No 5 standard	SSW	15/01/2018	AOC
SYD_07_046	Detail of the base of No 5 standard	ESE	15/01/2018	AOC
SYD_07_047	Detail of the base of No 5 standard	S	15/01/2018	AOC
SYD_07_048	Detail of the brick wall to the immediate E of No 5 standard	E	15/01/2018	AOC
SYD_07_049	Detail to the base of No 5 standard	SSE	15/01/2018	AOC
SYD_07_050	Detail to the base of No 5 standard	SSE	15/01/2018	AOC
SYD_07_051	General view of No 5 standard	SSE	15/01/2018	AOC
SYD_07_052	Detail looking up at the top of the frame and No 5 standard	S	15/01/2018	AOC
SYD_07_053	Detail looking up at the top of the frame and No 5 standard	S	15/01/2018	AOC
SYD_07_054	Detail looking up at the top of the frame and No 5 standard	S	15/01/2018	AOC
SYD_07_055	General view of the top of the brick wall of the tank to the W of No 5 standard	SW	15/01/2018	AOC
SYD_07_056	Detail of the foot of No 6 standard	ESE	15/01/2018	AOC
SYD_07_057	Detail of the foot of No 6 standard	SE	15/01/2018	AOC
SYD_07_058	Detail of the foot of No 6 standard	SSE	15/01/2018	AOC
SYD_07_059	General view of the crown of the gasholder	S	15/01/2018	AOC
SYD_07_060	Detail of the railings and the guided roller behind No 6 standard	SW	15/01/2018	AOC
SYD_07_061	Close detail of the guided roller behind No 7 standard	SSE	15/01/2018	AOC
SYD_07_062	Close detail of the guided roller behind No 7 standard	SSE	15/01/2018	AOC
SYD_07_063	Close detail of the guided roller behind No 7 standard	SSE	15/01/2018	AOC
SYD_07_064	Detail of the foot of No 7 standard	S	15/01/2018	AOC
SYD_07_065	General view between No 7 and No 8 standards	W	15/01/2018	AOC
SYD_07_066	General view between No 7 and No 8 standards	W	15/01/2018	AOC
SYD_07_067	General view between No 8 and No 9 standards	S	15/01/2018	AOC
SYD_07_068	Detail looking up at No 9 standard	S	15/01/2018	AOC
SYD_07_069	Close detail looking up at No 8 standard	SW	15/01/2018	AOC
SYD_07_070	Detail of No 9 standard	NW	15/01/2018	AOC
SYD_07_071	General view of the crown of the gasholder	W	15/01/2018	AOC
SYD_07_072	Detail of the crown of the gasholder to the W side	WSW	15/01/2018	AOC
SYD_07_073	Close detail of the base of No 10 standard	WNW	15/01/2018	AOC
SYD_07_074	Close detail of the base of No 10 standard	WNW	15/01/2018	AOC
SYD_07_075	Close detail of the base of No 10 standard	SW	15/01/2018	AOC
SYD_07_076	Close detail of the base of No 11 standard	WNW	15/01/2018	AOC
SYD_07_077	Detail of the frame of the gasholder	W	15/01/2018	AOC
SYD_07_078	Detail of the frame of the gasholder (looking up)	W	15/01/2018	AOC
SYD_07_079	Detail of the brick wall and railings around the tank between No 11 and No 12 standards	NW	15/01/2018	AOC
SYD_07_080	Detail of No 12 standard (base)	W	15/01/2018	AOC
SYD_07_081	Detail of No 12 standard (looking up)	W	15/01/2018	AOC
SYD_07_082	Detail of the guided roller behind No 12 standard	NNE	15/01/2018	AOC
SYD_07_083	Detail of the ladder and platform between No 12 and No 13 standards	NNW	15/01/2018	AOC
SYD_07_084	Detail of the ladder and platform between No 12 and No 13 standards	NNW	15/01/2018	AOC
SYD_07_085	Detail of the ladder and platform between No 12 and No 13 standards	NNW	15/01/2018	AOC
SYD_07_086	Close detail of the framing to the immediate W of No 14 standard	N	15/01/2018	AOC
SYD_07_087	Detail of the circular tension fixing between No 13 and No 14 standard	NNE	15/01/2018	AOC
SYD_07_088	General view of No 14 standard	N	15/01/2018	AOC
SYD_07_089	General view of No 14 standard (looking up)	N	15/01/2018	AOC
SYD_07_090	General view of the frame of the gasholder to the N side and the diagonal tension rods between the standards	NNW	15/01/2018	AOC
SYD_07_091	General view of the frame of the gasholder to the N side and the diagonal tension rods between the standards	NNW	15/01/2018	AOC
SYD_07_092	Detail of the guided roller behind No 14 standard	ENE	15/01/2018	AOC
SYD_07_093	Detail of the guided roller behind No 14 standard	ENE	15/01/2018	AOC
SYD_07_094	General view of frame of gasholder to the NNE side and the diagonal tension rods between No 15 and No 16 standards	NW	15/01/2018	AOC

SYD_07_095	General view of frame of gasholder to the NNE side and the diagonal tension rods between No 15 and No 16 standards	NW	15/01/2018	AOC
SYD_07_096	General view of No 16 standard	NE	15/01/2018	AOC
SYD_07_097	General view of No 16 standard	NE	15/01/2018	AOC
SYD_07_098	General view of No 16 standard	NE	15/01/2018	AOC
SYD_07_099	General view of frame of gasholder on the NE side	SE	15/01/2018	AOC
SYD_07_100	General view of frame of gasholder on the NE side	SE	15/01/2018	AOC
SYD_07_101	General view of frame of gasholder on the NE side	SE	15/01/2018	AOC
SYD_07_102	General view of frame of gasholder on the NE side	SE	15/01/2018	AOC
SYD_07_103	General view of the crown and the frame of the gasholder to the NE side	SE	15/01/2018	AOC
SYD_07_104	General view of the frame of the gasholder to the E side	NNE	15/01/2018	AOC
SYD_07_105	General view of the frame of the gasholder to the E side	NNE	15/01/2018	AOC
SYD_07_106	General view of the frame of the gasholder to the E side	NNE	15/01/2018	AOC
SYD_07_107	Detail of the foot of No 18 standard and the pipe to its east side	N	15/01/2018	AOC
SYD_07_108	Detail of the foot of No 18 standard and the pipe to its east side	N	15/01/2018	AOC
SYD_07_109	Detail of the foot of No 18 standard and the pipe to its east side	N	15/01/2018	AOC
SYD_07_110	General view of the E side of the gasholder	N	15/01/2018	AOC
SYD_07_111	General view of the E side of the gasholder	N	15/01/2018	AOC
SYD_07_112	General view of both gasholders in their setting	S	15/01/2018	AOC
SYD_07_113	General view of both gasholders in their setting	S	15/01/2018	AOC
SYD_07_114	General view of both gasholders in their setting	SE	15/01/2018	AOC
SYD_07_115	General view of both gasholders in their setting	SE	15/01/2018	AOC
SYD_07_116	General view of both gasholders in their setting	SE	15/01/2018	AOC
SYD_07_117	General view of both gasholders in their setting	SE	15/01/2018	AOC
SYD_07_118	General view of gasholder	SE	15/01/2018	AOC
SYD_07_119	General view of road, retail and residential areas to the south of the site, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_120	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_121	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_122	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_123	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_124	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_125	General view of gasholder crown rest frame and decommissioning apparatus in the south of the site, taken from raised crane	E	01/05/2019	Keltbray
SYD_07_126	General view of gasholder crown rest frame and decommissioning apparatus in the south of the site, taken from raised crane	E	01/05/2019	Keltbray
SYD_07_127	General view of gasholder crown rest frame and decommissioning apparatus in the south of the site, taken from raised crane	E	01/05/2019	Keltbray
SYD_07_128	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_129	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_130	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_131	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_132	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_133	General view of gasholder crown rest frame, taken from raised crane	NE	01/05/2019	Keltbray
SYD_07_134	General view of gasholder crown rest frame	N	03/05/2019	AOC
SYD_07_135	General view of gasholder crown rest frame	NW	03/05/2019	AOC
SYD_07_136	General view of gasholder crown rest frame	NNW	03/05/2019	AOC
SYD_07_137	General view of gasholder crown rest frame	NNE	03/05/2019	AOC
SYD_07_138	General view of gasholder crown rest frame	NE	03/05/2019	AOC
SYD_07_139	General of the central concrete support post	N	03/05/2019	AOC
SYD_07_140	Detail of the metal fixtures	NNW	03/05/2019	AOC
SYD_07_141	General view of gasholder crown rest frame	NE	03/05/2019	AOC
SYD_07_142	General view of the bell outer lift exterior wall	S	03/05/2019	AOC
SYD_07_143	General view of gasholder crown rest frame	W	03/05/2019	AOC
SYD_07_144	General view of gasholder crown rest frame	NW	03/05/2019	AOC

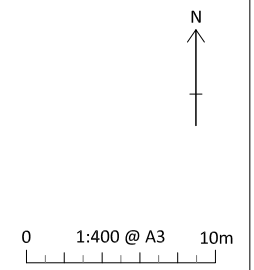
SYD_07_145	Detail view of the sludge at the bottom of the tank	E	03/05/2019	AOC
SYD_07_146	General view of the crown rest frame	SE	03/05/2019	AOC
SYD_07_147	General view of the crown rest frame	SE	03/05/2019	AOC
SYD_07_148	General view of the crown rest frame	NE	03/05/2019	AOC
SYD_07_149	General view of the crown rest frame	ESE	03/05/2019	AOC
SYD_07_150	Detail of the metal bracket	SE	03/05/2019	AOC
SYD_07_151	Detail of the lattice standard on the interior wall of the bell	NE	03/05/2019	AOC
SYD_07_152	Detail of the lattice standard on the interior wall of the bell	SE	03/05/2019	AOC



Appendix 1c: Bell Green, Sydenham, Gasholder No 7, site plan with locations of photographs taking during the Phase I survey



