JULIAN HARRAP

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THE MONUMENT TO THE GREAT FIRE OF LONDON

VOLUME IV: APPENDICES

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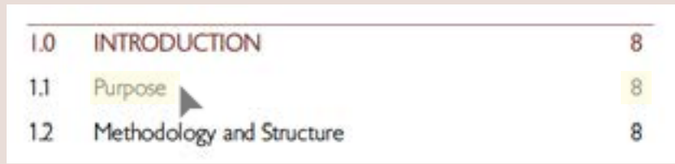

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CITY OF LONDON

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APPENDIX A

MONUMENT HISTORICAL DOCUMENTATION

1991

Wendy Hitchmough

THE MONUMENT

HISTORICAL DOCUMENTATION

Wendy Hitchmough

May 1991.

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Historical Background.

The Monument was designed by Sir Christopher Wren in collaboration with Robert Hooke between 1671 and 1676 to commemorate the Great Fire of September 1666. The story of the fire itself is the subject of several books and need not be treated in detail in this document. It is believed to have begun in the early hours of the morning of Sunday, 2 September 1666 in a bakers house in Pudding Lane, and to have spread rapidly through the densely packed timber buildings, fanned by a strong easterly wind. The fire raged for four days and destroyed 13,200 houses, 87 churches, and 44 halls of livery companies. King Charles II was personally involved in blowing up buildings in an attempt to stop its course and when the fire was extinguished an Act of Parliament "for rebuilding the City of London" ordered that a monument should be erected in commemoration.

The original intention to build a monument to the Great Fire was relatively modest in scope. In the 1667 Act it was decreed:

> "And the better to preserve the memory of this dreadful Visitation; Be it further enacted that a Columne or Pillar of Brase or Stone be erected on or as neare unto the place where the said Fire soe unhappily began as Conveniently as may be, in perpetuall Remembrance thereof, with such Inscription thereon, as hereafter by the Mayor and Court of Aldermen in that behalfe be directed."(1)

The suggestion that the pillar might have been made of brass indicates that the King envisaged quite a small monument and the final realisation of the highest free-standing column in Europe at the time is a testament to Wren's diplomatic skills and tenacity as well as to his capabilities as an architect.

The Monument is situated in Monument Yard on the east side of Fish Street Hill. The site was formerly occupied by the church and church yard of St Margaret, New Fish Street. After the Great Fire St Margaret's Parish was uited with that of St Magnus, whose church was rebuilt by Wren.

Description

The Monument is a free-standing Portland stone fluted column consisting of a base 28ft square, surmounted by a pedestal about 21 ft. square and a fluted Doric column 120 ft. high. The abacus to the capital forms the base of a viewing gallery which is enclosed by a wrought-iron railing. Above this base there is a drum supporting a gilded shaped vase crowned by a flaming ball.

The pedestal has a moulded and enriched base and cornice, and above the cornice four carved garlands decorate the four sides, just below the base of the column. In the centre of each

garland there is a shield or a scroll: on the north side is a shield of the City arms; on the east side a shield again bearing the City arms but crowned by a flaming ball; on the south side there is a scroll; and on the west side a shield bearing the Stuart arms with trophies at the sides and surmounted by a state hat. Each of the four corners above the cornice is decorated by a dragon carved by Edward Pierce junior.

On each side of the pedestal there is a sunk panel framed by carved acanthus leaf mouldings. Each of the four panels is carved with an inscription or with a relief tableau, as described below. In the east side there is a square-headed doorway giving access to the interior and above the inscription on the east side there is an oval window decorated with a carved wreath with ribbons above.

The central fillet on each side of the column is pierced with narrow slit lights to the internal staircase and the band above the necking to the capital is carved. Above this carved band the ovals below the abacus are carved with an egg and dart motif. Above the viewing platform the drum has a moulded base and cornice, and there is a square headed doorway in its east side giving access to the viewing platform from the interior of the column. The crowning vase with its ball of spikey flames is of copper-gilt and the middle member of the vase is enriched with a copper-gilt band of ornament.

Inside the Monument is a continuous spiral staircase comprising 311 steps from the entrance to the public viewing gallery. The steps are of black marble, probably Irish black and they are cantilevered out from the wall. The steps taper towards the top of the column, to accommodate a reduction in the diameter of the enclosure.

The carved panels

West side:

The panel on the west side was carved between 1673 and 1676 by the sculptor Caius Gabriel Cibber. Cibber was paid £100; "for carving the Hieroglifick ffigures" on 28 June 1673 and a report of the City Lands Committee of 14 June 1676 records:

> "Sir Chr Wren desired with the Surveyors of new buildings to view the worke done by Mr Gabriell Cibber at and about the Cullumne and certifye their opinions concerning the value thereof."

The panel is Cibber's most celebrated early work. It depicts King Charles II with the Duke of York, both in Roman dress, bestowing protection on the stricken City of London, represented by a collapsed and dishevelled female figure who is supported by the winged figure of Time. The left half of the composition represents the City in disarray. In the background the ruined buildings are still smoking and the citizens look on as Father Time sooths the dishevelled allegory of the City of London, and to his left a female figure representing the manual arts points upwards to the Goddesses of Plenty and Peace in the

clouds above. In the ruins beneath the figure of London a dragon supports the City arms, and a bee-hive behind her symbolizes industry.

The right hand half of the composition represents the rebuilding of London. King Charles II is assisted by allegorical figures including Liberty waving a cap in the air, Architecture holding a square and compasses, and the figure of Science holding a statue of nature. In the background the rebuilding work is already in progress with men at work on scaffolded buildings. Beneath the pavement on which the King and his aids stand an allegory of envy chews on a heart and exhales noxious fumes.

North, East, and South sides:

Unlike Cibber's carving for the west panel, the inscriptions for the panels on the north, east, and south sides of the Monument were not devised until after the column was completed. On 4 October 1677 a Court of Aldermen requested that Dr Gale, master of St. Paul's School and later Dean of York, should devise suitable incriptions, in consultation with Sir Christopher Wren and Robert Hooke.

Gale's proposals were presented to the Court on 22 October. They were approved by the King and three days later the Court of Aldermen;

"... taking into their consideration the ingenious

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inscriptions prepared and presented unto this Court by Dr. Gale, for the new Pillar on fish-street Hill, doth order that Mr Chamberlain doe deliver unto Mr Lane, Comptroller of the Chamber, ten guineys to be placed on account of the cole-duty, and hee to lay out the same in a handsome piece of plate to be presented to the said Dr. Gale as a loveing remembrance from this Court."

The inscriptions with their translations are given in full in Appendix I. The inscription on the north side describes the fire and the extent of its devastation, the south side describes the rebuilding of the City, and the east side lists the Mayors of London under whose protection the Monument was erected.

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17th and Early 18th Century Documentation.

Alternative Designs

The exact relationship between Wren and Hooke in the design of the Monument cannot be determined. According to Aubrey's 'Brief Lives' the Monument was designed by Hooke, and T.F. Reddaway suggests that:

> "Wren was certainly asked about the emblem for the summit of the Monument, but, if he designed the whole pillar, it is extraordinary that there is no mention of this in the entry recording its approval by the court of Aldermen (Report., 76, f.72v), and still more extraordinary that he received no gift for his work."(2)

'Parentalia', however, credits Wren with the design of the Monument and doesn't mention Hooke at all. It includes a detailed description of the Monument and records Wren's earlier design for a column with flames projecting from loopholes in the shaft and crowned by a phoenix rising from her ashes:

> "In the Year 1671, the Surveyor began the building of the great Fluted Column of Portland Stone, and of the Dorick Order (commonly call'd the Monument of London, in Memory of the burning, and rebuilding of the City) and finish'd it in 1677. The Artificers were oblig'd to wait sometimes for Stones of proper Scantlings: which occasion'd the work to be longer

> in Execution than otherwise it would have been. It much exceeds in Height the Pillars at Rome, of the Emperors Trajan and Antoninus, the stately Remains of Roman Grandeur; or that of Theodosius at Constantinople. In forming this Coloss Column, the Surveyor took the Liberty to exceed the received Proportion of the Order, one Module, or Semi-diameter. In the Place of the Brass-Urn on the Top a Coloss Statue in Bras Gilt, of King Charles the Second, as Founder of the new City; in the Manner of the Roman Pillars, which terminated with the Statues of their Caesars; or else, a Figure erect of a Woman crown'd with Turrets, holding a Sword, and Cap of Maintenance, with other Ensigns of the City's Grandeur, and Re-erection. The Altitude, from the Pavement, is 202 feet; the Diameter of the Shaft (or Body) of the Column is 15 Feet; the Ground bounded by the Plinth or lowest Part of the Pedestal is 27 Feet square; and the Pedestal in Height is 40 Feet. Within, is a large Stair-case of black Marble, containing 345 Steps, 10½ Inches broad and Six Inches Risers. Over the Capital is an Iron Balcony encompassing a Cippus, or Meta, 32 Feet high, supporting a blazing Urn of Brass Gilt.'

'Prior to this, the Surveyor (as it appears by an original Drawing) had made a Design of a Pillar of somewhat less Proportion, viz: 14 feet in Diameter,

and after a peculiar Device; for, as the Romans express'd by Relievo, on the Pedestals, and round the Shafts of their Columns, the History of such flagration, and Resurrection of the City of London, was represented by a Pillar in Flames; the Flames, blazing from the Loopholes of the Shaft, (which were to give Light to the Stairs within) were figur'd in Brass-work Gilt; and on the Top was a Phoenix rising from her Ashes, of Brass Gilt likewise.'

Several alternative designs for the Monument believed to be by Wren have survived. The most modest is for an obelisk crowned by a phoenix emerging from a flaming urn. The obelisk stands on a substantial plinth enclosed by railings which suggest a low level viewing platform. The entire structure barely exceeds 90 feet. A second drawing refines the design for the base of the obelisk, which is decorated by carved dragons at its corners, and it seems probable that these two were early proposals, before Wren decided on a free standing column which could enclose an internal staircase to its full height.

The design described in 'Parentalia' for a free-standing Doric column with flames emerging from niches in its shaft is in the All Souls collection. It was approved by the King and it is dated by the Wren Society as late as 1675. It is interesting that this design includes a five storey building to one side of the column, illustrating the scale of the Monument but at the

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same time suggesting that Wren may have been at least partially involved in the design of its urban setting. The late date of the drawing also suggests that construction may have begun four years before the details of decoration and the form of crowning ornament were finally agreed. It might support Reddaway's theory that Robert Hooke designed the column and that Wren was consulted on its decoration.

A written report given by Wren to the City Lands Committee on 27 July 1675 discusses the proposed terminal in detail:

"In pursuance of an Order of the Committee for City Lands, I doe herewith offerre the several designes which some monthes since I shewed his Majestie, for his approbacon; who was then pleased to thinke a large ball of metall guilt would be most agreeable, in regard it would give an Ornament to the towne at a distance; not that his Majestie disliked a Statue; and if any posal of this sort be more acceptable to the City, I shall most readilye present the same to his Majestie.

'I cannot but comend a large Statue, as carryeing much dignitie with it; and that which would be more valluable in the eyes of Forreiners and Strangers. It hath been proposed to cast such a one in brasse, or twelve feet high, for £1000. I hope (if it be allowed) wee may find those who will cast a Figure for that money, of fifteen feet high, which will

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suite the greatnesse of the Pillar, and is (as I take it) the largest at this day extant; and this would undoubtedly bee the noblest finishing that can be found Answerable to sole goodly a worke, in all men's judgements.

'A ball of Copper, nine foot diameter, cast in severall peeces, with the Flames and guilt, may well be done, with the iron worke and fixing, for £350; and this will be most acceptable of any thing inferior to a Statue, by reason of the good appearance at distance, and because one may goe up into it, and upon occasion use it for fireworks.

'A Phoenix was at first thought of, and is the ornament of the wooden Modell of the Pillar, which I caused to be made before it was begun; but, upon second thoughts, I rejected it, because it will be costly, not easily understood at that highth, and worse understood at a distance and lastly dangerous by reason of the sayle, the spread winges will carry in the winde.

'The balcony must be made of substantiall well-forged worke, there being noe need, at that distance, of filed worke and I suppose (for I cannot exactly guesse the weight), it may be well performed and Fixed, according to a good designe, for fourscore and tenne pounds, including painting. All which is

humbly submitted to your consideracon.

'Christopher Wren.'

Despite Wren's recommendations the City Lands Committee agreed to construct the most economical of his designs, perhaps not least in an effort to have the Monument completed as quickly as possible. On 28 July 1675 it was ordered:

> "... that a ball having been approved of by his Majesty should be placed upon the top of the new Cullumne and, in regard it is apprehended dangerous that the Scaffolds should long continue, that the speediest, which is also the cheapest, way be taken for the finishing of the said worke and in order thereunto that Mr Robert Hook be desired forthwith to treat with the Cityes founder, and such other Workmen as he shall Judge to be honest and able, for the makeing a globe of wood covered with Copper, double guilt and lined with brasse, of nine foot diameter." (3)

If the construction had begun in 1671 then parts of the scaffolding might have been in place for four years. We know from Robert Hooke's diaries that by June 1674 the column was "above ground, 210 steps." The wooden model described in Wren's account has not survived but it is said to have later belonged to Sir William Chambers and to have passed from him to Sir I. Brunel. The scaffolding was shown surrounding the model

and a drawing of the scaffolding was published in the 'Civil Engineer and Architect's Journal' i.

On 22 September 1675 the City Lands Committee received yet another alternative design for the crowning ornament:

> "Mr Hooke propoesing to this Comittee the Figures of an Urne as the most proper to be placed upon the Top of the new Cullumne on Fishstreet Hill and declared that it had been seen and approved of by his Majesty and undertakeing to procure a testimony under Sir Christopher Wren's hand of his Majesty's approbacon thereof ...."(4)

The design for an urn containing a ball of flames was ultimately built, against the wishes of Wren. In 1723 when Hawksmoor made a drawing of the Monument it was crowned by Wren's statue of Charles II, and the terminal with urn and flames was relegated to a separate inset marked "Urna ...imposita Contra Architecti Intentionem."

Hawksmoor's drawing clearly credits Wren with the overall design of the Monument: It contains a framed description; "The great PILLAR or MONUMENT of London; Begun in the Year, 1671 and Finish'd in 1677. According to the Designs, and Under ye Conduct of Sr. Christopher Wren...." Robert Hooke's diaries, however, give an indication of the extent of his involvement in the design and construction, and they are quoted below in full:

Relevant entries in Robert Hooke's Diaries.

1 June 1674.	At the Pillar, Fish Street Hill, it was above ground, 210 steps.
7 Aug. 1674.	At the pillar in height 250 steps.
	27 July 1675. With Sir Chr. Wren about Report of Monument.
28 July 1675.	Guildhall Committee. Received orders about the Ball and Railes about the Column. I took draught of Piller, Ball, and Statue.
3 Aug. 1675.	Walked with Sir Chr. Wren in Privy Garden and Discoursed of the Ball for the Column.... To Bloomsbury Brazier, and Cibber.
4 Aug. 1675.	To Bird, Brazier in Beech Lane, he demanded 2s. per lb, for Ball.
27 Aug. 1675.	Sir Chr. Wren at Garraways. With him to Lord Angers and Sir Robert Reddings Lord Mayor, who gave me directions to agree with Braziers for Ball and Balcony.
8 Sept. 1675.	To Lever, Smith, about Rail and Balisters of Columb. Guildhall Committee. Power to agree for Ball and Balcony. Cibber and Brazier.
11 Sept. 1675.	To Sir Chr. Wren's. Received Draught of Urne.
21 Sept. 1675.	At Fish Street Hill on top of the Column. Agreed with Cole Brazier for Urne after the Rate of 18d per lb for plaine and 2s.6d. for chaced work. He to set it up and fix it.
24 Sept. 1675.	To Coles, Brazier drew out Urne.

28 Sept. 1675. Agreed with Bird for Urne at 19d per lb. for plain work.

11 Oct. 1675. I paid Bullock for Module for Urne 8s.6d., and Lignum Vitae.

20 Nov. 1675. To Birds, the Urne bungled.

16 Dec. 1675. At Birds, saw half the Urne made.

25 Jan. 1676. Mr Marshall here, with him to Birds, Bath Lane, he had finishued Urne.

27 Jan. 1676. Urne to Fish Street Hill. Weight 1452+.

4 April 1676. With Oliver & Hodgkins , and at Stair Alehouse about Urne.

5 April 1676. Piller at Fish Street Hill. At top of it, saw Balcony, directed about setting the Urne.

7 April 1676. To Committee at John in Cornwall about Urne. To Guildhall. Bird had £50. Gave a draught and report of iron frame for Urne.

14 July 1676. Order to raise the Urne tomorrow.

26 July 1676. Bird here about air pump & urn ornaments.

8-14 Oct. 1676 Scaffolds at Fish Street Piller almost all struck.

17 Nov. 1676. At Piller the laying it open reported with Sir Chr.Wren. Inscription mentioned.

4 Dec. 1676. To the Piller measured it with Leybourne, Marshall, Hayward; Oliver; Mam, Hoskins, &c.

8 Oct. 1677. At Fish Street Piller. The Baker's ground distant the length of the Piller.

17 Oct. 1677. At Lord Mayor's about the Fleet and Dr. Gale's

inscription, he comsanded me to meet with Dr. Gale, Sir Chr.Wren. and Controuler, about inscription. Spent rest of day till 10 at night with them.

18 Oct. 1677. To Dr. Gale's about Inscription. To Court of Aldermen. Attended all day on that affaire.

20 Oct. 1677. Discoursed with Sir Chr.Wren at Mans about Inscription.

24 Oct. 1677. At Fish Street Piller. Directed corners.

17 June 1678. To Dr. Gale, saw Monument Inscription finisht.

29 July 1678. Called on Dr. Gale for Inscription of Column.

1 Aug. 1678. Recd. from Dr. Gale the Descriptions of the Column.

6 Nov. 1678. Viewd Inscription on the Piller.

30 Nov. 1678. At the Piller with Sir Chr. Wren and Dr. Gale.

16 Dec. 1678. Measured the Column.

17 Dec. 1678. At Jonathans casting up Piller.

18 Oct. 1679. Dind with Sir Chr. & Lady Wren about seeing Monument.

Construction

It is apparent from Hooke's diaries, and from the Orders of the City Lands Committee that construction of the Monument began before the design for the terminal had been drawn up. It is recorded in 'Parentalia' and in Nicholas Hawksmoor's drawing of 1723 that construction began in 1671.

A manuscript in the Guildhall Library, giving an account of payments made in the construction of the Monument states that on 11 November 1671 Nicholas Duncomb was paid "for carting away rubbish from the ffoundation of the Pillar."

Payments to Joshua Marshall mason are recorded in the same document, "by Order dated 20th March 1670 on Accmott. for erecting the Pillar neer the place where the ffire began." This account is given in full in appendix 2.

By 1 June 1674 the Monument was "above ground, 210 steps."

Hooke received a design for the urn from Wren on 11 September 1675 and on 22 September the design for an urn and a balcony railing was approved by the City Lands Committee and Hooke was authorised to draw up contracts.

An agreement was reached between Hooke and the Brazier, Bird on 28 September and by 11 October a model of the urn had been constructed.

On 8 November 1675 contracts were issued to William French, blacksmith; "that he shall make a Ballcony of good stuffe and substantiall Iron, Workmanlike according to the Modell Agreed upon by Mr Hooke the City Surveyor..."

The urn was completed by 25 January 1676 but the following month the City Lands Committee recorded that;

> "some extra work is required for setting up the Urne on the Column"

On July 5 the Committee recorded:

> "Mr Oliver informs the Comittee that one Mr Bowers, who had begun the ornamental worke about the Urne, is unwilling to proceed till he has some assurance what and when he will be paid. Sir R.Forde, Mr Nicholl and Dep Aldm Hall with Mr Oliver to view, treat and agree and report.

The ornament, which appears to have included the ball of flames, was the subject of two more reports to the City Lands Committee: On 25 July 1676 it was ordered:

> "Mr Oliver to see that the flames of the Urne be forthwith made, guilded, and sett up, and that the Clerk of the works doe follow his directions, and that so much of the scaffolding as possible be taken down and Mr Marshall to comply with their directions.

On 6 August 1676 it was recorded that:

> "After a full debate unanimous agreement that the ornamental Copperworke lately made by Mr Bowers should forthwith be finished, guilded set up. Mr

Bowers called promised to finish and fitt the same and have it ready for the Guilder in 4 days.

Mr Edmond Pickering, painter, also present was ordered to prepare some very substantiall gold and to guild a sample piece in the presence of Mr John Oliver. Oliver is to see about 2 good substantiall doors for the said Columne."

Hooke's diaries record that the Monument was completed excepting the inscriptions by Dr Gale by the end of 1676 and an entry in the City Lands Committee minutes of 18 October 1676 denotes the completion of construction work:

"Sir Chr Wren to be attended with a copy of the Contract and be pleased to inspect and view the worke and measures and quality and report."

An account of the materials employed in the construction is given in 'Parentalia' as follows:

"An accurate Account of the Quantity, by Measurements, of the Great Column of London.

The Solidity of the whole Fabrick from the Bottom of the lowest Plinth, to the black Marble under the Urn, the Cylinder of the Staircase only deducted, and the Stone for the Carving not allowed for, is ..... Feet 37396

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The black Marble that covers the Capital 287

---------- Lanthorn 64

From this Solidity deduct,

For the 8 great Niches 281

For the 3 Doors and Passages 289

For 3 sides reveyled.....486

For rouch Block 1499

For Rubble-work 7185

In all 9740

the Remainder is 27656

To this add, upon the account of the Carvings in Front, the 4 great Dragons, and Festoons 540

28196 Feet of Solid Portland Stone.

343 black marble steps.

The whole Shaft fluted after it was built, being 4784 superficial feet.

Marble March-pace 56 feet.

Marble paving, and other small Articles, not in this Measurement."

(The record of a black marble cover to the Capital and Lanthorn, and the apparent inaccuracy of the refereace to 343 black marble steps should be noted.)

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Scientific Experiments

When the Monument was first completed it was used, as Wren intended, by the Royal Society for scientific experiments. The nature of these experiments is not known but it has been suggested that the small hole, approximately 6 inches diameter, which extends from the interior of the entrance area up to the viewing platform, may have been designed by Wren for use in these experiments. It is believed that the vibration caused by traffic along Fish Street Hill made the experiments impractical.

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18th Century Alterations.

The first recorded comprehensive programme of repairs to the Monument was executed between October 1784 and July 1786. The contract for these repairs, which itemises the work to be done and specifies the materials and methods to be used is recorded in the City Lands' 'Contracts for Repairs Book Vol.1 November 1779-October 1791.'

Richard Dyke, a mason from West Ham in Essex, and Charles Palmer of Wanstead in Essex were employed to repair and regild the urn with its ball of flames, to clean and repair stonework, to repair and replace damaged balusters and the hand rail capping, and to clean and decorate the interior of the Monument. "Strong scaffolding" was erected and the contract would suggest that the gilded urn and the iron balusters were in need of substantial repair work. The contract is too lengthy to be quoted in full, but it can easily be viewed at the Corporation of London Record Office (Reference: '1318 City Lands Contracts Vol.1 pp69-74.'), and there are small sketches in the margin (marked in my quotations by *). It is given in summary below:

Urn and ball of flames

"Repair and make good every defective part of the Blaze and all other brass or copper work at the top of the Cippus. To stop up all the holes made therein and to rivet all the joints and

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lapes etc where necessary, with copper rivets and to take away all such parts of the old brass or copper as is decayed and replace the same, ... so as to take every part of the said brass or copper work in every respect perfectly compleat as at first."

"To new gild the whole of the blaze and all the brass or copper work where gilt before, with the best double gold.

Railings and iron work.

To knock scrape and clean all the rust from off the iron rings and uprights etc which extends from the top of the stone steps to the blaze, and from off the iron railing and balusters etc on the steps and in the abacus. To repair the several defective parts of the iron rings and uprights before mentioned, with three hundred of wrought iron and one hundred pounds of lead, ..."

"To fix four wrought iron balusters .... to the uppermost steps, ... each ... let into the said steps and run with lead, they are also to be riveted into an iron rail, which iron rail is to be one inch and half wide, and half an inch thick, and properly fastened to the present rail, and to one of the uprights of the ring leading to the blaze."

"To take the iron capping from off the rails of the fence round the gallery on the abacus, and also the iron capping from off

the hand rail of the steps, and also the other pieces of iron which have been put for the security of the upright bars etc. To cover the said rails with a cast iron capping of the form and substance described in the margin.* In the length of the capping to be made Fifty holes, each hole is to be half an inch diameter for the reception of lead, these cappings are to be mitred at the angles, and the other ends are to be halved together as described in the margin."* (Additional details given on how to fix to existing rail and balusters.)

"The lower ends of all the upright bars on all the steps and the landing of stairs are to be secured and strengthened with two cast iron rails fixed thereunto in the manner described in the margin."* (Additional details on method of fixing.

"To secure the upright bars of the iron fence round the abacus with sixteen wrought iron bars, each three inches wide and half an inch thick, of sufficient lengths to join at their angles..."

Stonework

To cut out the several defective parts of the stonework .... and replace ... with Fifty cubical feet of sound Portland Stone. .... to be wrought and sunk moulded or carved etc so as perfectly to correspond." (Gives details here of method of fixing by cramps etc.)

"To scrape and clean off all the dust etc on the stone work in every part ..."

"To cramp all the defective and decayed parts of the abacus with copper as shall be directed to the value of Ten Pounds. To pin up the plinth of the cippus upon the abacus with tile heads, slate and oyster shells etc. and fill up every part of the vacuity with melted lead."

Steps

To support the ends of such of the steps as shall hereafter appear defective with 1 in iron brackets let into the said steps and into the wall and run with lead each bracket."

Interior

"To take down the partition which encloses the upper stairs, and put up a new one of inch and a half deal framed with an inch and half deal door, and lock and hinges compleat in every respect."

"To take down the cupboard on the ground floor and make a strong deal door to the cellar of inch and a half deal rebated and ledged. To make an inch and half ledged flap, and fix the same over the cellar steps, and fix a seat and bearers on do. as shown and directed."

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"To fix up a sash partition and door and enclosure etc. at the foot of the stairs as before .... and provide proper hinges and fastenings etc to the same."

"To provide fit and hang an inch and half deal ovolo sash door to the front."

"To fix up a stove in the chimney compleat as before and make good all the defects in the chimney compleat.

"To clean the dirt etc out of the stone bason and pipe etc at the bottom of the niche."

"To lay new substantial oak joists, and whole deal floor over the cavity adjoining the stairs as before."

"To wash stop scrape and white the whole of the work where done before, and to paint all the new and old wood and iron work where painted before, four times in oil."

Paved area surrounding base

"To take up the whole of the paving within the iron railing which inclosas the pedestal and relay the same strait, and to a proper current, with such of the old stones, and make proper watercourses through the stone kerb, on which the iron railing stands."