Gasholder No. 7



Appendix 1e: Gasholder No 8, photographic register

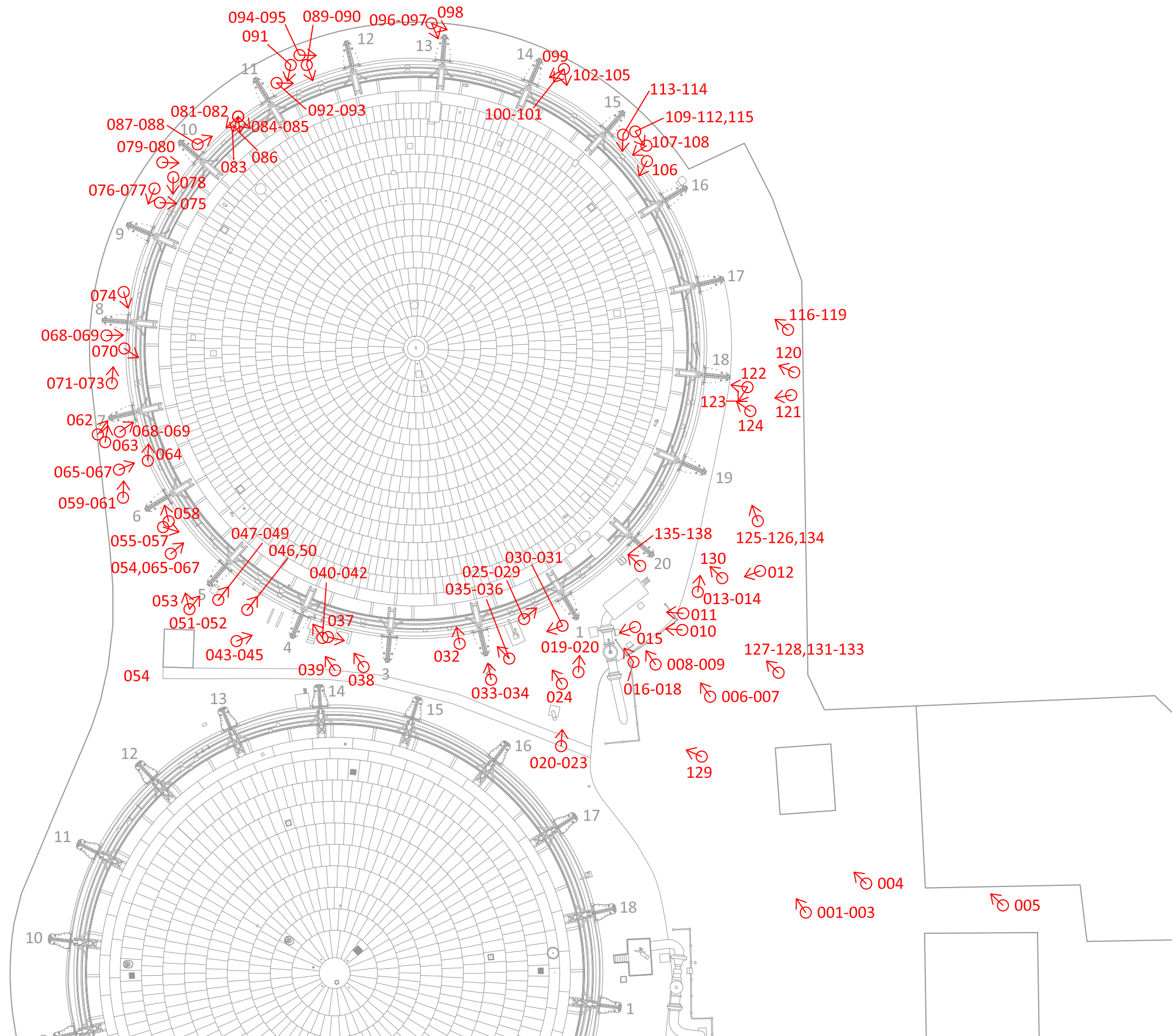
Frame	Description	Taken From	Date	Taken By
SYD_08_001	General view of the gasholder frame	SSE	15/01/2018	AOC
SYD_08_002	General view of the gasholder frame	SSE	15/01/2018	AOC
SYD_08_003	General view of the gasholder frame	SSE	15/01/2018	AOC
SYD_08_004	General view of the gasholder frame	SSE	15/01/2018	AOC
SYD_08_005	General view of the gasholder frame	SSE	15/01/2018	AOC
SYD_08_006	General view of pipework to the SSE of the gasholder	SE	15/01/2018	AOC
SYD_08_007	Detail of pipework to the SSE side of the gasholder	SE	15/01/2018	AOC
SYD_08_008	Detail of pipework to the SSE side of the gasholder	SE	15/01/2018	AOC
SYD_08_009	Detail of pipework to the SSE side of the gasholder	SE	15/01/2018	AOC
SYD_08_010	Detail of feature attached to the pipework to the SSE side of the gasholder	SE	15/01/2018	AOC
SYD_08_011	Detail of pipework to the SSE side of the gasholder	NE	15/01/2018	AOC
SYD_08_012	Detail of pipework to the SSE side of the gasholder	SE	15/01/2018	AOC
SYD_08_013	General view looking at the E side of the gasholder and the S side of No 19 standard	S	15/01/2018	AOC
SYD_08_014	General view looking at the E side of the gasholder and the S side of No 19 standard	S	15/01/2018	AOC
SYD_08_015	Close detail of pipework to the SE side of the gasholder	E	15/01/2018	AOC
SYD_08_016	Detail of pipework to the SE side of the gasholder	SE	15/01/2018	AOC
SYD_08_017	Detail of pipework to the SE side of the gasholder	SE	15/01/2018	AOC
SYD_08_018	Detail of pipework to the SE side of the gasholder	SE	15/01/2018	AOC
SYD_08_019	General view of No 1 standard	S	15/01/2018	AOC
SYD_08_020	General view of No 1 standard	S	15/01/2018	AOC
SYD_08_021	General view of the frame of the gasholder to the S side	SSE	15/01/2018	AOC
SYD_08_022	General view of the frame of the gasholder to the S side	SSE	15/01/2018	AOC
SYD_08_023	General view of the frame of the gasholder to the S side	SSE	15/01/2018	AOC
SYD_08_024	Detail of the circular tension fixing between the No 1 and No 2 standards	SSE	15/01/2018	AOC
SYD_08_025	Detail of guided roller to the rear of No 1 standard	SW	15/01/2018	AOC
SYD_08_026	Detail of guided roller to the rear of No 1 standard	SW	15/01/2018	AOC
SYD_08_027	Detail of guided roller to the rear of No 1 standard	SW	15/01/2018	AOC
SYD_08_028	Detail of guided roller to the rear of No 1 standard	SW	15/01/2018	AOC
SYD_08_029	Detail of guided roller to the rear of No 1 standard	SW	15/01/2018	AOC
SYD_08_030	Detail of footing of No 2 standard	E	15/01/2018	AOC
SYD_08_031	Detail of footing of No 2 standard	E	15/01/2018	AOC
SYD_08_032	General view of the crown of the gasholder	SSE	15/01/2018	AOC
SYD_08_033	Detail of the footing of No 2 standard	SSE	15/01/2018	AOC
SYD_08_034	Detail of the footing of No 2 standard	SSE	15/01/2018	AOC
SYD_08_035	Close detail of the footing of No 3 standard	SE	15/01/2018	AOC
SYD_08_036	Close detail of the footing of No 3 standard	SE	15/01/2018	AOC
SYD_08_037	Detail of top of brick feature to the SSW side of the gasholder between No 3 and No 4 standards	SW	15/01/2018	AOC
SYD_08_038	Detail of small brick feature to the SSW side of the gasholder between No 3 and No 4 standards	S	15/01/2018	AOC
SYD_08_039	General view of ladder to the immediate E side of No 4 standard	S	15/01/2018	AOC
SYD_08_040	Detail of feature behind the ladder to the immediate E of No 4 standard	S	15/01/2018	AOC
SYD_08_041	Detail of feature behind the ladder to the immediate E of No 4 standard	S	15/01/2018	AOC
SYD_08_042	Detail of feature behind the ladder to the immediate E of No 4 standard	SSE	15/01/2018	AOC
SYD_08_043	Detail of the footing of No 4 standard	SW	15/01/2018	AOC
SYD_08_044	Detail of the footing of No 4 standard	SW	15/01/2018	AOC
SYD_08_045	General view of No 4 standard	SW	15/01/2018	AOC
SYD_08_046	Detail of small feature between No 4 and No 5 standards	SW	15/01/2018	AOC

SYD_08_047	Detail looking up at ladder and platform to the immediate E of No 5 standard	SW	15/01/2018	AOC
SYD_08_048	Detail looking up at ladder and platform to the immediate E of No 5 standard	SW	15/01/2018	AOC
SYD_08_049	Detail looking up at ladder and platform to the immediate E of No 5 standard	SW	15/01/2018	AOC
SYD_08_050	General view of the frame of the gasholder to the NE side	SW	15/01/2018	AOC
SYD_08_051	Detail of the footing of No 5 standard	W	15/01/2018	AOC
SYD_08_052	Detail of the footing of No 5 standard	W	15/01/2018	AOC
SYD_08_053	General view of the crown of the gasholder	SW	15/01/2018	AOC
SYD_08_054	General view of the crown of the gasholder to the SW side	SW	15/01/2018	AOC
SYD_08_055	Detail of outer side of tank and wall between No 5 and No 6 standards	W	15/01/2018	AOC
SYD_08_056	Detail of outer side of tank and wall between No 5 and No 6 standards	W	15/01/2018	AOC
SYD_08_057	Detail of outer side of tank and wall between No 5 and No 6 standards	W	15/01/2018	AOC
SYD_08_058	Detail looking up at the top of No 6 standard	S	15/01/2018	AOC
SYD_08_059	General view of No 7 standard	SSW	15/01/2018	AOC
SYD_08_060	General view of No 7 standard	SSW	15/01/2018	AOC
SYD_08_061	General view of No 7 standard (looking up)	SSW	15/01/2018	AOC
SYD_08_062	Close detail of front of footing to No 7 standard	SSW	15/01/2018	AOC
SYD_08_063	Close detail of front of footing to No 7 standard	SSW	15/01/2018	AOC
SYD_08_064	Detail of guided roller behind No 7 standard	SSW	15/01/2018	AOC
SYD_08_065	General view of the crown of the gasholder	SW	15/01/2018	AOC
SYD_08_066	Detail of frame of the gasholder to the NE side	SW	15/01/2018	AOC
SYD_08_067	Detail of frame of the gasholder to the NE side	SW	15/01/2018	AOC
SYD_08_068	Detail of top of brick wall of tank	W	15/01/2018	AOC
SYD_08_069	Detail of top of brick wall of tank	W	15/01/2018	AOC
SYD_08_070	General view of the crown of the gasholder to the SW side	NW	15/01/2018	AOC
SYD_08_071	Detail of footing of No 8 standard	SSW	15/01/2018	AOC
SYD_08_072	General view looking up at No 8 standard	SSW	15/01/2018	AOC
SYD_08_073	General view looking up at No 8 standard	SSW	15/01/2018	AOC
SYD_08_074	Close detail of footing of No 8 standard	NW	15/01/2018	AOC
SYD_08_075	General view of the crown of the gasholder to the NW side and the guided roller behind No 10 standard	WSW	15/01/2018	AOC
SYD_08_076	Detail of the footing to the base of No 9 standard	SW	15/01/2018	AOC
SYD_08_077	Detail of the footing to the base of No 9 standard	SW	15/01/2018	AOC
SYD_08_078	Detail of guided roller behind No 9 standard	N	15/01/2018	AOC
SYD_08_079	Detail of footing of No 10 standard	N	15/01/2018	AOC
SYD_08_080	Close detail of the base of No 10 standard	N	15/01/2018	AOC
SYD_08_081	Detail of footing of No 10 standard	NE	15/01/2018	AOC
SYD_08_082	General view of No 10 standard	NE	15/01/2018	AOC
SYD_08_083	General view of the frame of the gasholder to the SE side	NW	15/01/2018	AOC
SYD_08_084	General view of the frame of the gasholder to the SE side	NW	15/01/2018	AOC
SYD_08_085	General view of the frame of the gasholder to the SE side	NW	15/01/2018	AOC
SYD_08_086	General view of the frame of the gasholder to the SE side	NW	15/01/2018	AOC
SYD_08_087	Detail of the footing of No 11 standard	SW	15/01/2018	AOC
SYD_08_088	Detail of the footing of No 11 standard	SW	15/01/2018	AOC
SYD_08_089	General view of the crown of the gasholder	NNW	15/01/2018	AOC
SYD_08_090	General view of the crown of the gasholder	NNW	15/01/2018	AOC
SYD_08_091	Detail of the foot of No 11 standard and the guided roller behind it	N	15/01/2018	AOC
SYD_08_092	Detail of the foot of No 12 standard and the guided roller behind it	W	15/01/2018	AOC
SYD_08_093	General View looking up at No 12 standard	W	15/01/2018	AOC
SYD_08_094	Detail of the foot of No 12 standard	W	15/01/2018	AOC
SYD_08_095	Detail of the foot of No 12 standard	W	15/01/2018	AOC
SYD_08_096	Detail of the foot of No 13 standard	NW	15/01/2018	AOC
SYD_08_097	Detail of the foot of No 13 standard	NW	15/01/2018	AOC
SYD_08_098	General view looking up at No 14 standard	WNW	15/01/2018	AOC

SYD_08_099	Detail of the guided roller behind No 14 standard	NE	15/01/2018	AOC
SYD_08_100	General view of the crown of the gasholder	NE	15/01/2018	AOC
SYD_08_101	General view of the crown of the gasholder	NE	15/01/2018	AOC
SYD_08_102	General view of the NE side of the gasholder and the guided roller behind No 15 standard	N	15/01/2018	AOC
SYD_08_103	General view of the NE side of the gasholder and the guided roller behind No 15 standard	N	15/01/2018	AOC
SYD_08_104	General view of the NE side of the gasholder and the guided roller behind No 15 standard	N	15/01/2018	AOC
SYD_08_105	General view of the NE side of the gasholder and the guided roller behind No 15 standard	N	15/01/2018	AOC
SYD_08_106	General view of the crown of the gasholder	NE	15/01/2018	AOC
SYD_08_107	Detail of feature to the NE side of the gasholder between No 15 and No 16 standard	NNE	15/01/2018	AOC
SYD_08_108	General view of the crown of the gasholder	NE	15/01/2018	AOC
SYD_08_109	Detail of the footing of No 16 standard	NNW	15/01/2018	AOC
SYD_08_110	Detail of the footing of No 16 standard	NNW	15/01/2018	AOC
SYD_08_111	Detail of No 16 standard	NNW	15/01/2018	AOC
SYD_08_112	Detail of No 16 standard	NNW	15/01/2018	AOC
SYD_08_113	General view of the frame of the gasholder to the NE and E side	N	15/01/2018	AOC
SYD_08_114	General view of the frame of the gasholder to the NE and E side	N	15/01/2018	AOC
SYD_08_115	General view of the frame of the gasholder to the NE and E side	N	15/01/2018	AOC
SYD_08_116	General view of No 17 standard	NNW	15/01/2018	AOC
SYD_08_117	General view of No 17 standard (looking up)	SSE	15/01/2018	AOC
SYD_08_118	General view of No 17 standard (looking up)	SSE	15/01/2018	AOC
SYD_08_119	General view of No 17 standard	SSE	15/01/2018	AOC
SYD_08_120	General view of No 17 and No 18 standards and the crown of the gasholder to the E side	SSE	15/01/2018	AOC
SYD_08_121	General view of the base of No 18 standard and the crown of the gasholder to the E side	NE	15/01/2018	AOC
SYD_08_122	Detail of the top of the brick wall of the tank to the immediate S of No 18 standard	E	15/01/2018	AOC
SYD_08_123	General view of the outer wall to the E side of the gasholder in front of No 18 standard	N	15/01/2018	AOC
SYD_08_124	Detail of the base of No 18 standard	SE	15/01/2018	AOC
SYD_08_125	General view of the frame of the gasholder to the E side	S	15/01/2018	AOC
SYD_08_126	General view of the frame of the gasholder to the E side	S	15/01/2018	AOC
SYD_08_127	General view of the frame of the gasholder to the E side	S	15/01/2018	AOC
SYD_08_128	General view of the frame of the gasholder to the E side	S	15/01/2018	AOC
SYD_08_129	General view looking between the gasholders	E	15/01/2018	AOC
SYD_08_130	Detail of the diagonal bracing between the standards	SE	15/01/2018	AOC
SYD_08_131	General view of the gasholder	SE	15/01/2018	AOC
SYD_08_132	General view of the gasholder	SE	15/01/2018	AOC
SYD_08_133	General view of the base of the gasholder to the SE side	SE	15/01/2018	AOC
SYD_08_134	General view of the base of the gasholder to the SE side	SSE	15/01/2018	AOC
SYD_08_135	Close detail of the SE side of the gasholder between No 20 and No 1 standards	SE	15/01/2018	AOC
SYD_08_136	Detail looking up at the frame of the gasholder to the SE side	NE	15/01/2018	AOC
SYD_08_137	Detail looking up at the frame of the gasholder to the SE side	NE	15/01/2018	AOC
SYD_08_138	Detail looking up at the frame of the gasholder to the SE side	NE	15/01/2018	AOC
SYD_08_139	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_140	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_141	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_142	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_143	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_144	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray

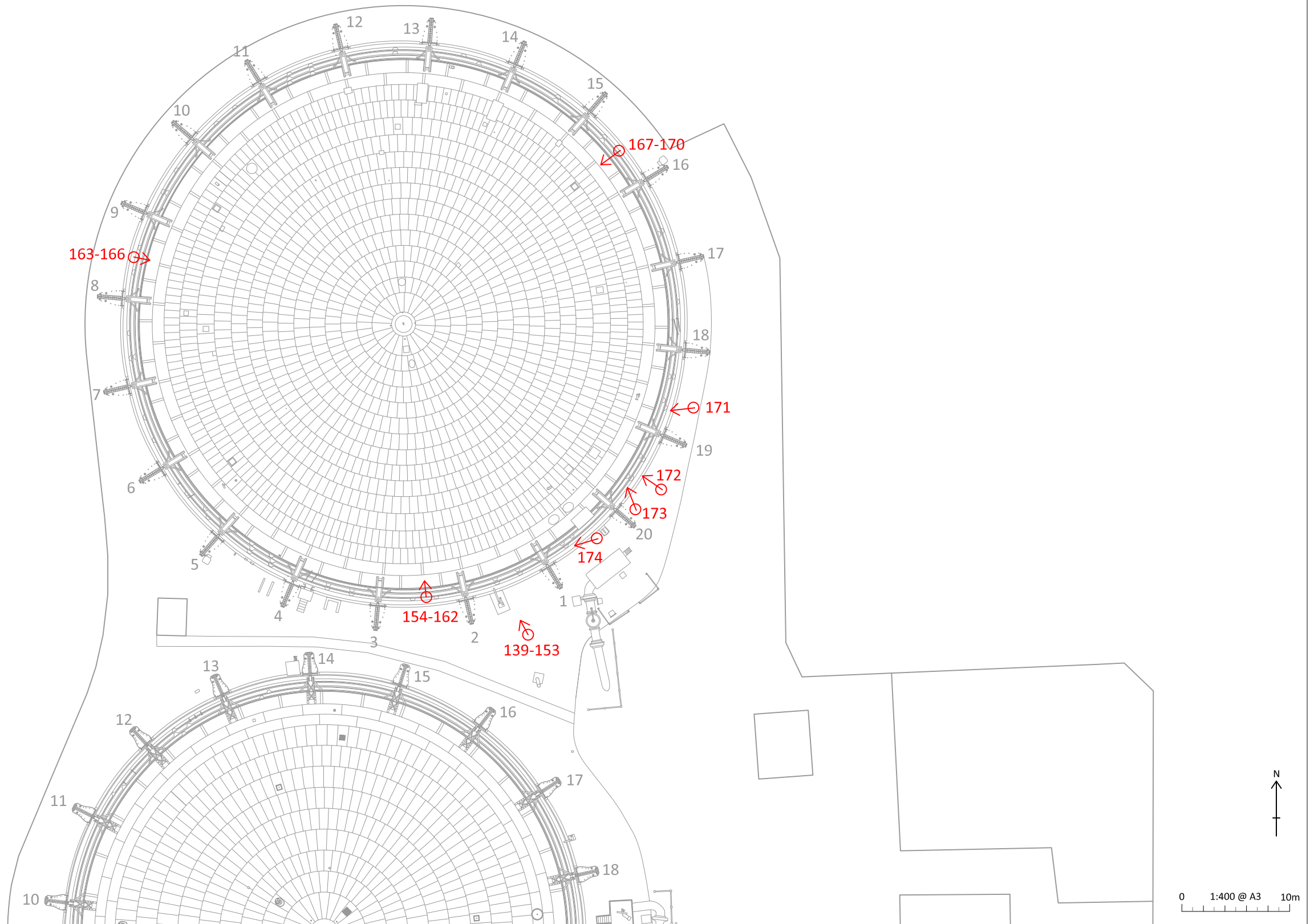
SYD_08_145	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_146	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_147	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_148	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_149	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_150	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_151	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_152	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_153	General view of the crown rest frame, taken from raised crane	SSE	01/05/2019	Keltbray
SYD_08_154	General view of the crown rest frame	SE	03/05/2019	AOC
SYD_08_155	General view of the crown rest frame	SSE	03/05/2019	AOC
SYD_08_156	General view of the crown rest frame	S	03/05/2019	AOC
SYD_08_157	General view of the crown rest frame	SSW	03/05/2019	AOC
SYD_08_158	General view of the crown rest frame	SW	03/05/2019	AOC
SYD_08_159	Detail of outer ring of upright posts	SE	03/05/2019	AOC
SYD_08_160	Detail view of metal fixtures between uprights and dome frame	S	03/05/2019	AOC
SYD_08_161	Detail of inlet/outlet pipe	WSW	03/05/2019	AOC
SYD_08_162	Detail of I-shaped standards on the interior wall of the inner bell lift	SW	03/05/2019	AOC
SYD_08_163	General view of the crown rest frame	W	03/05/2019	AOC
SYD_08_164	General view of the crown rest frame	SW	03/05/2019	AOC
SYD_08_165	General view of the crown rest frame	WSW	03/05/2019	AOC
SYD_08_166	General view of the crown rest frame	WNW	03/05/2019	AOC
SYD_08_167	General view of the inlet/outlet pipe	NNW	03/05/2019	AOC
SYD_08_168	General view of the crown rest frame	NNW	03/05/2019	AOC
SYD_08_169	General view of the crown rest frame	NNE	03/05/2019	AOC
SYD_08_170	General view of the crown rest frame	N	03/05/2019	AOC
SYD_08_171	Detail of the metal fixture	E	03/05/2019	AOC
SYD_08_172	General view of the dumpling	SE	03/05/2019	AOC
SYD_08_173	General view of the dumpling	SSE	03/05/2019	AOC
SYD_08_173	General view of bell outer wall	E	03/05/2019	AOC

Gasholder No. 8



Appendix 1f: Bell Green, Sydenham, Gasholder No 8, detailed site plan with photograph locations taken during Phase I survey

Gasholder No. 8



Appendix 1g: Bell Green, Sydenham, Gasholder No 8, detailed site plan with photograph locations taken during Phase II survey

01/23686K/REP_PII/A1g/01

APPENDIX 2: RECORDS HELD BY THE NATIONAL GAS ARCHIVE

Ref No	Date	Title of Record	Location	Description
SE/SOS/E/F/2	1932 - 1939	Photograph Album - Sydenham Works No. 2	SR/1149/2	Site and plant with alterations, construction work etc. Additionally, the folder contains 4 graphs (67 items).
SE/SOS/E/F/3	1932 - 1934	South Suburban Photograph Album No 3	SR/1149/2	Includes Stove Shop, Meter Shop, coke storage area and plant around the Sydenham works. (48 items)
SE/SOS/E/F/4	c. 1937	South Suburban Photograph Album No 4	SR/1149/2	Includes Ambulance Room, a gas fire in Sydenham Head Office and cleaning no. 4 well (items 1-9).
SE/SOS/E/F/5	1937 - 1939	South Suburban Photograph Album No 5	SR/1149/2	Sydenham site including foundations of West's vertical retort house, benzol plant etc. (39 items).
SE/SOS/E/F/9	n.d.	South Suburban Photograph Album No 10	SR/1149/3	Largely unlabelled b/w photographs showing preparation of site, Princess Elizabeth, various presentations and photographs of the docks at Erith Jetty for unloading coal for Sydenham works showing the SS Corflow and Mr Harding (Coal Inspector), Mr Orsler (Wharf foreman) and Mr Lawrence (Wharf manager). (24 items)
SE/SOS/E/F/14	1940s/50s	Photograph Album: Construction Of An Underground Storage Tank	SR/1119/2	Stage by stage record of the construction of an underground storage tank. The album also includes a large print of Sydenham works in 1941 and a number of individual photos of workers and management in office and stoking environments. Most of the album is duplicated in an album SOS/E/F/14b (b+w)
G11_SYD_5554	n.d.	A Visit to the Sydenham Works of the South Suburban Gas Company	LS/4379/2	None
G11_SYD_5555	n.d.	The Sydenham Works of the South Eastern Gas Board (Kent Suburban Division)	LS/4379/2	None
G11_SYD_5557	1954	The Institution of Gas Engineers visit to the Sydenham Works of the South Eastern Gas Board to Inspect the Catalytic Oil Gasification Plant, November 24th 1954	LS/4379/2	None
G11_SYD_6350	n.d.	The Redevelopment of the Bell Green Gas Works	LS/4379/1	None
G11_SYD_7029	n.d.	Segas Central Stores-Bell Green, Sydenham	LS/4379/2	None
GJ/1907_97/25	1907	Sydenham gasworks, South Suburban GC - description of new retort house, details of plant, photographs	LS/4008	Sydenham gasworks, South Suburban GC - description of new retort house, details of plant, photographs
GJ/1911_115/369	1911	Lower Sydenham gasworks, South Suburban GC - brief description	NONE	Lower Sydenham gasworks, South Suburban GC - brief description
GJ/1923_164/449	1923	Lower Sydenham gasworks, South Suburban GC -	NONE	Lower Sydenham gasworks, South Suburban GC - description, photographs

		description, photographs		
GJ/1929_186/5 84	1929	Sydenham gasworks, South Suburban GC - description of visit, photographs	NONE	Sydenham gasworks, South Suburban GC - description of visit, photographs
GJ/1932_198/9 0	1932	Sydenham gasworks - description of visit	NONE	Sydenham gasworks - description of visit
SE/SEG/AAQ/D A/E/E/3/31	10/03/1949	Plan Of Sydenham - Southend Lane/Perry Hill	SR/1089	shows holders, oil tank, retorts, purifiers and buildings Drg 2704
SE/SEG/KS/SY N/E/E/1A	1959	Sydenham- Site Plan Of Holder Station	MR/3062	Site plan of Sydenham works, Southend Lane - plan shows holders with capacity, oil tank, settling tanks, underground tar and liquor tank, outbuildings.
SE/SEG/KS/SY N/E/E/1B	1992	Sydenham- Plan Of Works	MR/3062	Sydenham Works - plan shows existing and demolished works.
SE/SEG/KS/SY N/E/E/2A	1977	Sydenham- Site Layout Of Holder Station	MR/3062	Site layout of Sydenham holder station. 1977 (H.12), shows holders, outbuildings
SE/SEG/KS/SY N/E/E/2B	1961	Sydenham- Plan Of Works	MR/3062	Sydenham Works - plan shows holders, mains, boosters.
SE/SEG/KS/SY N/E/E/3A	n.d.	Sydenham- Site Plan Of Holder Station	MR/3062	Small site plan of Sydenham holder station, Southend Lane - plan shows holders, outbuildings.
SE/SEG/KS/SY N/E/E/3B	1949	Sydenham- Plan Of Works	MR/3062	Sydenham Works - plan shows holders, retort house, demolished retort house, liquor plant, purifiers, outbuildings, oil tank.
SE/SEG/KS/SY N/E/E/4A	1976	Sydenham- Plan Of Works Re Demolition	MR/3062	Plan re demolition of Sydenham works showing replacement boundary, areas to be altered etc.
SE/SEG/KS/SY N/E/E/4B	1958	Sydenham- Plan Of Works	MR/3062	Sydenham Works - plan shows mains and valves from holders to booster house and governors.
SE/SEG/KS/SY N/E/E/4C	1958	Sydenham- Plan Of Works	MR/3062	Sydenham Works - plan shows mains and valves from holders to booster house and governors.
SE/SEG/KS/SY N/T/D/1	1977	Sydenham- Site Plan Of Holder Station	MR/3062	Sydenham Holder Station, Southend Lane - plan shows holders, well, outbuildings, mains, tanks, booster house, governor kiosk
SE/SEG/SYN/E/ E/5	n.d.	Sydenham - plan of works	MR/3062	Shows holders, Retorts, oil tank and buildings
SE/SOS/SYD/E/ E/1	1932	Sydenham- Plan Of Works	MR/3062	Sydenham Works - plan shows district governors, booster and connections.
SE/SOS/SYN/E/ E/2	n.d.	Sydenham - plan of works	MR/3062	Detailed plan showing holders, Tar well, retorts and buildings with key

APPENDIX 3: HE LISTING ASSESSMENT REPORTS

APPENDIX 3: HE LISTING ASSESSMENT REPORTS

Application Name: Gasholder No 7, Bell Green, Sydenham, London Borough of Lewisham

Number: 1445930

Type: New

Heritage Category: Listing

Address:

Bell Green, Sydenham, London Borough of Lewisham

County	District	District Type	Parish
Greater London Authority	Lewisham	London Borough	Non Civil Parish

Recommendation: Reject

Assessment

CONTEXT & BACKGROUND

Gasholder No.7 at Bell Green, Sydenham, London, is being assessed for listing. It follows a report by Montagu Evans LLP for Southern Gas Networks (SGN) on 76 gasholders in England produced prior to possible demolition and redevelopment. The gasholder is one of several identified in the report to be of 'heritage value'.

HISTORY & DETAILS

Gas lighting derived from coal was invented in the 1790s and from 1816 it took off in London and then spread nationally. Gasworks comprised coal stores, retort houses for the extraction of gas, filtration units, gasholders, and administrative buildings. As a safety precaution gas was first stored underground and then stored in iron tanks immersed in water. The telescopic gasholder with guide-towers (that varied capacity) was invented in 1824 and vast numbers were subsequently built, of increasing scale and sophistication, through the C19 and into the C20.

The Bell Green Gasworks site was acquired by the Crystal Palace District Gas Company in 1854. It is shown on the 1874 OS map (1:2500) as a small works comprising a single gasholder, several buildings and tanks. The gasworks had considerably expanded by 1896 when it included six gasholders, several large buildings and rail tracks linked into the main railway line immediately to the east. Two of the gasholders (now known as No.7 and No.8, which remain extant) were built by the engineer Charles Gandon in 1882 and 1890. Gandon had previously worked for the Ottoman Gas Company in Smyrna (now Izmir, Turkey) and was President of the Society of Engineers and the Gas Institute between 1885 and 1888. In 1904 the name of the Crystal Palace District Gas Company changed to the South Suburban Gas Company. A recreation hall was built as a memorial to the former company chairman Sir George Livesey (1834-1908) in 1911. A war memorial was erected in 1920 to commemorate company employees who lost their lives during the First World War. These two buildings are Grade II listed, along with the associated boundary walls. The South Suburban Gas Company was amalgamated with several companies between 1912 and 1936 before nationalisation in 1949 when it was placed under the control of the South Eastern Gas Board. Gas production ceased on the site in 1969. The gasworks were subsequently demolished with the exception of two gasholders, and a retail park was built on the site in 1994-5.

Gasholder No.7 is a frame-guided holder built by Charles Gandon in 1882. A flying lift was added to the gasholder in 1907. The frame comprises a ring of 18 wrought-iron T-section lattice standards supporting three-tiers of horizontal members formed of I-section Warren lattice girders (Type 30 in Tucker's Typology). Between the members are diagonal bracing bars with tensioning rings. The standards taper towards the top. The gasholder has a four-lift iron bell rising on flanged radial rollers from an in-ground tank. It is situated immediately to the south of Gasholder No.8.

CRITERIA & DISCUSSION

All buildings considered for listing must be assessed according to the criteria set out in the Principles of Selection for Listing Buildings (DCMS, March 2010). The Historic England Listing Selection Guide for Utilities and Communications Structures (April 2011) expands on this and explains that key considerations in the selection of gasholders for listing are: technical innovation, structural interest, earliness of date, aesthetic architectural treatment and group value.

Given the large number of gasholders and the increasing standardisation in design, the threshold for special interest is necessarily high. There are currently 16 designated examples. Significance in designation terms can be found in either: their presence within a complete, (or nearly so), suite of buildings at a gasworks which fully illustrates the industrial process of the manufacture of coal gas, as at Fakenham, Norfolk (scheduled); in the demonstration of technical innovation, as at Fulham No. 2, London, (1830) considered to be the oldest surviving gasholder in the world (Grade II listed); or in an imposing group of relatively early date and intact survival, as at Bromley-by-Bow, London (Grade II listed). Earlier examples of gasholders will be favoured for their stronger claims to historic interest, and it should be noted that it is not the purpose of designation to capture a typologically complete set of any particular type of building, but to identify special interest.

Gasholder No.7 at Bell Green, Sydenham, London, of 1882, is not recommended for listing for the following principal reasons:

- * Lack of structural and technical interest: the guide frame is not structurally or technically innovative; guide frames of this specific design and material had been constructed since 1876;
- * Rarity: an earlier and better example of the same type survives and is already represented on the National Heritage List; No.1 Gasholder at Kennington Lane Gasholder Station, London, (built 1877-79) which provides a landmark background to The Oval cricket ground;
- * Loss of context: although an adjacent gasholder of the same type survives, Gasholder No.7 has otherwise lost its original context due to the demolition of the rest of the gasworks.

CONCLUSION

Gasholder No.7 at Bell Green, Sydenham, London, does not meet the criteria for statutory listing in a national context. However, it remains a prominent late-C19 landmark and a detailed level of historic building recording would be appropriate prior to any decisions being taken regarding the gasholders' future.

SOURCES

Montagu Evans, Southern Gas Networks: Portfolio Sites Heritage Review (June 2016)

Tucker, M, London Gasholders Survey: the Development of the Gasholder in London in the Later Nineteenth Century (2000, Re-formatted May 2014)

Trueman, M, Gasholders: Step 3 Report for Monuments Protection Programme, English Heritage (2002)

Trueman, M, Gas Industry: Site Assessment for Greater London 21, Sydenham Gasworks. English Heritage Monuments Protection Programme. (2002)

OS maps 1:2500 (1874 and 1896)

Application Name: Gasholder No 8, Bell Green, Sydenham, London Borough of Lewisham

Number: 1445934

Type: New

Heritage Category: Listing

Address:

Bell Green, Sydenham, London Borough of Lewisham

County	District	District Type	Parish
Greater London Authority	Lewisham	London Borough	Non Civil Parish

Recommendation: Reject

Assessment

CONTEXT & BACKGROUND

Gasholder No.8 at Bell Green, Sydenham, London, is being assessed for listing. It follows a report by Montagu Evans LLP for Southern Gas Networks (SGN) on 76 gasholders in England produced prior to possible demolition and redevelopment. The gasholder is one of several identified in the report to be of 'heritage value'.

HISTORY & DETAILS

Gas lighting derived from coal was invented in the 1790s and from 1816 it took off in London and then spread nationally. Gasworks comprised coal stores, retort houses for the extraction of gas, filtration units, gasholders, and administrative buildings. As a safety precaution gas was first stored underground and then stored in iron tanks immersed in water. The telescopic gasholder with guide-towers (that varied capacity) was invented in 1824 and vast numbers were subsequently built, of increasing scale and sophistication, through the C19 and into the C20.

The Bell Green Gasworks site was acquired by the Crystal Palace District Gas Company in 1854. It is shown on the 1874 OS map (1:2500) as a small works comprising a single gasholder, several buildings and tanks. The gasworks had considerably expanded by 1896 when it included six gasholders, several large buildings and rail tracks linked into the main railway line immediately to the east. Two of the gasholders (now known as No.7 and No.8, which remain extant) were built by the engineer Charles Gandon in 1882 and 1890. Gandon had previously worked for the Ottoman Gas Company in Smyrna (now Izmir, Turkey) and was President of the Society of Engineers and the Gas Institute between 1885 and 1888. In 1904 the name of the Crystal Palace District Gas Company changed to the South Suburban Gas Company. A recreation hall was built as a memorial to the former company chairman Sir George Livesey (1834-1908) in 1911. A war memorial was erected in 1920 to commemorate company employees who lost their lives during the First World War. (These two buildings are Grade II listed, along with the associated boundary walls). The South Suburban Gas Company was amalgamated with several companies between 1912 and 1936 before nationalisation in 1949 when it was placed under the control of the South Eastern Gas Board. Gas production ceased on the site in 1969. The gasworks were subsequently demolished with the exception of two gasholders, and a retail park was built on the site in 1994-5.

Gasholder No.8 is a frame-guided holder built by Charles Gandon in 1890. A flying lift was added to the gasholder in 1907. The frame comprises a ring of 20 wrought-iron T-section lattice standards supporting three-tiers of horizontal members formed of I-section Warren lattice girders (Type 30 in Tucker's Typology). Between the members are diagonal bracing bars with tensioning rings. The standards taper towards the top. The gasholder has a four-lift iron bell rising on radial rollers from an in-ground tank. It is situated immediately to the north of Gasholder No.7.

CRITERIA & DISCUSSION

All buildings considered for listing must be assessed according to the criteria set out in the Principles of Selection for Listing Buildings (DCMS, March 2010). The Historic England Listing Selection Guide for Utilities and Communications Structures (April 2011) expands on this and explains that key considerations in the selection of gasholders for listing are: technical innovation, structural interest, earliness of date, aesthetic architectural treatment and group value.

Given the large number of gasholders and the increasing standardisation in design, the threshold for special interest is necessarily high. There are currently 16 designated examples. Significance in designation terms can be found in either: their presence within a complete, (or nearly so), suite of buildings at a gasworks which fully illustrates the industrial process of the manufacture of coal gas, as at Fakenham, Norfolk (scheduled); in the demonstration of technical innovation, as at Fulham No. 2, London, (1830) considered to be the oldest surviving gasholder in the world (Grade II listed); or in an imposing group of relatively early date and intact survival, as at Bromley-by-Bow, London (Grade II listed). Earlier examples of gasholders will be favoured for their stronger claims to historic interest, and it should be noted that it is not the purpose of designation to capture a typologically complete set of any particular type of building, but to identify special interest.

Gasholder No.8 at Bell Green, Sydenham, London, of 1890, is not recommended for listing for the following principal reasons:

- * Lack of structural and technical interest: the guide frame is not structurally or technically innovative; guide frames of this specific design and material had been constructed since 1876;
- * Rarity: an earlier and better example of the same type survives and is already represented on the National Heritage List; No.1 Gasholder at Kennington Lane Gasholder Station, London, (built 1877-79) which provides a landmark background to The Oval cricket ground;
- * Loss of context: although an adjacent gasholder of the same type survives, Gasholder No.8 has otherwise lost its original context due to the demolition of the rest of the gasworks.

CONCLUSION

Gasholder No.8 at Bell Green, Sydenham, London, does not meet the criteria for statutory listing in a national context. However, it remains a prominent late-C19 landmark and historic building recording would be appropriate prior to any decisions being taken regarding the gasholders' future.

SOURCES

Montagu Evans, Southern Gas Networks: Portfolio Sites Heritage Review (June 2016)