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"To cut away repair and make good the said kirb as shall be directed with ten cubical feet of Portland Stone properly cramped as shall be directed.
To fit new purbeck stone steps to the front entrance of the same length as the present old ones."

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Railings Around the Base of the Monument.

There are no railings shown around the base of the Monument on 17th-century and early 18th-century engravings. Almost certainly if there had been railings around the base in 1723 they would have been included in the detailed drawing by Nicholas Hawksmoor and so we must assume that they were a later 18th-century addition.

By 1784 railings had been installed on the north, east and south sides of the Monument, close to, but not touching the plinth.

We know that the railings were in place because the contract for repairs to the Monument of 1784 includes the specification: "To take up the whole of the paving within the iron railing which incloses the pedestal and relay the same strait, and to a proper current, with such of the old stones, and make proper watercourses through the stone kerb, on which the iron railing stands."

In addition, an engraving dated 1795 illustrates a railing approximately 5' high on the north side of the base.

In 1882 or shortly after, the 18th-century railings were altered: The railings were removed from the north and south sides and the quadrant curves which linked the main railings to

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the stonework of the Monument at the west end of the railings on the north and south sides appear to have been transferred to the east side of the Monument. From this date there were railings on the east side of the Monument only:
A drawing in the Corporation of London Record Office (Ref. Surveyor's City Lands Buildings 1984) dated 29 March 1882 comprises four ground plans of the Monument; the first showing the railings as they were in 1882; and the remaining three showing alternative arrangements for the railings. Plan number 3 shows the railings as extant.

The City Lands Committee Minutes specifically record the repainting of the railings around the base in 1847, and it is probable that the railings were also repainted as part of the general maintenance of the Monument.

In 1954 the City Surveyor's Report records that several of the balusters of the railings around the entrance, and some of the top ornaments were broken, and that damage had been caused to the stonework where the ends of the rails had been built in. It was agreed that the broken balusters and ornaments should be repaired and that "amendments made to prevent further damage to stonework."

No explanation has been located either for the erection of the railings in the 18th century, of for their 19th-century replacement although it is probably that the 19th century

railings were erected in response to the 1880 alterations to Monument Yard.

19th Century Alterations.

The Monument was scaffolded for inspection and repairs in 1834, and in 1888.

1830 Removal of inscription

The anti-Papist inscription in the north panel, added in 1681 was removed in 1830.

1834 Regilding of urn and flames

The Minutes of the City Lands Committee for 1834 record the regilding of the urn and flames, but no additional repairs or alterations are specified.

According to C.Welch's 'The History of the Monument' published in 1893

> "In May, 1834, it was completely renovated, a scaffolding being erected from the gallery to the top of the urn, in order that it might be repaired and regilded. The construction of the scaffolding was very ingenious, and much courage and skill were displayed by the workmen in its erection."

It would appear from this description that the scaffolding was restricted to the terminal area, and it is likely that if substantial repairs had been carried out then they would have been itemised in the City Lands Committee Minutes.

1825 Gas lighting

According to C. Welch's 'The History of the Monument' published in 1893 and adapted from an earlier history written by the Keeper of the Monument J. Woodward;

> "On the 15th June, 1825, the Monument was illuminated with portable gas, in commemoration of the laying of the first stone of London Bridge. A lamp was placed at each of the loopholes of the column, to give the idea of its being wreathed with flames, whilst two other series were placed on the edges of the gallery, to which the public were admitted during the evening."

Welsh's date may be inaccurate because an entry in the City Lands Committee Minutes of 26 February 1851, after a visit by the Committee to the Monument records that they:

> "were of the opinion that it should be lighted with Gas."

Later photographs show the exterior of the Monument to have been lit by gas lamps fixed to the upper corners of the base. A postcard in the Guildhall collection entitled 'Base of the Monument' shows these lamps on the east side of the base, with the 1882 railings below, and a 1905 photograph shows that the lamps were on each of the four corners, but by 1928 they had been removed (National Monuments Record Photographs CC73/2639, CC73/2766, and CC72/73).

1842 Addition of iron cage around gallery

There are reports from the 18th century onwards of men absailing down from the top of the Monument and between 1788 and 1842 six people committed suicide by throwing themselves from the gallery at the top. The date of the last suicide, on 19 August 1842, and three days later a special meeting of the City Lands Committee was convened to discuss the problem of determined suicides. After much debate it was resolved "that the only effectual remedy for such occurrences is to have an additional railing or fence work at the top", and the Committee recommended that "a suitable inclosure of Ironwork be placed there to prevent accidents in future." The Monument was closed until an iron cage was erected around the gallery and on 23 November 1842 the City Lands Committee authorised a payment of £93 for the new enclosure.

An article in The Illustrated London News of 27 August 1842 stated that "The additional railings will be painted white, so as to be invisible at a distance."

Two newspaper engravings, one of 1874 and one from the Graphic of 1892, show the cage to have been fixed to the railings by iron rings.

The railings around the balcony were replaced in October 1954.

1879 Regilding and painting of interior and railings

A report in the Common Council Papers of 12 February 1879 records the necessity of regilding the flame, and quotes a report from the City Architect:

> "the Flame at the top of the Monument is very much tarnished and discolored not having been regilt since the year 1834. Recommends that it should be entirely regilt, the cost of which he estimates at the sum of about £240.
>
> The Architect has suggested that in the event of this Honourable Court giving directions for the proposed regilding of the Flame of the Monument which would necessitate the closing of the Building to the Public the opportunity should be embraced to paint and clean the interior from the top to the bottom the cost of which he estimates the sum of about £35 also to paint the cage on the abacus and the railings at the bottom at a cost of about £55 and we agreeing with Mr Architect in his Report recommend that we should be authorized to give directions for the execution of the said several works at the estimate cost of about £330."

1883 Decoration of interior

According to the 1888 report given below the interior of the column was painted in 1883, and was due to be painted again in 1888.

1888 Repairs, restoration, and repainting of interior.

Doubts were raised concerning the stability of the Monument when on 25 September 1888:

"a piece of Stone fell from the under-side of the abacus of the Monument at the South East corner, it fell upon the pedestal from which a portion weighing about 1½ lb rebounded and flying across the public thoroughfare broke through a window of a room on the Second Floor of Monument House in the occupation of Messrs Duche and Sons, it then passed over the head of a Clerk at his Desk and breaking a square of Glass in a partition fell on the floor a smaller piece also crossed the road and broke a large square in a window of Lockharts Coffee House, the remainder crumbled on the pedestal."(5)

The building was immediately closed to the public and surrounded by barriers and hoarding "in order to catch any other pieces which might fall", and a "Boat" was set up so that the underside of the abacus could be examined. A report from the City Architect, Alexander Peebles dated 10 October 1888 found that:

"On the under side of the abacus at each angle is a 'Patera' ornament about 18 inches in diameter, not carved out of the solid Stone and forming a part of the abacus, but a distinct stone fastened up to the

abacus by means of an Iron bolt, and here is doubtless the cause of the detachment of the patera, the examination revealed also the fact that this is not the first time that parts of these Patera have broken away, it was evident that a portion, about one third, of the Patera in question had previously come away, and a portion of the Patera under the North East angle of the abacus appears to be wanting. All the patera should be entirely removed as the mode of fixing by means of iron bolts is unsafe, while the patera are useless even as ornaments for they can scarcely be seen: the bed or horizontal joints of the Masonry are very much weakened, the mortar having crumbled away, owing to the action of the weather, for a depth two or three inches, in some places more, the necking of the Column and the under side of the abacus are encrusted thickly with soot. I suggest the advisability of repointing all the joints of the masonry, and of recovering the top of the abacus with Asphalte, it being very much worn; it is five years since the interior of the Column was painted, if you should decide upon doing the works to the Masonry as suggested the Monument must be kept closed and the painting could be done at the same time.

It has been suggested that the falling of the Stone may be due to the works of the City of London and Southwark Subway, or to vibration caused by the District Railway, but

in my opinion the patera must have fallen sooner or later because of improper workmanship and because of the action of the weather upon the iron bolts the fall is not attributable to the Works referred to ..... I had the Column plumbed by means of a Theodolite and it was found to be quite perpendicular."(6)

Peebles' recommendations were agreed by the City Lands Committee and on 10 October 1888 it was ordered:

"that all the "Paterae" beneath the Abacus be entirely removed.
That all the joints of the Masonry be repointed and the top of the Abacus covered with asphalte.
That Mr Architect do obtain Tenders for repainting the interior of the Monument and lay the same before this Committee.
That a Report to Common Council on the subject be prepared."

The tenders for repainting the interior were accepted on 14 November 1888, the abacus was covered with asphalt on 28, 29, and 30 November, and a letter from Peebles to the City Lands Committee of 21 January 1889 reported that the repairs were complete.

The plumbing of the interior of the Monument found that "the shaft inclines in a south easterly direction to the extent of 9 and 3/8 of an inch."

A measured drawing of the Monument was made, taking advantage of the scaffolding (Mon/Gen 4 dated November 1888).

An inspection hole was dug to examine and measure the foundations and because the base was found to be: "practically of the same length and breadth as the pedestal, not being spread over a sufficient area to afford a margin of stability to this lofty structure" (drawing Mon/Gen 5 dated November 1888) it was recommended that a Civil engineer should be consulted to ensure that the Monument was stable. Mr Wolfe Barry was duly consulted and he reported to the Committee in a letter dated 8 April 1889 that he had examined the entire structure and "could find no cracks or imperfections except some of the most trifling nature." It was concluded that the Monument was sound and stable but that "as a matter of precaution, the structure should be plumbed from time to time." The City Lands Committee heard Wolfe's report on 10 April 1889 and it was agreed that the Monument should be plumbed every 12 months.

1889 Notice board

On 6 March 1889 it was agreed that admission to the Monument should be by ticket only and the City Lands Committee ordered

the appropriate notice boards for the entrance and the top of the Monument.

1891 Turnstiles

On 31 January 1890 the City Lands Committee ordered that a sketch should be made by the City Architect; "showing the position in which a Turnstile may be placed together with an estimate of the cost."

A meeting of 11 February 1891 heard that the turnstiles had been erected.

General repairs and redecoration

In addition to the details of the extensive repairs and repainting of the Monument in 1834, 1879, and 1888, there are many references in the City Lands Committee Minutes to repairs and redecoration at the Monument where the exact nature of the repairs is not specified and cannot be located in the Minute Papers.

Although these entries are frustratingly brief they do give an indication of the type and frequency of general maintenance and occasionally they offer clues to the possible date of repairs such as the provision of the wooden handrail.

In 1847 the City Lands Committee agreed that general repairs and decorations at the Monument were to be carried out at the expense of the Keeper of the Monument; "as he receives the

emoluments from persons admitted to view the Monument", and the Committee made regular inspections to ensure that the building was properly maintained. The Keeper was permitted to close the Monument to the public as necessary in order to carry out repairs, but this diminished his income from admission charges and there can have been little incentive, other than to satisfy the Committee, to carry out extensive alterations. We know from the City Lands Committee Minutes of June 1859 that the Keeper had been responsible for "repairing and making good damage to the Rails and Ornaments and keeping the same in order and condition." At the same meeting, however, the City Architect was granted £100 for repairs to the building. It is tempting to associate this £100 with the wooden handrail.

The following summary of entries in the Committee Minutes between 1840 and 1865 gives an idea of the frequency and type of repair work and redecoration carried out during the 19th century.

March 1842 repairs and painting authorised as "may deem requisite."

November 1842 payment of £93 made for iron enclosure around the viewing platform.

October 1843 repairs to Copperwork at the top of the Monument authorised, to a cost not exceeding £70

December 1843 repairs to paving in Monument Yard. The repairs appear to have been related to work on sewers.

March 1847 Railings around the base and the viewing platform painted.

May 1847 the City Lands Committee heard a report from Mr Clerk of the Works: "the interior of the Monument requiring painting and scraping - Estimate of expense £25."

May 1848 Architect reports on "defective state of the pipe for carrying off the water from the top of the Monument".
Authorised by Committee to make necessary alterations.

February 1851 interior to be white-washed and the stonework at the top repaired.

March 1854 repairs to be carried out under the direction of the City Architect and paid for by the Keeper.
June 1878 Architect's report heard on state of Monument and repairs authorised to value of £30.

June 1859 £100 granted to Mr Architect for repairs.

April 1865 City Architect makes a report of work required to put the Monument in "a proper state of repair".

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June 1865 Architect granted £190 for repairs and painting.

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20th Century.

Throughout the 20th century the Monument has been regularly maintained and repainted. During the Second World War the building was closed to the public and the base was damaged by bomb fragments. Photographs in the Corporation of London Record Office (Ref. Mon Gen 10e & 10f) show substantial scarring on the west and east sides.

1954 Cleaning, repairs, and regilding of urn.

In 1953 a Surveyor's Report outlined a series of proposals for repairs and alterations to the Monument and these comprised:

- Cleaning and repair of stonework.
- Renewal of railings around the base.
- Renewal of railings around viewing platform.
- Proposal to erect a small building outside the entrance to increase accommodation for Assistants.
- All necessary works of painting and decoration including the complete regilding in gold leaf of the flame motif, ball, and urn.

After consultation with Mr Wright, Chief Architect of Ministry of Works, Ancient Monuments Department, the programme of repairs was revised and the following summary appears in the Surveyor's Report to the City Lands Committee of 14 April 1954:

Staircase Balustrade.

"The iron balusters have all corroded to various degrees, some of them right through and repairs have been executed over the years by means of metal plates strapping together.