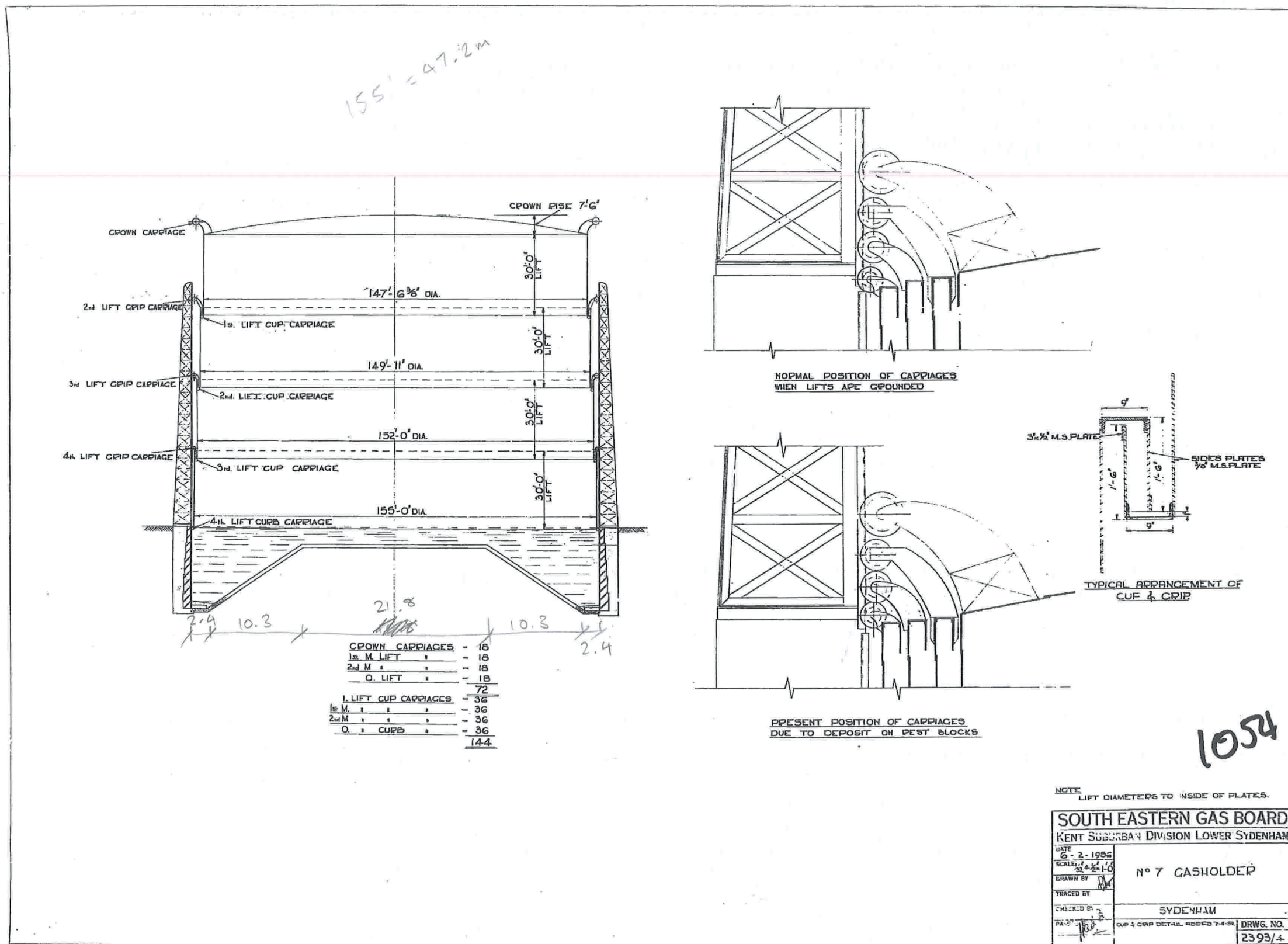
Tucker, M, London Gasholders Survey: the Development of the Gasholder in London in the Later Nineteenth Century (2000, Re-formatted May 2014)

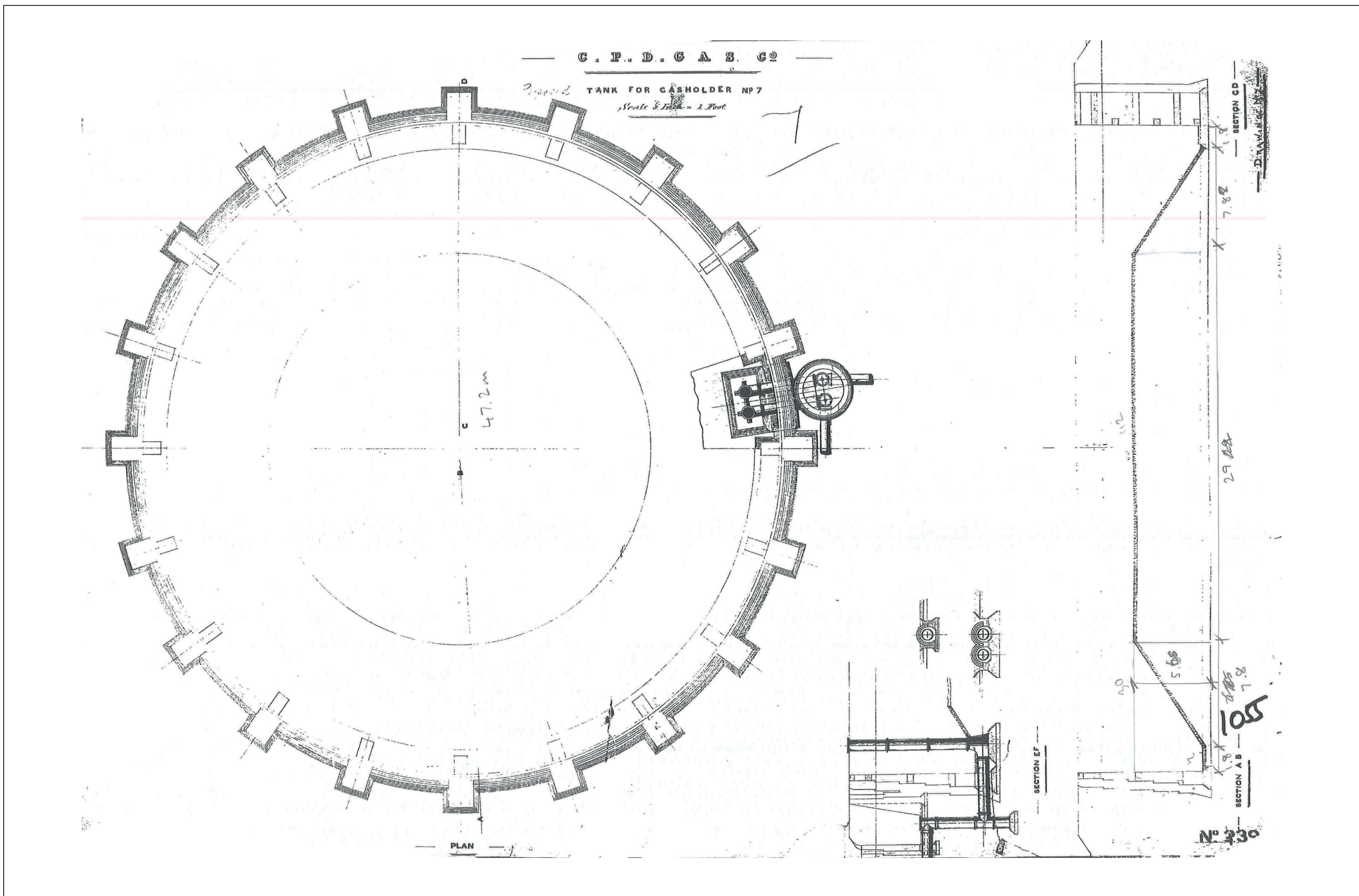
Trueman, M, Gasholders: Step 3 Report for Monuments Protection Programme, English Heritage (2002)

Trueman, M, Gas Industry: Site Assessment for Greater London 21, Sydenham Gasworks. English Heritage Monuments Protection Programme. (2002)

OS maps 1:2500 (1874 and 1896)

APPENDIX 4: ARCHIVE DRAWINGS OF GASHOLDERS NO 7 AND NO 8 HELD BY SGN



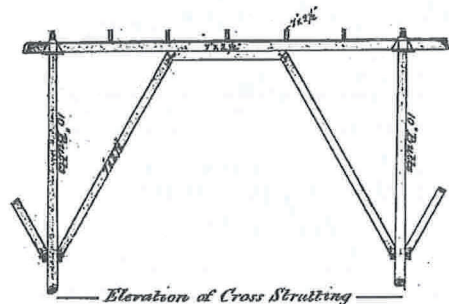


Appendix 4b: Gasholder No 7, the tank (SGN Archive drawing)

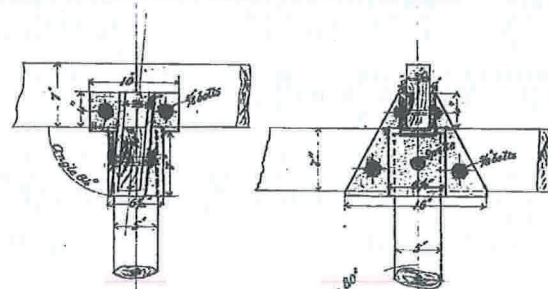
CRYSTAL PALACE DISTRICT GAS COY

FRAMING FOR GASHOLDER N^o 7.

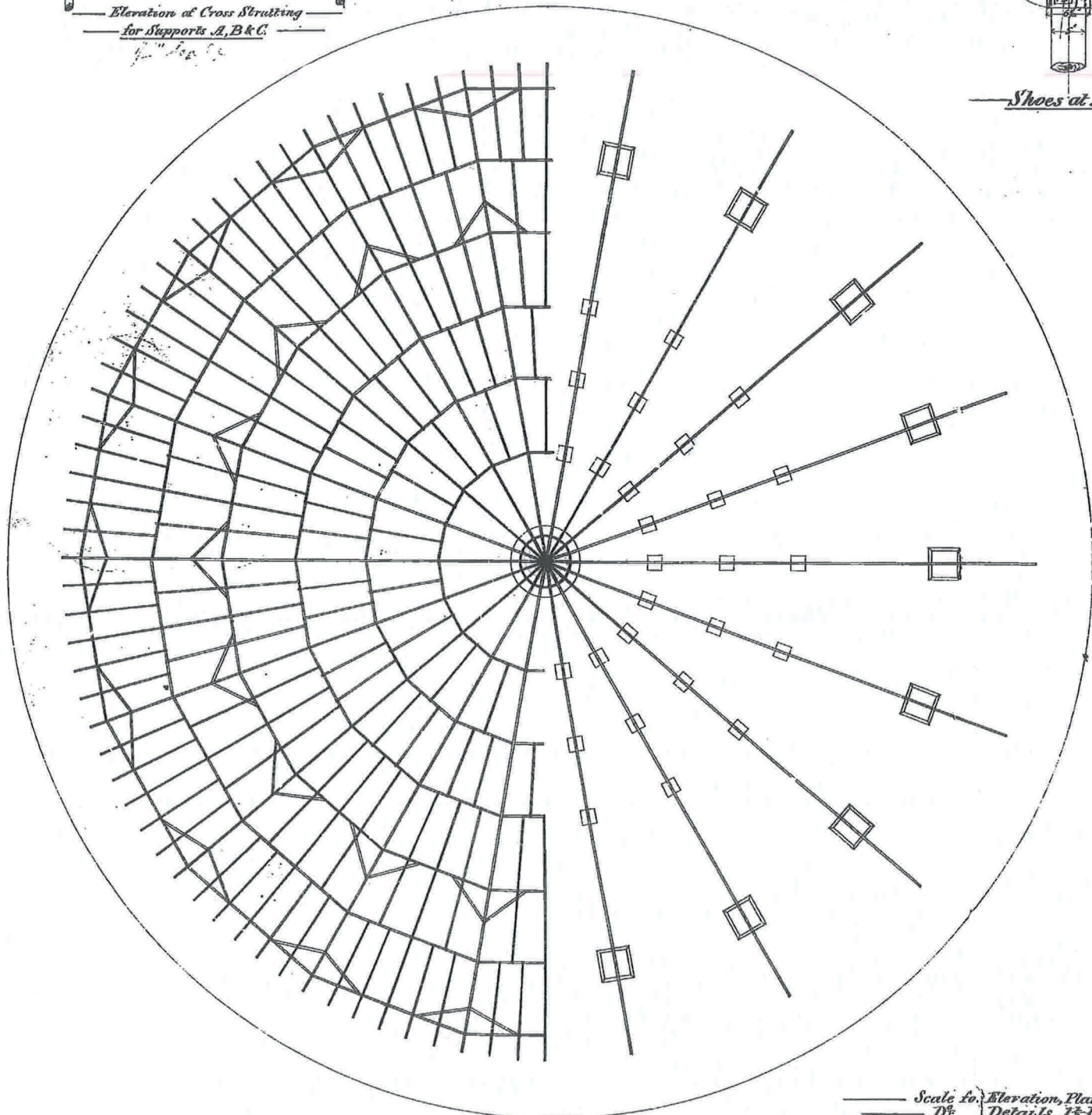
Handwritten 'A' and '6' in the upper left quadrant.



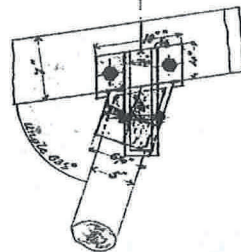
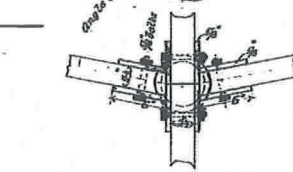
Elevation of Cross Strutting for Supports A, B & C.



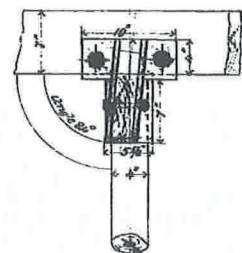
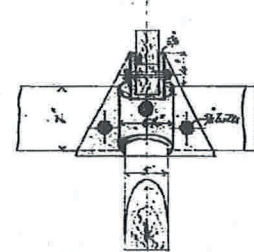
Shoes at A & B.