It was intended to cut out the old balusters from the stair treads and renew the whole of the balustrade but by means of a purpose made socket to straighten and fix the base of the worst-corroded balusters I think repairs could be confined to about half the balusters.

The remainder of the balusters would remain in their present state but would last for some years."

Railings around Viewing Platform.

It was agreed that the condition of the iron cage and railings around the viewing platform necessitated complete replacement.

Railings to Entrance.

Several balusters and top ornaments were broken and the original intention had been to replace all the railings. Mr Wright had suggested, however, that although the railings were not as old as the Monument they should be retained where possible. It was agreed that the broken balusters and ornaments should be replaced and that where the ends of the railings had been built into the stonework, causing damage, "amendments made to prevent further damage to stonework."

Staircase.

".... the treads are worn and become slippery when wet and I had proposed to fix modern non-slip metal and carborundum nosings to all steps, made up with granolithic mastic behind.

Mr Wright thought this might be out of place on a building of this antiquity and suggested .... cutting away the top of the steps and inserting new treads in similar material."

The Surveyor was reluctant to recommend the insertion of replacement treads because of the high cost in materials and labour. He concluded that ".... most of the water which sometimes accumulates on the steps in due to condensation and it is hoped that the removal of old paint from the walls and an improvement to the ventilation of the column will stop a great deal of this trouble."

Summary.

a) To repair balusters with purpose made sockets instead of complete replacement.

b) To repair and alter entrance railings instead of complete replacement.

c) To defer any work on stair treads.

d) To replace railings on top platform.

e) Regilding of flames, ball and urn, and interior redecoration.

1977 Stair Treads.

Work began on replacement of the stair treads in 1977.

All of the stair treads except one have now been replaced.

Changes in Urban Landscape Setting

17th Century

The Monument was constructed on the site of the church and churchyard of St Margaret, New Fish Street. When the church was destroyed in the Great Fire the Parish of St Margaret was joined with that of St Magnus and so the church was not rebuilt.

The height of the Monument - 202 feet, is said to be equal to its distance from the site in Pudding Lane where the Great Fire began.

17th century engravings show Monument Yard as an open square, with the Monument on the eastern perimeter, formally positioned with raised paving steps on three sides and the busy Fish Street Hill on the fourth side.

Fish Street Hill continued into the old London Bridge, forming the principle route from London to Southwark, and the Monument and St Magnus the Martyr were clearly visible as a composition from the Bridge, and from the north.

The new buildings along Fish Street Hill and around the three sides of Monument Yard were four storey buildings, often with shops or business premises occupying the ground floors.

Stow described the area as a place where "be fish-mongers and fayre taverns; on Fishstreet hill and Grassestreet, men of divers trades, grocers and haberdashers."

In 1681, 1673 feet of land was purchased from the Rector and Church Wardens of St Margaret's for the enlargement of Fish Street Hill, and the paved setting to the Monument was widened.

The Monument, with its small square behind and with the bustling Fish Street Hill in front was the subject of many engravings, remaining with very few alterations from the 17th century through the 18th century.

18th Century

Towards the end of the 18th century the buildings along the west side of Fish Street Hill began to be replaced but those along the east side, and in Monument Yard continued with only superficial alterations.

By 1784 railings had been positioned around the base of the Monument on the north, east, and south sides and this may have been done to protect the base.

In 1784 the paving within this iron railing was taken up and relaid, but no documentation has been located which can date the alterations to the surrounding raised paving.

19th Century

The rebuilding of London Bridge to the west of the old London Bridge destroyed the original alignment of the Monument, St Magnus the Martyr Church, and the old bridge. Fish Street Hill ceased to be the main thoroughfare from London to Southwark and the prominence of the Monument diminished accordingly. Payne's Illustrated London, published in 1847, describes the alteration:

> "The curvature from the bridge on the Middlesex or London side, cannot be sufficiently deplored. The Monument by the building of new London Bridge, has been thrown into the shade, and may well join in a lament at the obscuration of its present altered locality."

In 1880 the character of Monument Yard and the paved area around the Monument were even more radically altered. The buildings on the north and south sides of the square were cleared and the construction of Monument Street changed the square into an open thoroughfare. An article in The Builder of 30 October 1880 discusses the alterations in detail:

> "The entire area of Monument-yard is at present being re-arranged, and so laid out as to convert a large portion of it into a new carriage-way, which is intended to be constructed between Fish-street-hill and Lower Thames street, opposite

> Billingsgate Market. Hitherto the whole open space around the Monument has been flagged, and served only as an approach to the Monument itself and the buildings on the north, south, and east sides respectively, with the exception of a narrow passage at the south east corner, leading into Pudding-lane. All this is now being changed. The old flags have been taken up, and the level considerably lowered, with the view of adapting it to the gradient of the intended new thorough fare. There are to be new footpaths on the north and south sides of the Monument, with carriage-road approaches to the new thoroughfare eastward, which will intersect Pudding-lane, buildings there having been taken down for the purpose of opening out the new street. The new carriage-road around the Monument will be paved with granite, resting on a concrete bottom..... The old buildings on the north and south sides of the Monument, fronting Fish-street-hill, have recently been taken down, and on the site so cleared on the south side an extensive block of new buildings is in course of erection, which will have a frontage to Fish-street-hill of about 40 ft. in length, and be carried to a depth of 70 ft. eastward, the Fish-street-hill elevation, as well as that facing the south side of Monument-yard, being uniform in architectural design..... The site which has been

cleared on the north side of the Monument in Fish-street-hill remains inclosed and not yet built upon. It belongs to the Fishmongers' Company, who, we learn, do not propose to erect any new buildings upon it until the Inner Circle Completion Railway project is finally settled."

Where previously engravings of the Monument had generally taken a view southwards along Fish Street Hill, showing the Monument on the east side of the street and suggesting the square behind, now it was primarily viewed from the west side, showing the busy cross roads of Monument Street and Fish Street Hill, with the Monument isolated in the centre of a busy square.

As the new buildings were erected to the north and south of the Monument its urban setting at the edge of an open square with generous paved surrounds shrank to a central island, set back and aesthetically divorced from Fish Street Hill and Monument Street, and crowded by the proximity and character of the surrounding buildings. The arrival of the Monument underground station, at the end of the 1880's, did little to help.

<u>20th century</u>

Monument Yard has been preserved through the 20th century, although alterations to building lines and changes in traffic

patterns have eliminated any meaningful urban landscape setting.

Fish Street Hill is no longer a primary route linking London to Southwark, the bridge has moved, and the relationship between the Monument and St Magnus the Martyr is only apparent to the most observant visitor. There are very few remaining indications that this was once the highest free-standing column in Europe, situated on the edge of a busy thoroughfare against a backdrop of a formal square.

Monument Yard has lost its qualities both as a composed open square and as a market area where fishmongers gathered with their crates early in the mornings.

The Monument itself is dwarfed by surrounding buildings. Where for two centuries it was one of London's most prominent landmarks, featured in every guide book to the City, now it is quite difficult to find.

20th Century Alterations.

During the 20th century the Monument has been regularly closed for general maintenance, regilding of the urn and flames, and for redecoration of the interior.

The 'day books', kept by the assistants at the Monument record the following closures:

12-23 May 1924.	Closed for painting.
14-26 February 1948.	Closed for repairs.
December 1963.	Flag pole taken down.
March 1966.	Photographs taken down.
2-30 May 1966.	Closed for interior painting.
April 1971.	Closed for decorating.
19-22 May 1975.	Closed for wire mesh shield to be placed over opening on stairs.
November 1976.	Closed for cleaning.
January 1981.	Closed for two weeks for renewal of steps.
September 1981.	Closed for redecoration.

Unidentified newspaper article:
Flames regilded 1926.

Architects Department Files:

September 1978	Closed for renewal of 20 steps and redecoration of viewing platform grill.
1973	Redecoration.
1975	Floodlit.
1978	Redecoration.
1985	New door to viewing gallery.

Replacement of worn steps:

May 1977	20 steps.
July 1978	20 steps.
July 1979	40 steps.
Setpember 1980	13 steps.
1981	7 steps.
1986	"carefully cut out 32 worn treads to steps and replace with new Belgian Black marble.

Drawings:
Mon/Gen 7
".... Information Board for the Monument. George Holliday. City Surveyor. 1900."

Mon/Gen 8.
"Column scaffolded for inspection 1834, 1888, and 1954.
"Notice board west face provided 1951. Cost £67.13.0.
Plan of quarter of safety grill.
Balcony railings p.529.
"Railings 5'6" x 30' at entrance."
"Rails repainted 1954."
"Flame regilded 1954."
Note below balcony railing: "Provided 1949 Cost £1195."

War Damage:
The Monument was closed to the public during the Second World War. The base was damaged by bomb fragments and photographs in the Corporation of London Record Office (Ref. Mon Gen 10e & 10f) show substantial scarring on the west and east sides.

APPENDIX I

Translation of Inscription on the North Side.

In the year of Christ 1666, on the 2nd of September, at a distance eastward from this place of 202 feet, which is the height of this column, a fire broke out in the dead of night, which, the wind blowing, devoured even distant buildings, and rushed devastating through every quarter with astonishing swiftness and noise. It consumed 89 churches, gates, the Guildhall, public edifices, hospitals, schools, libraries, a great number of blocks of buildings, 13,200 houses, 400 streets. Of the 26 wards, it utterly destroyed 15, and left 8 mutilated and half burnt. The ashes of the city covering as many as 436 acres, extending on one side from the Tower along the bank of the Thames to the church of the Templars, on the other side from the north-east gate along the walls to the head of Fleet-ditch. Merciless to the wealth and estates of the citizens it was harmless to their lives, so as throughout to remind us of the final destruction of the world by fire. The havoc was swift. A little space of time saw the same city most prosperous and no longer in being. On the third day, when it had now altogether vanquished all human counsel and resource, at the bidding, as we may well believe, of heaven, the fatal fire stayed its course and everywhere died out.
*(But Popish frenzy, which wrought such horrors, is not yet quenched).

* These last words were added in 1681.

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INSCRIPTION ON THE NORTH SIDE.

Anno Christi cıↄıↄclxvi die iv nonas Septembris
Hinc in orientem pedvm ccii intervallo qvæ est
Hvivsce colvmnæ altitvdo ervpit de media nocte
Incendivm qvod vento spirante havsit etiam longinqva
Et partes per omnes popvlabvndvm ferebatvr
Cvm impetv et fragore incredibili lxxxix templa
Portas prætorivm ædes pvblicas ptochotrophia
Scholas bibliothecas insvlarvm magnvm nvmervm
Domvvm cciↄↄ ↄↄ ↄↄ ↄↄ cc* vicos cd absvmpsit
De xxvi regionibvs xv fvnditvs delevit alias viii laceras
Et semivstas reliqvit vrbis cadaver ad cdxxxvi ivgera
Hinc ab arce per Tamisis ripam ad Templariorvm fanvm
Illinc ab evro aqvilonali porta secvndvm mvros
Ad fossæ Fletanæ capvt porrexit adversvs opes civivm
Et fortvnas infestvm erga vitas innocvvm vt per omnia
Referret svpremam illam mvndi exvstionem
Velox clades fvit exigvvm tempvs eandem vidit
Civitatem florentissimam et nvllam
Tertio die cvm iam plane evicerat hvmana consilia
Et svbsidia omnia cœlitvs vt par est credere
Ivssvs stetit fatalis ignis et qvaqvaversvm elangvit.
‡[Sed fvror Papisticvs qvi tam dira patravit nondvm
restingvitvr.].

* These curious figures are to be explained as follows:—cciↄↄ = 10,000; ↄↄ ↄↄ ↄↄ is the sculptor's mistake for cıↄ cıↄ cıↄ, making 3,000 more; and cc = 200, making the total of 13,200. This total agrees with the official estimate of the number of houses destroyed.

‡ These last words were added in 1681.

Translation of Inscription on the South Side.

Charles the Second, son of Charles the Martyr, king of Great Britain, France, and Ireland, defender of the faith, a most gracious prince, commiserating the deplorable state of things, whilst the ruins were yet smoking, provided for the comfort of his citizens, and the ornament of his city; remitted their taxes, and referred the petitions of the magistrates and inhabitants of London to the Parliament; who immediately passed an Act, that public works should be restored to greater beauty, with public money, to be raised by an imposition on coals; that churches, and the cathedral of St. Paul's, should be re-built from their foundations, with all magnificence; that the bridges, gates, and prisons should be new made, the sewers cleansed, the streets made straight and regular, such as were steep levelled, and those too narrow made wider, markets and shambles removed to separate places. They also enacted, that every house should be built with party-walls, and all raised of an equal height in front, and that all house walls should be strengthened with stone or brick; and that no man should delay building beyond the space of seven years. Furthermore, he procured an Act to settle beforehand the suits which should arise respecting boundaries, he also established an annual service of intercession, and caused this column to be erected as a perpetual memorial to posterity. Haste is seen everywhere, London rises again, whether with greater speed or greater magnificence is doubtful, three short years complete that which was considered the work of an age.

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INSCRIPTION ON THE SOUTH SIDE.

Carolvs II C. Mart. F. Mag. Brit. Fran. et Hib. Rex. Fid. D.
Princeps clementissimvs miseratvs lvctvosam rervm
Faciem plvrima fvmantibvs iam tvm rvinis in solativm
Civivm et vrbis svæ ornamentvm provîdit tribvtvm
Remisit preces ordinis et popvli Londinensis retvlit
Ad regni senatvm qvi continvo decrevit vti pvblica
Opera pecvnia pvblica ex vectigali carbonis fossilis
Orivnda in meliorem formam restitverentvr vtiqve ædes
Sacræ et D Pavli templvm a fvndamentis omni magnificentia extvverentvr pontes portæ carceres novi
Fierent emvndarentvr alvei vici ad regviam respon-derent clivi complanarentvr aperirentvr angipor-tvs fora et macella in areas sepositas eliminaren-tvr censvit etiam vti singvlæ domvs mvris inter-gerinis concivderentvr vniversæ in frontem pari
Altitvdine consvrgerent omnes qvæ parietes saxo
Qvadrato avt cocto latere solidarentvr vtiqve
Nemini liceret vltra septennivm ædificando immo-rari ad hæc lites de terminis oritvras lege lata
Præscribit adiecit qvoqve svpplicationes annvas et
Ad æternam posterorvm memoriam H. C. P. C.
Festinatvr vndiqve resvrgit Londinvm maiori celerita-te an splendore incertvm vnvm triennivm absolvit
Qvod sæculi opvs credebatvr.

Translation of Inscription on the East Side.

(This Pillar was) begun, Sir Richard Ford, knt., being Lord Mayor of London, in the year 1671; carried higher in the Mayoralities of Sir George Waterman, knt., Sir Robert Hanson, knt., Sir William Hooker, knt., Sir Robert Viner, Knt., and Sir Joseph Sheldon, Knt.; and finished in the Mayorality of Sir Thomas Davies, in the year of the Lord 1677.

INSCRIPTION ON THE EAST SIDE

INCEPTA
RICHARDO FORD EQUITE:
PRÆTORE LOND: A.D. MDCLXXI
PERDVCTA ALTIVS
GEORGIO WATERMAN EQ: PV
ROBERTO HANSON EQ: PV
GVLIELMO HOOKER EQ: PV
ROBERTO VINER EQ: PV
JOSEPHO SHELDON EQ: PV
PERFECTA
THOMA DAVIES EQ: PR.E: VRB:
ANNO DNI. MDCLXXVII

TRANSLATION.

[This Pillar was] begun, Sir Richard Ford, knt., being Lord Mayor of London, in the year 1671; carried higher in the Mayoralties of Sir George Waterman, knt., Sir Robert Hanson, knt., Sir William Hooker, knt., Sir Robert Viner, knt., and Sir Joseph Sheldon, knt.; and finished in the Mayoralty of Sir Thomas Davies, in the year of the Lord 1677.

APPENDIX 2

THE PILLAR ON NEW FISH STREET HILL

In Memoriall of the Fire. Out of the Cole money.
(From MS. in Guildhall Library. Condensed statement of Account.)

		£	s	d
1671 April 8.	Paid Joshua Marshall mason by Order dated 20th March 1670 on Accomtt for erecting the Pillar neer the place where the ffire began	300	-	-
July 7 to Oct 24.	Five payments	1300	-	-
Dec 15 to Feb 24 1672.	ten do	2700	-	-
1673. June 9.	Paid	500	-	-
Nov 17.	"	1000	-	-
1674. ffeb 10.	"	1000	-	-
April 28 to Sept 26.	3 Payments	3000	-	-
Dec 23.	Paid	500	-	-
1675. 28 July.	Paid	500	-	-
1676. 30 Nov.	"	500	-	-
		£11,300	-	-

		£	s	d
1671. Nov 11.	Paid Nicholas Duncomb for carting away rubbish from the ffoundacon of the Pillar	73	8	0
1673. June 28.	Paid Gabriel Cibber Sculptor for carving the Hieroglifick ffigures ...	100	-	-
" Oct 9.	Paid GC. Sculptor Mason. do	50	-	-
" " 25.	" " " "	100	-	-
" Dec 20.	" " " "	50	-	-
1674. April 13.	" " " "	100	-	-
Oct 14.	" " " "	100	-	-
Dec 23.	" " " "	50	-	-
1675. Sept 9.	" " " "	50	-	-
		600	-	-

		£	s	d
1673. Oct 31.	Pd. Tho Woodhouse, Carpenter	35	-	-
1675. Aug 21.	Pd. Hodgeskins. Smith.	100	-	-
Dec 2.	Pd. Tho Western for Wm French, Blacksmith, on acct of balcony	100	-	-
1675. Dec 23.	Pd. Anthony Tanner. Bricklayer.	6	18	-
1676. April 23.	Pd. Robert Bird, Coppersmith, for Urne	128	6	-
June 14.	Pd. Wm French extra charges for making and setting up balcony	4	-	-
		139	4	-

Summary

	£	s	d
Masons	11,300	-	-
Carting Rubbish	73	8	-
Sculptor	600	-	-
Carpenter (Doors)	35	-	-
Smith (Balcony and Urne)	339	4	-
	12,347	12	-
Account not stated (probably purchase of Land, etc.)	1,102	19	9
	13,450	11	9

References

1. Act 1666 19 Charles II, Cap 3, sec 29.
2. T.F. Reddaway, 'The Rebuilding of London after the Great Fire.' 1940. p.216.
3. City Lands Committee July 28 1675. Orders, Vol.III ff.50/51.
4. City Lands Committee September 22 1675. Orders, Vol.III f.54.
5. From a report by Alexander Peebles, Architect Surveyor to the City Lands Committee. City Lands Committee Papers 10 October 1888.
6. Ibid.

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APPENDIX B

MONUMENT VIEWS STUDY

2020

City of London Corporation

MONUMENT VIEWS STUDY

City of London
Assessment of Key Features and View Protection Considerations

Published by the Department of the Built Environment
December 2020

Contents

Introduction

The Monument, built between 1671 and 1677 to commemorate the Great Fire of London, is both a listed building and a scheduled ancient monument. It is an important vantage point with extensive views over London and attracted over 270,000 visitors in the year 2017[1] to its gallery. Many more, however, visit the Monument without ascending it and enjoy it as a City landmark of distinctive height and architectural form. It is a Grade I listed structure.

The City of London Local Plan 2015 Core Strategic Policy CS13 and the draft City Plan 2036 Strategic Policy S13 set the policy for Protected Views. This includes protecting and enhancing significant local views of and from the Monument. The spatial extent of the Monument Views policy area is shown in Figure 1 below and set out on Policies Map A of the Local Plan 2015 and draft City Plan 2036.

This section complements the policy and guidance set out in the City Corporation's Supplementary Planning Document Protected Views (2012) by describing the specific views to establish the key features of each view from the Monument as at April 2020. Nearby familiar skyline landmarks are also described as they are important features in the general panorama to be seen from the public viewing gallery. The documents referenced above are available on the City Corporation's website in the Planning Policy Library.

The Monument Public Viewing Gallery

Figure 2 sets out the elevation of the Monument detailing the components of the structure. This includes the pedestal at ground level upon which is set the Shaft, the Capital, the Drum and at the Flaming Cob at the highest part of the structure. The plan for the Monument sets a height of 202 feet (61.56 metres) above ground level. This is based upon the distance of the Monument to the source of the Great Fire. For the purpose of assessing views from the Monument the public have access to the Public Viewing Gallery located at the Drum.

Further details of the elevation profile and associated key heights can be found in Appendix 1.

[1] Source: Visit Britain, annual Survey of Visitors to Visitor Attractions

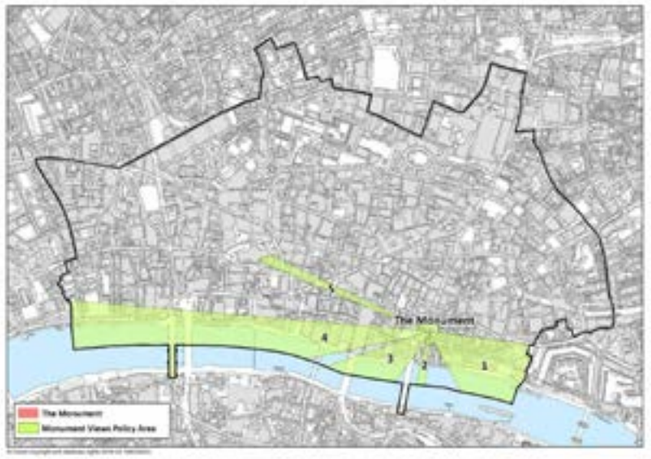

Figure 1: Monument Views Policy Area

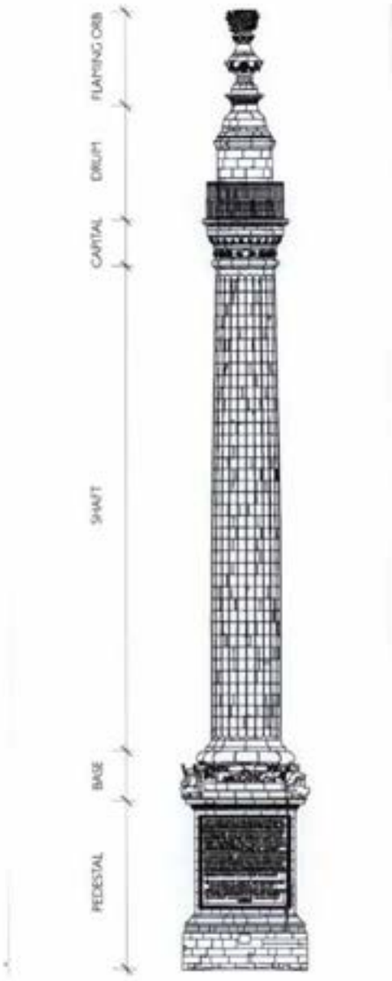

Figure 2: The Monument

Assessing Views from the Monument

In considering proposals which are likely to affect views from the Monument, the City Corporation will be concerned to ensure that development neither obstructs them due to its height or position nor detracts from the general prospect by inappropriate bulk or massing. The effect on the specific views from the gallery of the Monument protected by Local Plan 2015 Core Strategic Policy CS13: Protected Views and draft City Plan 2036 Strategic Policy S13: Protected Views will be a consideration when proposals are made for the redevelopment or alteration of buildings within the views, or which fall within the 'shadow' of buildings which obstruct these views.

There is potential to improve the foreground roofscape in views from the Monument. Height and massing should not visually intrude into the key features of the views as described and views of the River Thames should be maintained.

For each of the five views, there is:

- A listing of the key features which includes the River Thames and **buildings** such as the Tower of London.
- A photograph from the Monument viewing gallery highlighting the key features of the view and specifically what portions of the key features are visible, including the River Thames where applicable.
- A map of the policy area for that view highlighting the key features of the view including key features in neighbouring boroughs which are beyond the City of London administrative area.
- Details of how each key feature contributes to the overall quality of the view.

View Protection considerations including how other Protected Views policies, particularly the St Paul's Heights Policy and the London View Management Framework Protected Vistas, contribute to the protection of the view. See the St Paul's Heights Study and London View Management Framework reports for more information on these views.

View One: Direction of view - South East to the Tower of London, Tower Bridge, the River Thames and HMS Belfast

Key Features (See Figure 3):
River Thames (1); Tower Bridge (2); Tower of London World Heritage Site (3) – White Tower, (4) – Northern Battlements; HMS Belfast (5); Custom House (6); Old Billingsgate (7)

Figure 3: View One Photograph and Map (highlighting key features)

Key Features: Details

(1) The **River Thames** comes into view beside Tower Bridge and its south bank is then seen in a continuous sweep from the bend of the river at Wapping, Rotherhithe and Bermondsey beyond Tower Bridge, to the bow of HMS Belfast in the Upper Pool. The excellent views of Tower Bridge, City Hall and HMS Belfast are the most prominent features of the eastern riverscape. The development at More London appears adjacent to City Hall.

(2) **Tower Bridge** (Listed Grade I) can be seen almost in its entirety framed by the river. The setting within the river is key to the appreciation of the bridge. The foreground visual axis provided by Monument Street and the corner of the Custom House (Listed Grade I) leads the eye towards Tower Bridge and focuses the view towards it.

(3) The **towers and castellations of the White Tower** of the Tower of London (Listed Grade I) can be seen above the roofline of the Tower Place development. This building was designed to be low enough to retain and enhance these views.

(4) The **northern battlements of the Tower of London** are visible above the curving profile of the Tower Place roofline towards the northern end of the view. Parts of the curtain wall (from Legge's Mount to Brass Mount) are visible to the north of the turrets of the White Tower. The northern battlements merge with the spires of All Hallows by the Tower (Listed Grade I) and St Dunstan in the East (Listed Grade I) churches, recognisable as part of the Eastcheap Conservation Area.

(5) **HMS Belfast** features in the southern part of the view and extends the appreciation of the river to the right of Tower Bridge. The river setting of HMS Belfast is key to the appreciation of this feature. The design of Montagu House was influenced by the need to retain views of HMS Belfast.

(6) **Custom House** (Listed Grade I) is partially visible in the foreground of the view beyond the junction of Monument Street with Lower Thames Street. The western side, part of the northern side and much of the roof is visible in the view.

(7) **Old Billingsgate** (Listed Grade II) is also partially visible in the foreground of the view at the north-west corner of the building. The remainder of the building is obscured by Peninsular House.

View Protection Considerations

Monument View 1 is a downward view from the Monument viewing gallery to much lower heights at the White Tower or to river level for the Tower of London and HMS Belfast and to street level at Lower Thames Street. Much of the view is also protected by the London Views Management Framework (LVMF) relating to St Paul's Cathedral which has lower sightlines in some locations:

- Landmark Viewing Corridors from Greenwich Park and Blackheath Point,

- Wider Setting Consultation Areas from Greenwich Park and Blackheath Point and Background Wider Setting Consultation Area from Primrose Hill.

View Two: Direction of view - South to the River Thames

Key Features: See Figure 4.