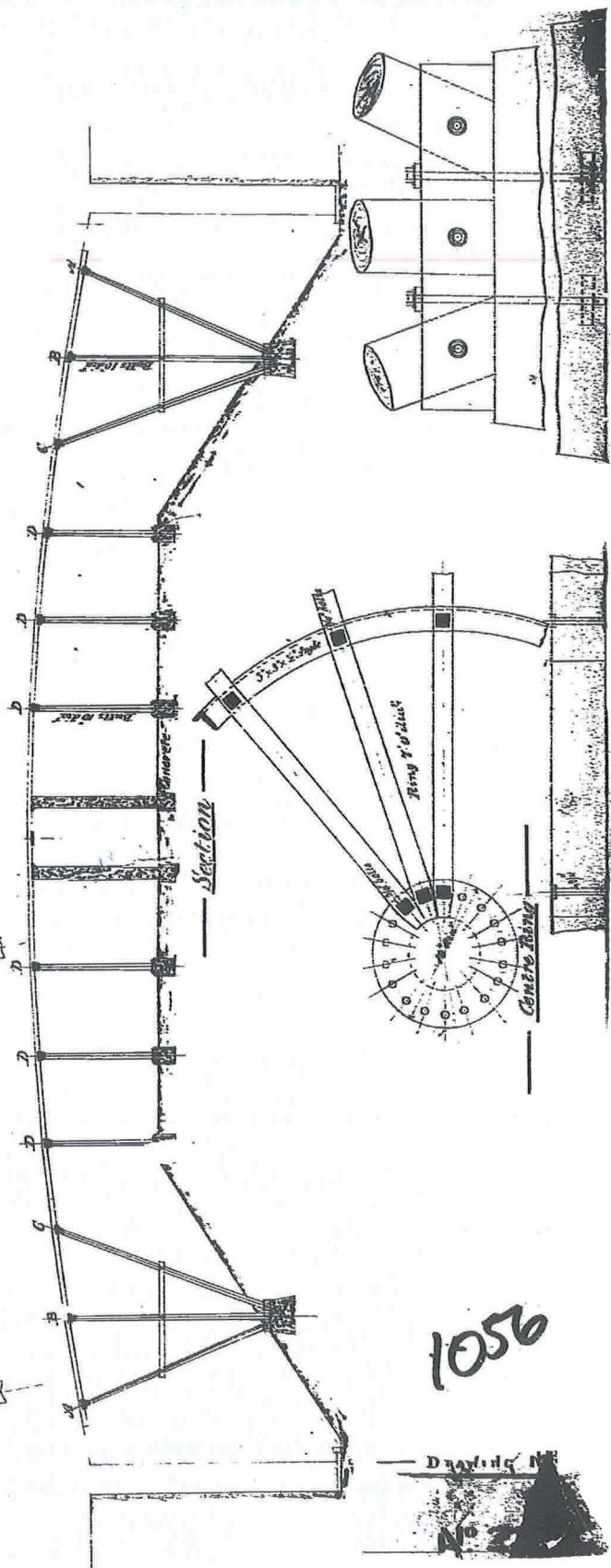
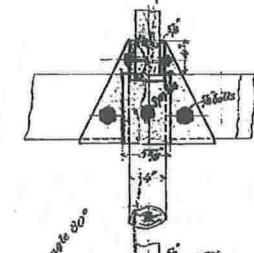
Plan.



Shoes at C.



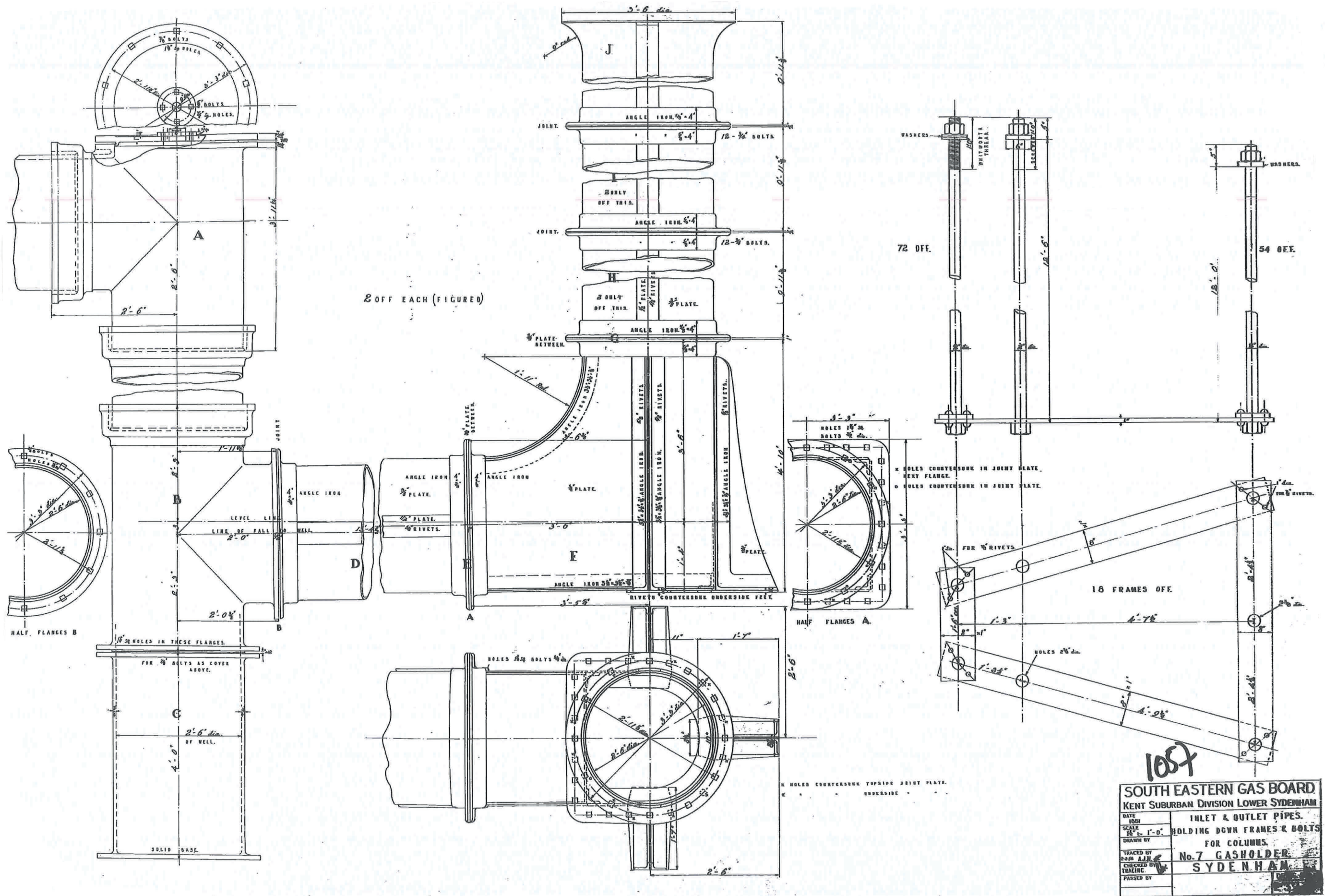
Shoes at D.



Scale to Elevation, Plan & Section 3/8 Inch to 1 Foot
Details 1 1/2 Inch to 1 Foot.

Handwritten number '1056' in the bottom right corner.

Drawing No.



Appendix 4d: Gasholder No 7, inlet and outlet pipes (SGN Archive drawing)

1057

SOUTH EASTERN GAS BOARD	
KENT SUBURBAN DIVISION LOWER SYDENHAM	
DATE	1901
SCALE	1/4" = 1'-0"
DRAWN BY	
TRACED BY	
CHECKED BY	
PASSED BY	
INLET & OUTLET PIPES.	
HOLDING DOWN FRAMES & BOLTS	
FOR COLUMNS.	
No. 7 GASHOLDER.	
SYDENHAM.	

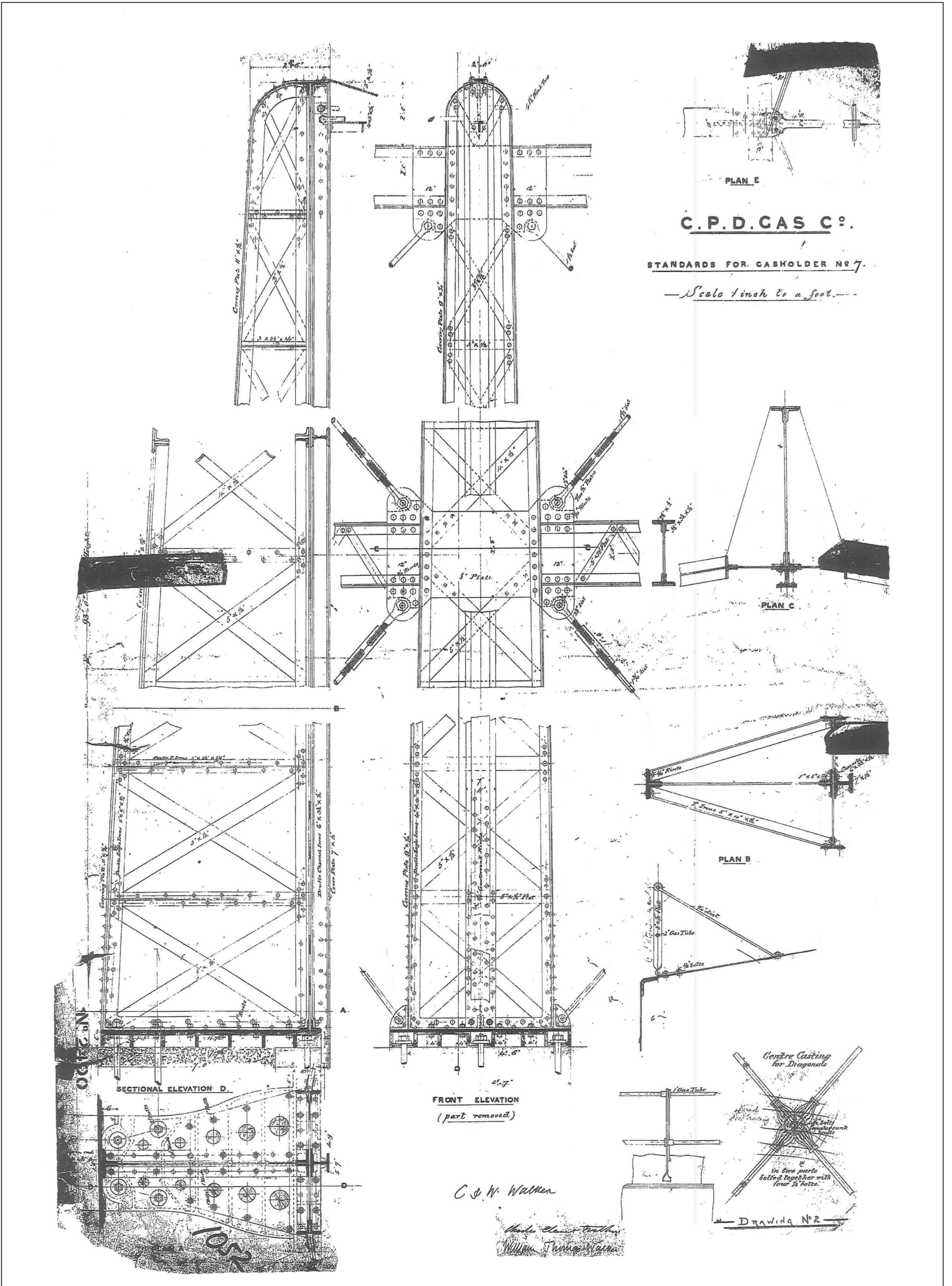
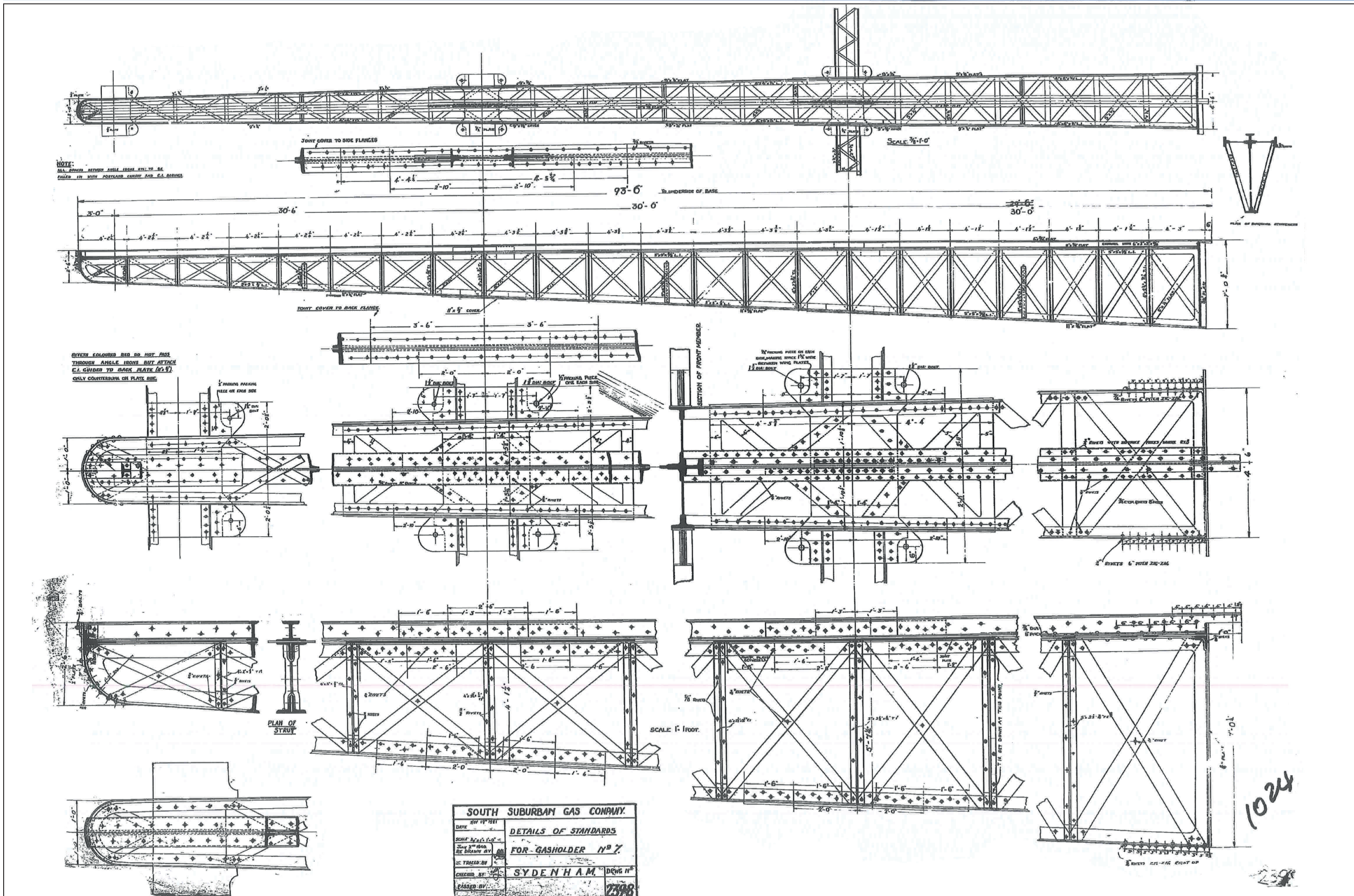
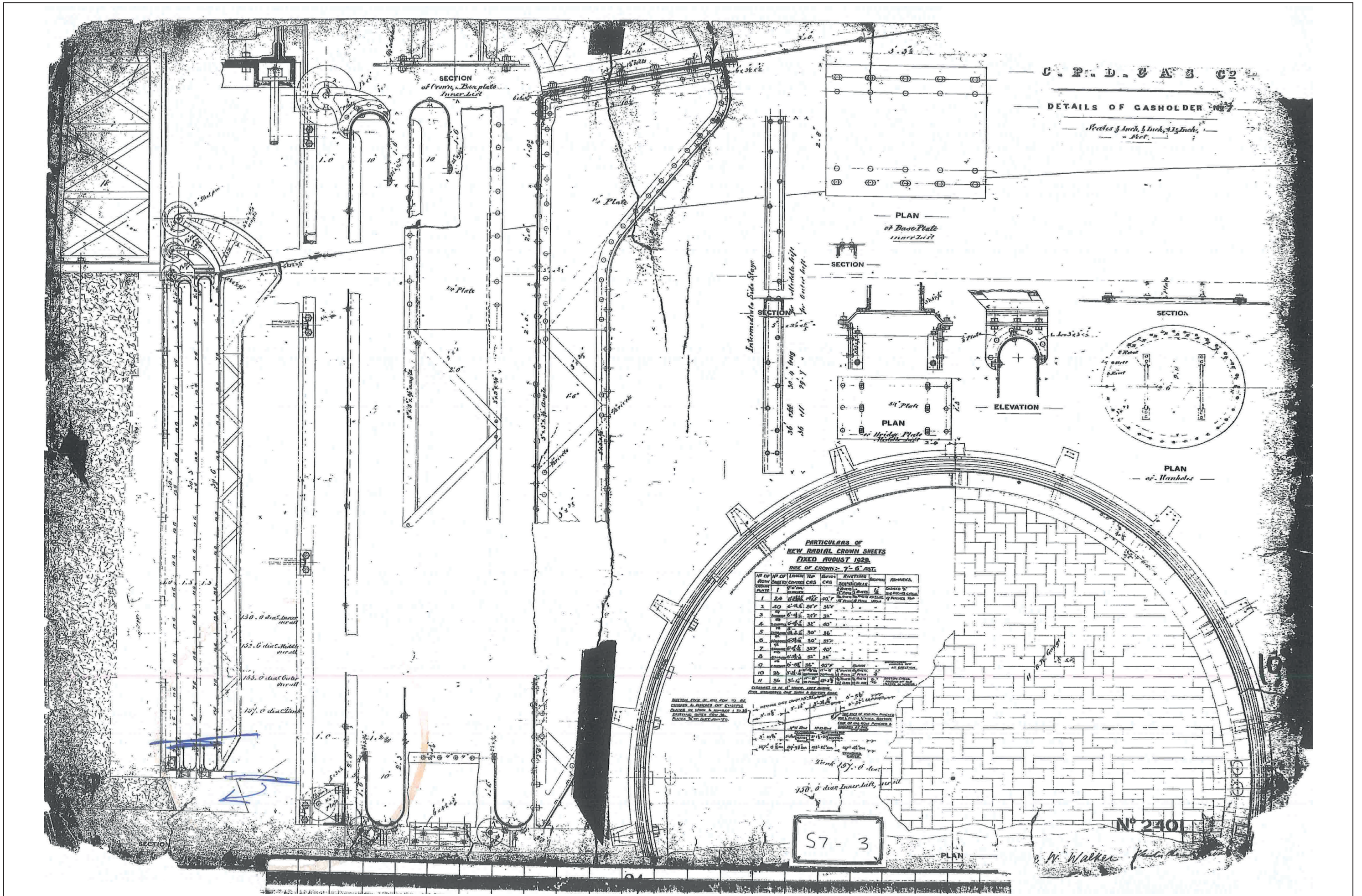


Figure A4e: Gasholder No 7, standards (SGN Archive drawing)



Appendix 4f: Gasholder No 7, standards (SGN Archive drawing)



Appendix 4g: Gasholder No 7, details (SGN Archive drawing)

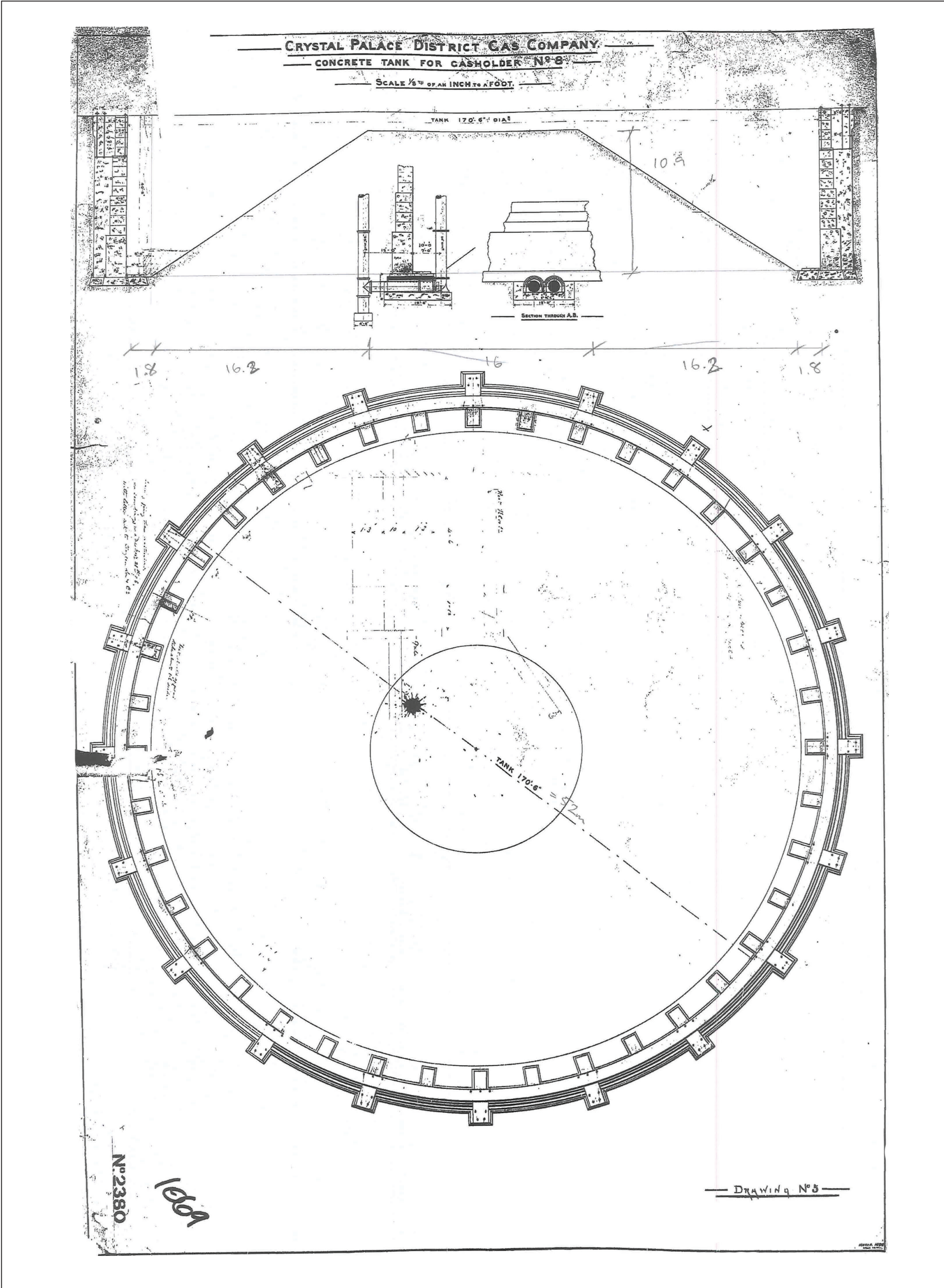
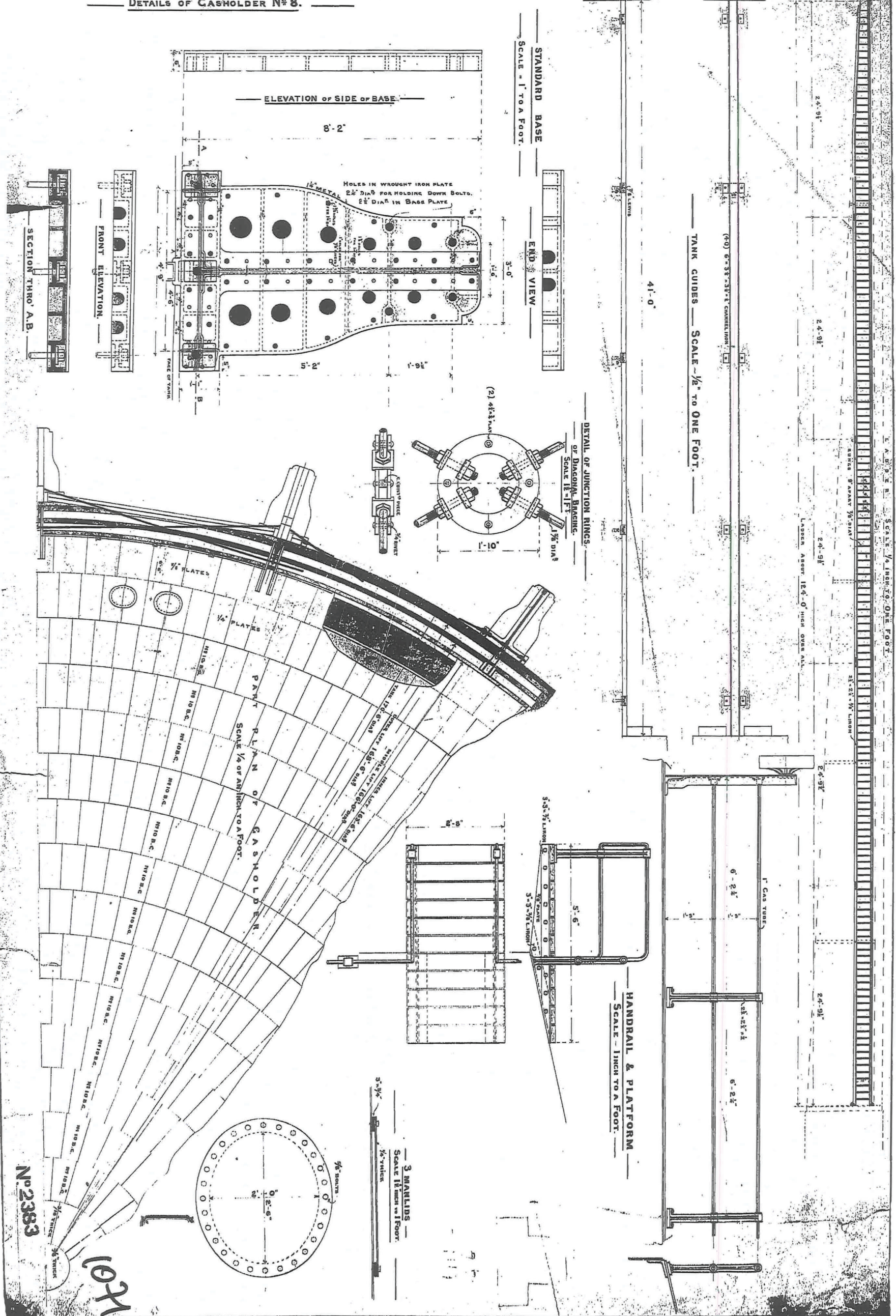


Figure A4h: Gasholder No 8, concrete tank (SGN Archive drawing)

CRYSTAL PALACE DISTRICT GAS COMPANY.
DETAILS OF GASHOLDER No 8.