River Thames (1); St Magnus the Martyr Church tower (2) (partly outside policy area - yellow). Other features in the view include the London Bridge tall building cluster in the background.

Figure 4: View Two Photograph and Map (highlighting key features)

Key Features: Details

(1) The **River Thames** is visible as a downward slot-view framed by the north bank office buildings of St Magnus House and Adelaide House (Listed Grade II) including the open space at Fish Wharf / Grant's Quay Wharf adjacent to the riverside walk. Key to the appreciation of the view is the visibility of both banks of the river between buildings. This view is also important as it enables a view of the Monument from the south bank (see section on the Views of the Monument).

(2) The roof of **St Magnus the Martyr Church** (Listed Grade I) is overlooked by the view such that the riverside walk and open space at Fish Wharf / Grant's Quay Wharf are visible beyond the roof. The tower of St Magnus the Martyr Church is a prominent feature in the foreground although the tower itself lies just outside the Monument View policy area.

View Protection Considerations

The view to the south bank is marked by the office buildings of No 1 London Bridge plus the riverside walkway at Queen's Walk. Beyond the south bank stands further development, dominated by the Shard London Bridge development adjacent to Guy's Hospital tower. The developments at Elephant & Castle and the Strata Tower are features in the wider view.

Monument View 2 is a downward view to river level and almost to street level at St Magnus the Martyr Church. The view is also protected by the LVMF relating to St Paul's Cathedral which has lower sightlines in some locations:

- Landmark Viewing Corridors from Greenwich Park and Blackheath Point,
- Wider Setting Consultation Areas from Greenwich Park and Blackheath Point and
- Background Wider Setting Consultation Area from Primrose Hill.

View Three: Direction of view - South West to London Bridge and Cannon Street Railway Bridge

Key Features: (See Figure 5).
River Thames (1); Golden Hinde Galleon (2); Pickford's, Winchester, New British and Clink Wharves (3), Cannon Street Railway Bridge (4); Fishmongers' Hall (5); part of London Bridge (6). The Seal House redevelopment (7) proposal is shown outlined in yellow.

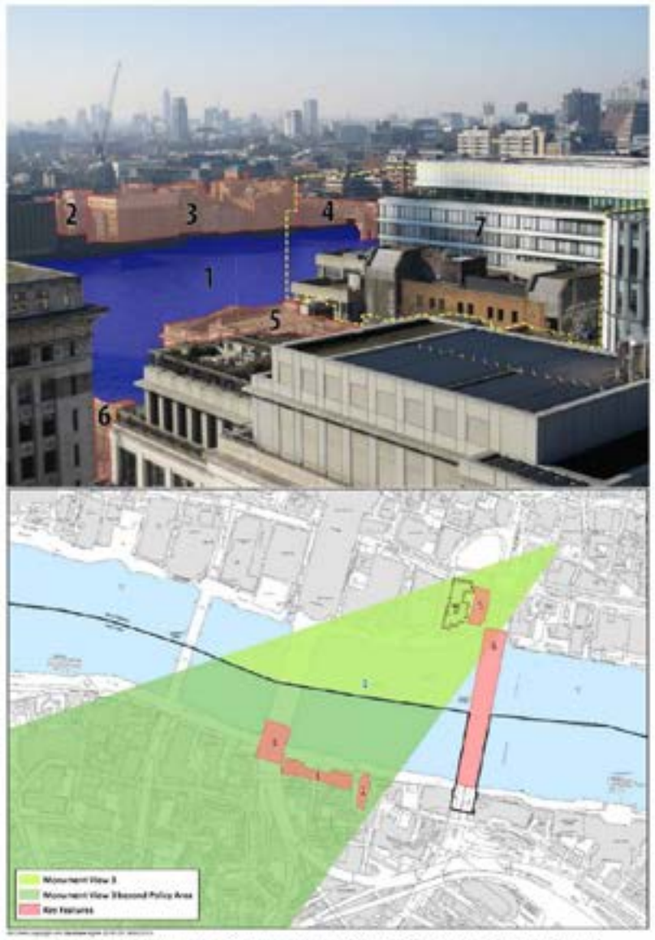

Figure 5: View Three Photograph and Map (highlighting key features)

Key Features: Details

(1) The view of the **River Thames** view extends south westward from Adelaide House (Listed Grade II). The view of the northern part of Cannon Street Railway Bridge is obscured by Riverbank House. On the south bank, the view of the river is visible from Minerva House to the southern end of the railway bridge.

(2) The replica **Golden Hinde** galleon in St Mary Overie's Dock is visible on the south bank.

(3) The frontages of **Pickford's, Winchester, New British and Clink Wharves** can be seen on the south bank. The visibility of the river in front of the wharves is important to appreciate the context of the buildings.

(4) The southern third of **Cannon Street Railway Bridge** is visible in the view. The remainder of the bridge is obscured by Riverbank House.

(5) The southern part of the roof and pediment of **Fishmongers' Hall** (Listed Grade II*) is visible against the backdrop of the river. This Livery Hall is an impressive building on this part of the north bank.

(6) Part of the northern end of **London Bridge** is visible and is an important reference point adjacent to Fishmongers' Hall, adding context to the river. The north bank of the river is not visible in this view.

Potential Redevelopment

(7) Redevelopment (18/01178/FULMAJ) at **Seal House** was agreed by Planning and Transportation Committee on 18 March 2019 subject to signing of Section 106 Agreement. The agreed proposal obscures a part of the river and Cannon Street Railway Bridge in views from the Monument viewing gallery (building outline dashed in yellow in Figure 5), which represents a departure from policy. It was considered that the proposed scheme offered significant wider and inclusive public benefits which outweigh the less than substantial harm to the view from the Monument. In particular, the provision of a large free to access public roof garden with generous opening hours offering exceptional views of London in a high quality economically and socially inclusive space was considered to represent a valuable and unique new asset for the City of London as a whole, for its workers, residents and visitors.

View Protection Considerations

Monument View 3 is a downward view to river level and its south bank. Parts of the view are also protected by the LVMF relating to St Paul's Cathedral which has lower sightlines in some locations:

- Landmark Viewing Corridors from Greenwich Park and Blackheath Point,
- Wider Setting Consultation Areas from Greenwich Park and Blackheath Point.

- Background Wider Setting Consultations Areas from Parliament Hill, Kenwood and Primrose Hill.

Part of the view at 1 Angel Lane is also protected by the St Paul's Heights Policy. There are several familiar landmarks which are visible on the horizon within this view corridor, e.g. the Tate Modern, the Victoria Tower and part of the London Eye.

View Four: Direction of view - West to Waterloo Bridge and Victoria Embankment

Key Features: (See Figure 6).
River Thames (1), Waterloo Bridge (2), Victoria Embankment Buildings (3) partly outside policy area - yellow).

Figure 6c View Four Photograph and Map (highlighting key features)

Key Features: Details

(1) This longer distance westward view of the **River Thames** extends from the south bank of the River Thames at Blackfriars Bridge to the north bank at Unilever House (Listed Grade II) beside Blackfriars Bridge. The river between Blackfriars Bridge and Waterloo Bridge is the main feature of the view as it curves away to the south beside the tree-lined Victoria Embankment. The view of this upstream stretch of river is particularly important because it is the furthest view of the Thames and therefore contributes to the continuity of the whole panorama from the Monument.

(2) The northern four arches of **Waterloo Bridge** (Listed Grade II*) are visible over the top of Blackfriars Station roof, but the southern bridgehead is hidden behind Sea Containers House. The visibility of the river in front of the bridge is important to appreciate the overall panorama.

(3) Familiar landmarks visible along the **Victoria Embankment** include the buildings within Whitefriars Conservation Area, Shell-Mex House (Listed Grade II), Somerset House (Listed Grade I), King's College (Listed Grade I) and Unilever House (Listed Grade II), part of which lies outside the policy area.

View Protection Considerations

Monument View 4 is a downward view to river level. Much of the view is also protected by the LVMF relating to St Paul's Cathedral which has lower sightlines in some locations:

- Landmark Viewing Corridors from Greenwich Park and Blackheath Point in the immediate foreground and from Westminster Pier and King Henry VIII's Mound beyond Blackfriars Bridge,
- Wider Setting Consultation Areas from Greenwich Park, Blackheath Point and King Henry VIII's Mound,
- Background Wider Setting Consultations Areas from Alexandra Palace, Parliament Hill, Kenwood and Primrose Hill.

Most of the view is also protected by the St Paul's Heights Policy. Blackfriars Station is important to maintaining the appreciation of the view of the river. The roof height is marginally above that of the relevant lowest height St Paul's Heights threshold in the vicinity of the station structure.

In the immediate foreground of the view, the replacement building at 33 King William Street was reduced in height and the design of the roof storey reconfigured so that it does not adversely impact on the views. The roofscape has been designed to provide visual interest and includes hard and soft landscaping. The view foreground is particularly sensitive to further changes to this roof.

View Five: Direction of view - North West to St Paul's Cathedral

Key Features: See Figure 7.

St Paul's Cathedral (1)).

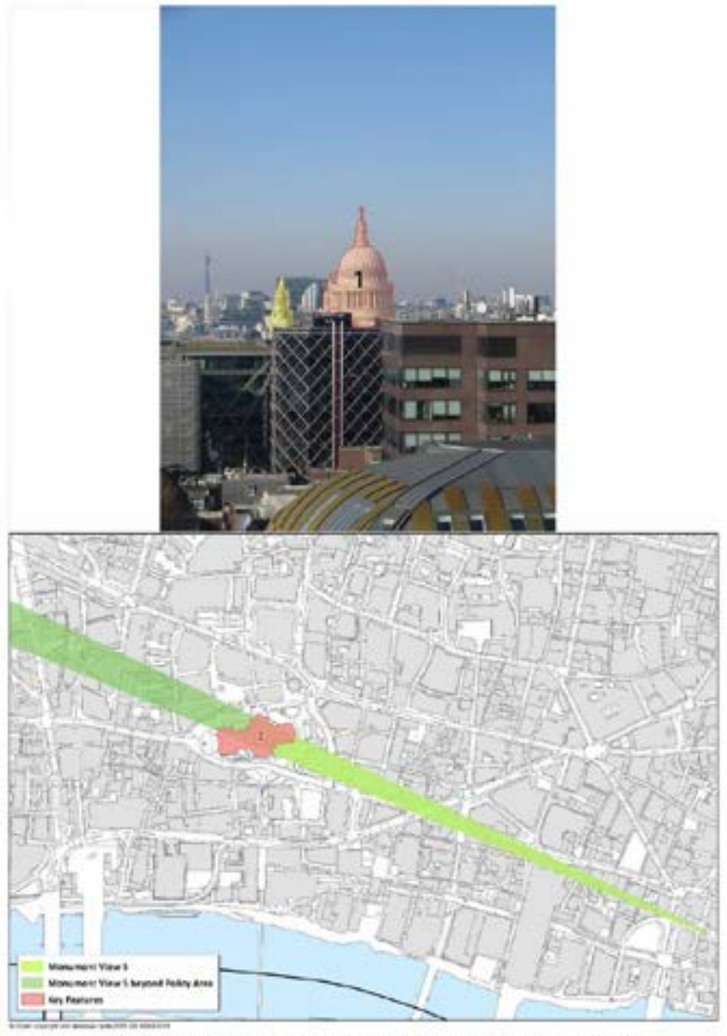

Figure 7: View Five Photograph and Map (highlighting key features)

Key Features: Details

(1) The view is focused upon the dome and drum of **St Paul's Cathedral** (Listed Grade I) as part of a panorama of the western part of the City and beyond. Visible features of the cathedral are the drum, peristyle and dome with the western towers beyond. The rooftop plant at 80 Cannon Street obscures part of the drum. The south-west tower of the cathedral lies visible just outside the policy area.

View Protection Considerations

Monument view 5 is gradually downward towards the Cathedral. Parts of the view are also protected by the LVMF relating to St Paul's Cathedral which has lower sightlines at some locations:

- Landmark Viewing Corridors from Greenwich Park and Blackheath Point,
- Wider Setting Consultation Areas from Greenwich Park and Blackheath Point and
- Background Wider Setting Consultations Areas from Alexandra Palace, Parliament Hill, Kenwood and Primrose Hill.

Parts of the view adjacent to the cathedral are also protected by the St Paul's Heights Policy. The Monument Views Policy does not protect the background of this view which includes significant areas within the City. However, some of the background is already protected by the Landmark Viewing Corridors of the northern views of the LVMF and the Background Wider Setting Consultations Area from Greenwich Park.

Other features to consider in the wider view that are outside the policy area:

- the spires of St Bride's Church (Listed Grade I),
- St Mary le Bow (Listed Grade I),
- the top of the Old Bailey cupola (Listed Grade II*), and the BT Tower (Listed Grade II) and
- the tower of St Mary Aldermary (Listed Grade I).

Northern Views

Although specific views to the north have not been identified on the Policies Map, they collectively form a spectacular panorama of diverse City buildings. The principal axial views are provided by King William Street and Gracechurch Street / Bishopsgate, leading the eye into the Bank Conservation Area and the fringe of the City Cluster of tall buildings to the north (Figure 8). Any proposed increases in the height of buildings near the Monument will be assessed in terms of their impact on views to and from the Monument.

Figure 8: City Cluster from the Monument Viewing Gallery

Views of the Monument

The Monument is prominent in parts of the City townscape by virtue of its height and architectural form. Development within its surroundings should respect its setting and proposals which could dominate the Monument visually will not be appropriate.