DRAWING



No 2383

1071

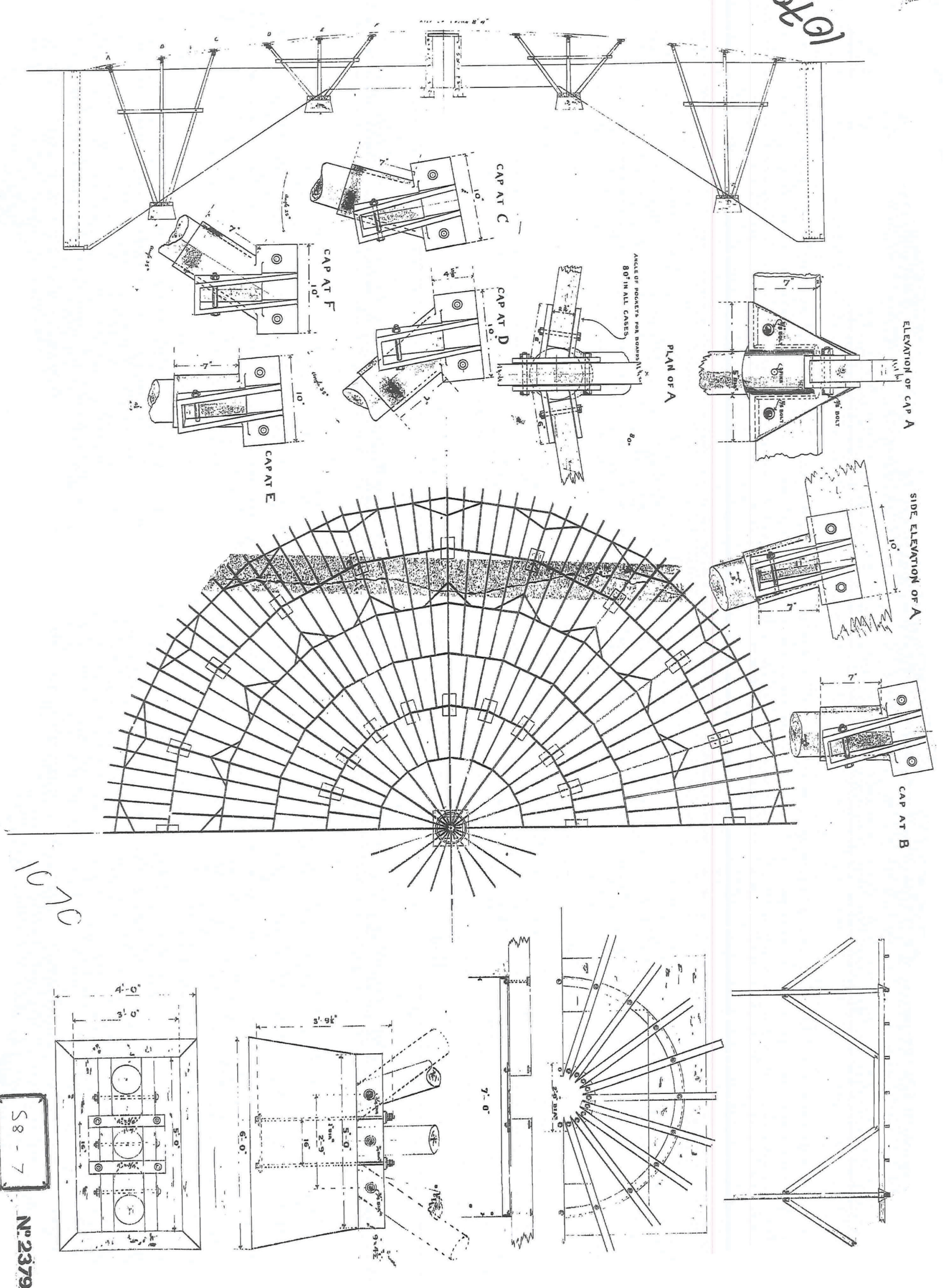
Figure A4i: Gasholder No 8, details (SGN Archive drawing)

Crystal Palace District Gas Company

Timber Framing Gasholder No 8.

Drawing No 0

1070



S8 - 7

No 2379

Figure A4j: Gasholder No 8, timber framing (SGN Archive drawing)

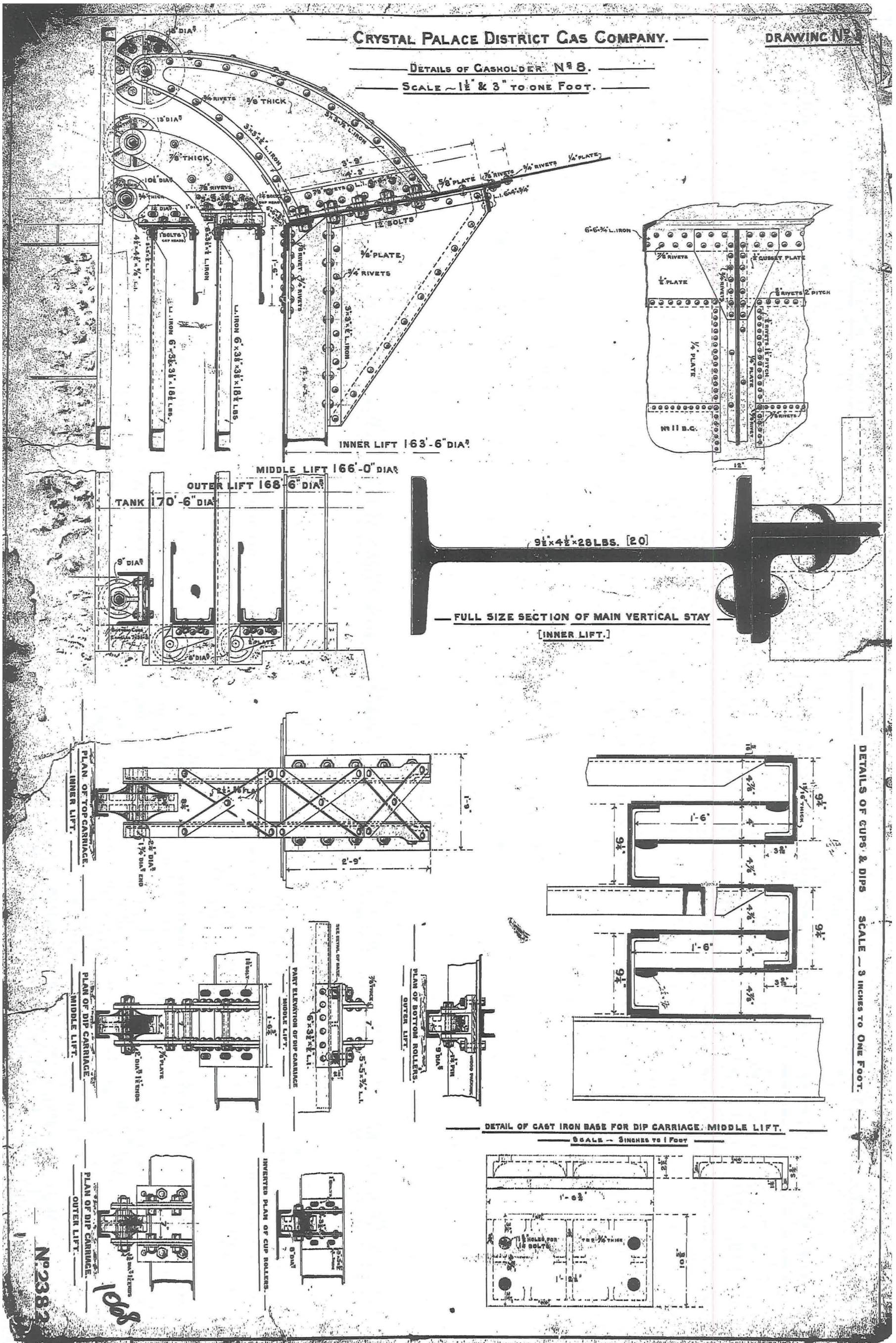


Figure A4K: Gasholder No 8, details (SGN Archive drawing)

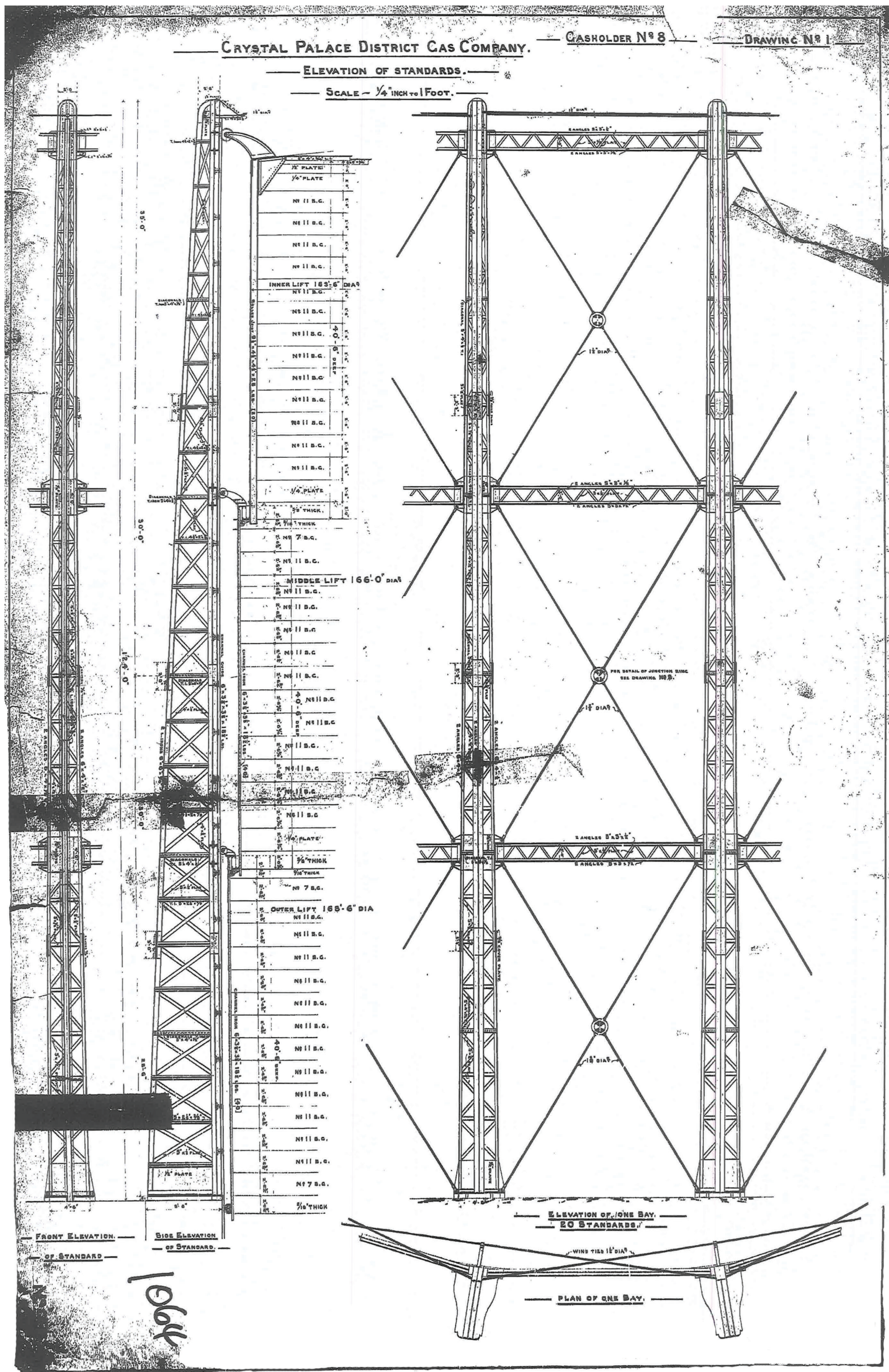
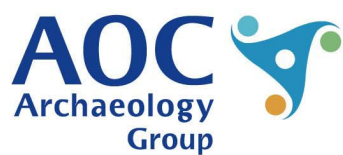
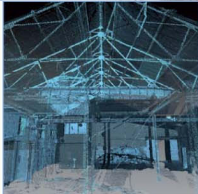


Figure A4m: Gasholder No 8, elevation of standards (SGN Archive drawing)



AOC Archaeology Group, Edgefield Industrial Estate, Edgefield Road, Loanhead EH20 9SY
tel: 0131 440 3593 | fax: 0131 440 3422 | e-mail: edinburgh@aocarchaeology.com

www.aocarchaeology.com