The immediate setting of the Monument is formed by four surrounding street blocks (Figure 9). Development in these four street blocks should not impinge on the general open character of the space around the gallery and should not detract from the elevation of the Monument in relation to its surroundings. Developers are encouraged to provide innovative design solutions to help promote a more articulated, interesting roofscape in the immediate setting of the Monument while appreciating that architectural design should not detract from the Monument itself.

Although views of the Monument from ground level are restricted by the scale of surrounding development, there are some good views along street axes (Figure 9), notably from King William Street, Monument Street and Gracechurch Street, and from viewpoints in Southwark including the Queen's Walk (western end). The remaining ground level views described below are of great value and should be protected and enhanced in accordance with Core Strategic Policy CS13 of the Local Plan 2015 and Strategic Policy S13 of the draft City Plan 2036.

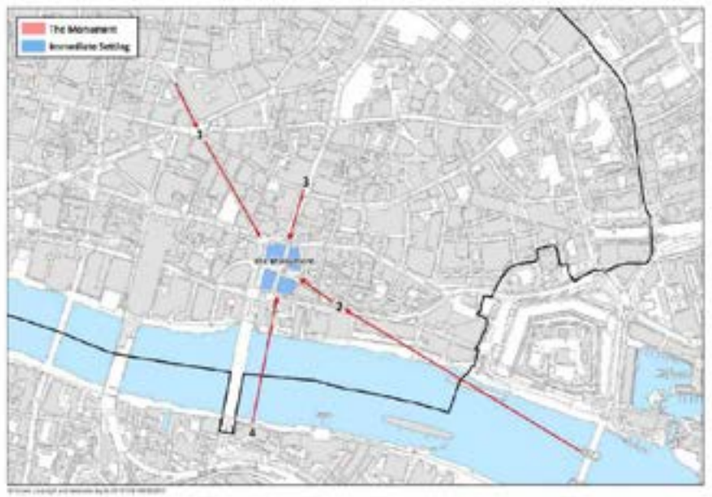

Figure 9: Street Views of the Monument

Street View 1: Views of the Monument from Princes Street & King William Street

Figure 10: Street View One from King William Street

From the right-hand side of Princes Street, the Monument can be first seen, adjacent to the building line on the left of King William Street. Further down Princes Street, more clear sky appears on both sides of the Monument as the viewer approaches Bank junction. The view from Prince's Street near Bank junction is particularly fine, with clear sky on both sides of the Monument down the street axis of King William Street.

As the viewer progresses through Bank junction and onto Lombard Street the Monument temporarily disappears from view. However, as Lombard Street meets King William Street, the Monument reappears against clear sky. The redevelopment of Equitable House, King William Street has considerably improved the view of the Monument. The shaft and viewing gallery can be appreciated from King William Street.

The view extends down King William Street to the junction with Cannon Street (Figure 10), diminishing as the viewer moves closer to the Monument itself. As the viewer moves closer to the junction with Cannon Street, the pitched roofs of

Equitable House frame the Monument shaft and viewing gallery. At the junction with Cannon Street, the view of the shaft is lost, but the viewing gallery can still be seen.

Street View 2: Views of the Monument from Monument Street and Tower Bridge

Figure 11: Street View Two from Monument Street

This view of the Monument relies on the Monument Street axis but also extends as far as Tower Bridge. The view from Tower Bridge is also recognised by the Mayor of London as LVMF River Prospect 10A.1, which includes the Monument as a significant landmark in the view. From this River Prospect, the Monument is in the centre of the view, with the shaft and viewing gallery seen above the roofscape of Custom House (Listed Grade I).

The Monument can also be appreciated at a closer perspective from Monument Street itself shown in Figure 11. From the south east end of Monument Street (at the junction with Lower Thames Street) uphill to the Monument, the Monument can be fully appreciated as the surrounding street blocks allow adequate space to recognise and appreciate the Monument's setting. This is complemented by street furniture and other environmental enhancement features within the Monument's setting.

Street View 3: Views of the Monument from Gracechurch Street

Figure 12: Street View Three from Gracechurch Street

The view of the Monument from Gracechurch Street is first apparent from its western side at its junction with Lombard Street. At this point the viewing gallery of the Monument appears, with the shaft obscured by buildings. The church of St Magnus the Martyr (Listed Grade I) is seen to the right of the Monument.
As the viewer moves down Gracechurch Street towards the junction with Eastcheap (Figure 12), the shaft of the Monument comes further into view. At a point on the western side of Gracechurch Street, opposite 52–54 Gracechurch Street, a narrow slot view of the Monument can be appreciated. The Monument is framed by 11 Monument Street to the left and Equitable House the right.

Street View 4: Views of the Monument from Queen's Walk

Figure 13: Street View Four from the Queen's Walk (western end)

The view from Queen's Walk (western end) northwards to the Monument is also important because it provides the most complete and intimate view of the Monument from the south bank and from the river itself (Figure 13). The view from directly opposite on the south bank is approximately on the line of Old London Bridge and remains one of the oldest and best views of the Monument. At present most of the column of the Monument is visible from the south bank walkway over the roof of St Magnus the Martyr Church and 24 Monument Street and it is important that there is no development north or south of the church which might harm this view.

Appendix 1: The Monument – Estimation of Key Heights

The plan for the Monument gives a height of 202 feet (61.56 metres) above local ground level (AGL). Local ground level varies at the location; therefore, it is more useful to relate the views to absolute heights above the Ordnance Survey datum (AOD).

The ground level is approximately 10.4 just west of the centre of the Monument by OS Mastermap spot heights. Thus, the height of the Monument is estimated at 71.96m AOD with the Viewing Gallery floor at the base of the drum at 59.0 metres AOD (48.6 metres AGL). Table 1 sets out the estimates of the key height information. The viewer's eye level would be approximately 1.6m higher so sightlines at the Monument would be from an approximate height of 60.6 metres AOD and then fall with distance from the gallery.

Feature	Height (m) AGL	Height (m) AOD
Base of Monument	0	10.4
Viewing Gallery floor (Base of Drum)	48.6	59.0
Viewing Gallery (Eye level)	50.2	60.6
Top of Monument	61.56	71.96

Table 1: The Monument - Estimation of Key Heights

Contacts

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The City of London Corporation is the Local Authority for the financial and commercial heart of Britain, the City of London.

Carolyn Dwyer
BEng (Hons), DMS, CMILT, FCIHT
Director of the Built Environment

APPENDIX C

MONUMENT VERTICALITY REPORT

2024

Downland Partnership

Measured Verticality Monitoring

of

The Monument

Monument Street

London

For
Corporation of London
Department of Technical Services
PO Box 270
Guildhall
London
EC2P 2EJ

By
The Downland Partnership Ltd.
Unit6
Roundway Hill Business Centre
Devizes
Wiltshire
SN10 2LT

Report No.4 Report Date 07 July 2024 Report Author R Ault (taken from original report by W Mowett)

INDEX

PROJECT OVERVIEW

The Monument is the property of The Corporation of London. Hockley and Dawson– Consulting Engineers were providing advice on its structural integrity to the Corporation.

In 2004 The Downland Partnership was approached by Doug Murray of Hockley and Dawson with a request for a measured monitoring brief. The request stipulated that the method had to be repeatable over a period of many years and simple in its application. The method should be easily copied by surveyors following the description of the initial survey. There was a need to have measurements made to specific reference points at three different vertical positions in the column.

A monitoring survey had been carried out several years previously using a plumb-bob suspended from the metalwork at the top of the staircase. Bill Mowatt of The Downland Partnership suggested a method which was similar in its application and simplicity.

The suggestion was to replace the plumb-bob with an auto plumb instrument. This instrument observes a vertical line which is perpendicular to the surface of the earth as defined by gravitational force. The line of sight is in each instance set vertically by means of two compensators operating in planes at right-angles to each one another.

The forces defining the verticality of the line are the same as those defining the verticality of a plumb-bob. There is the added benefit that there is no oscillation and no possible effect due to the presence of draughts which can deviate a plumb-bob line.

The reference points were to be brass rivets fixed to the internal face of the monument. Another set of reference studs were suggested for the basement to allow the accurate placement of the instrument.

METHODOLOGY

The Downland partnership was instructed in 2005 by Lidia Hogan of the Department of Technical Services at the Corporation of London to install reference points and perform the initial survey measurements.

The method adopted was the previously mentioned auto plumb survey. The auto plumb instrument used for the observations was the Leica ZL which has a specified standard deviation on two readings taken at 180 degrees of 1:200000 or 0.5millimetres at 100 metres. The measuring rod consisted of a 2 metre Yamayo Minirod –C measuring tape which was taped firmly onto a 1.8 metre spirit level. Thought was given to the manufacturing of a special rod to use for the measurements. This was discounted due the high cost of such an object, combined with the likelihood of its damage or loss between in the years between measurements.

The reference point installation and initial survey were both done on the evening of 22 September 2005. Two surveyors were present along with Doug Murray of Hockley and Dawson and Bob Sandford of Julian Harrap Architects.

The positioning of the rivets was accomplished through the orientation of a Leica 1103 total station using the control stations from the previous measured survey of the Monument. This survey had been carried out by the Downland partnership just prior to the monitoring exercise. The laser light spot from the total station was used to direct the spirit level along the north-south and east west axes. The reference point locations were marked on the internal wall at the North, East, South, West cardinal points of the circular internal wall. The control grid for the measured survey was arbitrary but orientated relative to the South face of the plinth. This face was transformed to lie directly East – West on the grid. The other plinth faces are orientated at right angles or parallel to this face in reality.

Once all of the positions had been marked, holes were drilled into the masonry, plastic grommets inserted, adhesive UN1133 injected and the 30 millimetre long shafts of the brass rivets driven home with a hammer. Each rivet had a domed head, which was left clear of the surrounding surface.

The reference points (rivets) were positioned at basement, ground, mid point of the column and at the viewing platform level. Each of the reference points was coordinated using the total station from control derived from the previous Downland survey. This positioning was only done to allow the accurate presentation of the points on the internal elevations for future reference. The height and non cardinal easting or northing should not be used for accurate monitoring purposes.

The observation station for the monitoring exercise was not established central within the basement. It was offset slightly to allow for the present lean of the top toward the south. This position should allow for further movement to the south or back toward the north.

METHODOLOGY (cont)

The position of the observation station should be easily re-established by the observation a tape (held on the basement rivets) through the vertical plummet of the tribrachs. It would be best to use a plummet such as a Leica GZR2, which can be rotated around its horizontal axis to confirm its plumbing accuracy. The instrument can be iteratively moved into the same position as the original. This position can be confirmed via the observation of the rivets by a total station

The observation phase of the exercise involved the mounting of the Leica ZL Auto plumb on the tribrach occupied by the total station. A plastic target was temporarily fixed exactly on the observed line of the auto plumb. This was conveniently placed on the metalwork just above the viewing platform level. This target gave the observer the ability to check for erroneous movement of the auto plumb line due to displacement of the tripod.

The measuring rod was progressively placed on each of the brass rivets on the way up the monument. A reading was taken by levelling up the spirit level and the rod rotated into the view of the auto plumb. A measurement was taken with the telescope of the Auto plumb aligned with the rod and then another taken with the telescope rotated horizontally around 180 degrees. This second reading was essential to confirm the correct collimation of the instrument. A mean of the two readings was taken to give the final result.

Readings were taken to all of the rivets. The observation tripod was moved, the instrument returned to its box. The tripod and instrument were then re-positioned and the original set-up re-established from the basement rivets. Another set of double readings were then taken in reverse order, all of the way to the bottom.

The ground level studs were to be the reference studs for all future measurements. They were assumed not to be moving. These were chosen in preference to the basement studs, since they were measured by the Auto plumb and rod directly and not by EDM or tape. The method of measurement was therefore consistent for all of the critical points.

For future reference, radios with or speaker-phone should be used to simplify communications between the rod holder and the observer. The headset leaves both of the rod holder's and observers hands free. It is not possible to be understood by shouting down the height of the monument. Two people are adequate for the exercise one person remaining in the basement to observe and the other holding the measuring rod on the stud. A powerful torch placed on the steps and pointing at the rod is required to illuminate the measurement surface for the observer below.

The same method of observation was used for the fourth monitoring visit on 09/07/2024. In the intervening years a server has been placed in the basement which covers target BE, we therefore could only use the three remaining targets to position the Leica ZL. To verify the position we placed a Leica TS30 on the same station and we took additional readings to the remaining three targets.

RESULTS

The results were observed and recorded on the Monument Monitoring record Sheet. This data was then transferred into a spreadsheet for computation and analysis. The total station coordinates derived for the rivets were utilised to establish approximate Eastings for the north-south rivets and approximate Northings for the east-west rivets along with approximate elevations.

The auto plumb results have been computed to derive a centre line at each level. The coordinates of the centre line are defined by the mid-point between the rivets The position of that centre line derived by future observations will determine the amount of movement at each of the stud levels.

The rivets were positioned at basement (B), Ground (L), Mid (M) and High (H) levels. The mid points were located half way up the actual column rather than half way up the monument, as this was considered to be more liable to movement.

The coordinates of the primary centre line were established using the L rivets. The readings from the rivets were combined with the approximate coordinates to provide positions for each of the rivets. This centre line will be the reference for all future readings. The combined North and South readings were therefore compared with the approximate Northings for the North and South rivets to establish accurate Northing values for these rivets. The approximate Easting and Elevation were then appended to provide positions for the purposes of relocation. The combined East and west readings were compared with the approximate Eastings of the East-West rivets to establish accurate Easting values for these rivets. The approximate Northing and Elevation were then appended to provide positions for relocation.

The L readings were then subtracted from the corresponding readings at each level to provide a distance of the stud at a particular level from the stud at L level. The differences in the North-South readings were added to the Northings of the North stud subtracted from the Northings of the South stud. Similarly, the differences in the East West readings were added to the Eastings of the east stud and subtracted from the Eastings of the West stud. These accurate Northings and Eastings were appended with the approximate corresponding coordinates to provide relocation positions.

For each of the rivets, only the accurate Easting for the East-West rivets and accurate Northing for the North-South rivets should be used for comparative purposes. A mean centre line has been computed for each of the levels. Only the accurate partial coordinates have been used. The last two columns show the results of the subtraction of the primary centre line from the mean centre line at each of the levels. This indicates the lean of the monument at the different levels.

COMPARISON WITH PREVIOUS SURVEYS - 2005

Hockley & Dawson provided information from previous surveys. The first was from years 1981-1982 and the second was from 1987 -1988. These were observed by different organisations. The origin of the first survey is unknown while the second was undertaken by English Heritage.

The survey from 1987-88 cannot be analysed due to the lack of backup information. (Photocopies of the data are included in the appendices). The booking sheet provided has perhaps been collated from earlier original data. The observed units do not correspond with measurements in feet or metres even when a possible measuring staff offset is taken into account. Also it is possible that the "observer facing" notation was ignored or misunderstood. The presumed north indication on the sketch provided is actually pointing west south west. There is nothing included within the report to allow relevant comparison to be drawn with the 2024 survey.

The survey from 1981-82 is more relevant since the original brass plates are still in place and were measured by total station as part of the 2005 monitoring survey. The measured positions are shown along with the coordinates in the appendices. Photocopies of the original data are also included. Downland computed a best fit centre line by fitting a circle to the brass plate positions. The plumbed centreline position was derived in CAD by observing the best fit of the measurement radii intersections from the brass plates. This method was used, to visually verify the coordinates.

The centre line was 2 millimetres further East and 4 millimetres further North than the 2005 centre line for the lower studs. The brass plates and the studs are to all intents and purposes at the same level (14 metres OAD). The computed centre point for the top target (plumbed centre line) was 26 millimetres further East and 8 millimetres further South than the 2005 centre point. This top point was probably 3.6 metres above the mean height of the 2005 brass studs.

These figures tie together reasonably well considering that there is no way of proving that the top point from 1981 was actually located in the centre of the tower. The 2005 figures make the tower more vertical than 1981-82. The movement off centre for 2005 is 21 millimetres East compared to 45 millimetres East for 1981-82. The movement off centre for 2005 is 298 millimetres South compared to 310 millimetres South for 1981-82.

SUMMARY OF RESULTS 2013

The quality of the results is good. The spread between the readings taken 180 degrees apart is only 4mm even at the highest point. The improved quality of the readings is probably due to the fact that there was a more restricted flow of air and even temperature through the column due to the fact that the doors were closed at the top and the bottom.

The measurements were taken in virtually perfect conditions, with very little wind and at the end of a cloudy day which precluded differential heating of the sides of the monument.

The survey took 2 visits to complete since a metal grid had been installed on the observation line prior to the first attempt. This was easily removed and replaced after the second visit. The grid will have to be removed for subsequent visits unless it is relocated with a different orientation.

Rivet HN was replaced at the top of the column as it had been removed (prior to the rendering of the wall). It was simple to replace, as the hole was relocated under the render and the same method of fixing used. The overall distance between the two top N-S rivets is only different by 1mm so it can be assumed that the replacement was accurate.

The results are remarkably similar to the 2005 visit. There is very little variation at any of the levels. The L positions were held constant since there was only 1mm variation from 2005. At each level, all of the centreline measurements are +/-1mm from the previously measured position. These movements are not even outwith the tolerance of the measuring system. We would not state that there was movement unless the measured deviation was greater than 2mm.

The results can be seen in excel format with graphical representation both inserted in this report and in the appended file "Monument_Verticality_Report13/01/15.xls".

SUMMARY OF RESULTS 2015

The quality of the results is good. A different autoplumb was used in this instance. The instrument was a Geo Fennel FLP100. This has the added advantage that it is possible to read the offsets from the instrument and at the offset staff. The same method of observation was used and impressively the spread of the readings when the instrument was rotated around its axis was less than previous.

The readings were taken in good conditions. There was little wind although the temperature prior to the start had been above 30 degrees with bright sunlight.

Unfortunately the overhead metal grid which had caused problems previously had been cemented into position. It was decided to offset the instrument 21mm to the West to provide a 10mm clearance from the grid and the readings were adjusted to compensate for the offset.

The resulting readings are showing that there is little movement occurring either at the mid reading or at the top. The top is showing the same East – West position as the previous visit and the indicated lean to the East is 1mm less than the base readings. The top is showing 3mm less than the previous visit and the indicated lean to the South is now 2mm less than the base readings. It may be that the bright sunlight on the South face caused a small amount of expansion therefore pushing the upper part of the tower gently North.

In summary, the readings are showing that the position of the tower has become slightly more vertical than it was on the base visit.

The survey results can be seen in the Excel spreadsheet copied to the Monument Verticality Report.

SUMMARY OF RESULTS 2024

The quality of the results is good. A Leica ZL Auto plumb was used and the same method of observation was used. All readings were taken twice and when the instrument was rotated around its axis with very consistent results that were meaned.

The readings were taken in good conditions. There was little wind, the temperature prior to the start had not been above 19 degrees with light rain. New lighting within the monument made readings much easier with the staf clearly visible even at the top of the monument.

Unfortunately the overhead metal grid which had caused problems previously was still cemented into position. It was decided to offset the instrument 21mm to the West to provide a 10mm clearance from the grid and the readings were adjusted to compensate for the offset.

The resulting readings are showing that there is little movement occurring either at the mid reading or at the top. The top is showing a slight movement in the East – West position to the previous visit but the indicated lean to the East is still 1mm less than the base readings. The top is showing 1.5mm more than the previous visit which is back towards the base readings (this may be due to the high temprature reading on last visit) but the indicated lean to the South is now 1mm less than the base readings.

In summary, the readings are showing that the position of the tower has maintained the trend of slightly more vertical than it was on the base visit.

The survey results can be seen in the Excel spreadsheet copied to the Monument Verticality Report.

Monument Verticality Report 22/09/2005

MONUMENT MONITORING RECORD SHEET — DATE 22/09/2005 — SURVEYORS WM & MR

TARGET	OVERALL (mm) MEAN	OBS-LCL	TGT	COORDINATES OF STUDS (m) East	North	Elevation	CL-LCL(E) (in metres)	CL-LCL(N) (in metres)
BN	1129.0	-281.3	BN	204.020	505.165	7.290		
BE	1053.8	-289.3	BE	205.075	504.035	7.329		
BS	963.0	-333.3	BS	204.023	503.073	7.201		
BW	1068.0	-295.0	BW	202.953	504.037	7.324		
			BCL	204.014	504.119	7.286	0.003	0.026
LN	1410.3	0.0	LN	204.029	505.446	14.696		
LE	1343.0	0.0	LE	205.364	504.055	15.394		
LS	1296.3	0.0	LS	204.035	502.740	13.606		
LW	1363.0	0.0	LW	202.658	504.031	13.823		
			LCL	204.011	504.093	14.430	0.000	0.000
MN	1227.8	-182.5	MN	204.050	505.264	44.372		
ME	1322.3	-20.8	ME	205.343	504.014	45.125		
MS	1472.5	176.3	MS	204.031	502.564	42.227		
MW	1367.8	4.8	MW	202.653	504.072	43.576		
			MCL	203.998	503.914	43.825	-0.013	-0.179
HN	915.0	-495.3	HN	204.042	504.951	58.950		
HE	1156.5	-186.5	HE	205.178	504.018	56.154		
HS	1397.8	101.5	HS	204.054	502.639	57.321		
HW	1135.0	-228.0	HW	202.886	504.083	58.273		
			HCL	204.032	503.795	57.675	0.021	-0.298

Monument Verticality Report 15/01/2013

							DATE	15/01/2013
		MONUMENT MONITORING RECORD SHEET					SURVEYORS	WM & MR
	OVERALL (mm)			COORDINATES OF STUDS (m)			CL-LCL(E)	CL-LCL(N)
TARGET	MEAN	OBS-LCL	TGT	East	North	Elevation	(in metres)	(in metres)
BN	1129.0	-281.3	BN	204.020	505.165	7.290		
BE	1054.0	-288.5	BE	205.076	504.035	7.329		
BS	963.5	-333.5	BS	204.023	503.074	7.201		
BW	1068.0	-296.5	BW	202.955	504.037	7.324		
			BCL	204.014	504.111	7.286	0.004	0.026
Diff from Base (B)							0.001	0.000
LN	1410.3	0.0	LN	204.029	505.446	14.896		
LE	1342.5	0.0	LE	205.364	504.055	15.394		
LS	1297.0	0.0	LS	204.035	502.740	13.606		
LW	1364.5	0.0	LW	202.658	504.031	13.823		
			LCL	204.011	504.093	14.430	0.000	0.000
Diff from Base (L)							0.000	0.000
MN	1228.5	-181.8	MN	204.050	505.264	44.372		
ME	1321.0	-21.5	ME	205.343	504.014	45.125		
MS	1471.5	174.5	MS	204.031	502.565	42.227		
MW	1369.0	4.5	MW	202.654	504.072	43.576		
			MCL	203.998	503.915	43.825	-0.013	-0.178
Diff from Base (M)							0.000	0.001
HN	914.0	-496.3	HN	204.042	504.950	58.950		
HE	1154.0	-188.5	HE	205.176	504.018	56.154		
HS	1398.0	101.0	HS	204.054	502.637	57.321		
HW	1136.0	-228.5	HW	202.887	504.083	58.273		
			HCL	204.031	503.794	57.675	0.020	-0.299
Diff from Base (H)							-0.001	0.000

Monument Verticality Report 30/06/2015

							DATE	30/06/2015
		MONUMENT MONITORING RECORD SHEET					SURVEYORS	WM & MR
	OVERALL (mm)			COORDINATES OF STUDS (m)			CL-LCL(E)	CL-LCL(N)
TARGET	MEAN	OBS-LCL	TGT	East	North	Elevation	(in metres)	(in metres)
BN	1128.6	-283.4	BN	204.020	505.163	7.290		
BE	1053.8	-288.5	BE	205.076	504.035	7.329		
BS	962.3	-334.6	BS	204.023	503.075	7.201		
BW	1068.0	-297.1	BW	202.955	504.037	7.324		
			BCL	204.015	504.119	7.286	0.004	0.026
Diff from Base (B)							0.001	0.000
LN	1412.0	0.0	LN	204.029	505.446	14.896		
LE	1342.3	0.0	LE	205.364	504.055	15.394		
LS	1296.9	0.0	LS	204.035	502.740	13.606		
LW	1365.1	0.0	LW	202.658	504.031	13.823		
			LCL	204.011	504.093	14.430	0.000	0.000
Diff from Base (L)							0.000	0.000
MN	1230.0	-182.0	MN	204.050	505.264	44.372		
ME	1321.0	-21.3	ME	205.343	504.014	45.125		
MS	1471.5	174.6	MS	204.031	502.565	42.227		
MW	1370.5	5.4	MW	202.653	504.072	43.576		
			MCL	203.998	503.915	43.625	-0.013	-0.178
Diff from Base (M)							-0.001	0.001
HN	917.3	-494.8	HN	204.042	504.951	58.950		
HE	1153.0	-189.3	HE	205.175	504.018	56.154		
HS	1395.0	98.1	HS	204.054	502.642	57.321		
HW	1135.5	-229.6	HW	202.888	504.083	58.273		
			HCL	204.031	503.797	57.675	0.020	-0.296
Diff from Base (H)							-0.001	0.002

Monument Verticality Report 09/07/2024

				MONUMENT MONITORING RECORD SHEET			DATE 09/07/2024 SURVEYORS RA & MR	
TARGET	OVERALL (m MEAN	OBS-LCL	TGT	COORDINATES OF STUDS (m) East	North	Elevation	CL-LCL(E) (in metres)	CL-LCL(N) (in metres)
BN	1128.0	-283.0	BN	204.020	505.163	7.290		
BE	1063.8	-292.9	BE	205.074	504.035	7.329		
BS	962.0	-336.8	BS	204.023	503.077	7.201		
BW	1067.0	-297.1	BW	202.955	504.037	7.324		
			BCL	204.015	504.120	7.286	0.004	0.027
Diff from Base (B)							0.001	0.001
LN	1411.0	0.0	LN	204.029	505.446	14.896		
LE	1343.7	0.0	LE	205.384	504.055	15.394		
LS	1298.8	0.0	LS	204.035	502.740	13.606		
LW	1364.1	0.0	LW	202.658	504.031	13.823		
			LCL	204.011	504.093	14.430	0.000	0.000
Diff from Base (L)							0.000	0.000
MN	1229.0	-182.0	MN	204.050	505.264	44.372		
ME	1324.0	-19.7	ME	205.344	504.014	45.125		
MS	1470.8	172.0	MS	204.031	502.568	42.227		
MW	1369.8	5.6	MW	202.652	504.072	43.576		
			MCL	203.996	503.916	43.825	-0.013	-0.177
Diff from Base (M)							0.000	0.002
HN	915.3	-495.8	HN	204.042	504.950	58.950		
HE	1155.0	-188.7	HE	205.175	504.018	56.154		
HS	1396.5	97.8	HS	204.054	502.642	57.321		
HW	1132.5	-231.6	HW	202.890	504.083	58.273		
			HCL	204.032	503.796	57.675	0.021	-0.297
Diff from Base (H)							0.001	0.003

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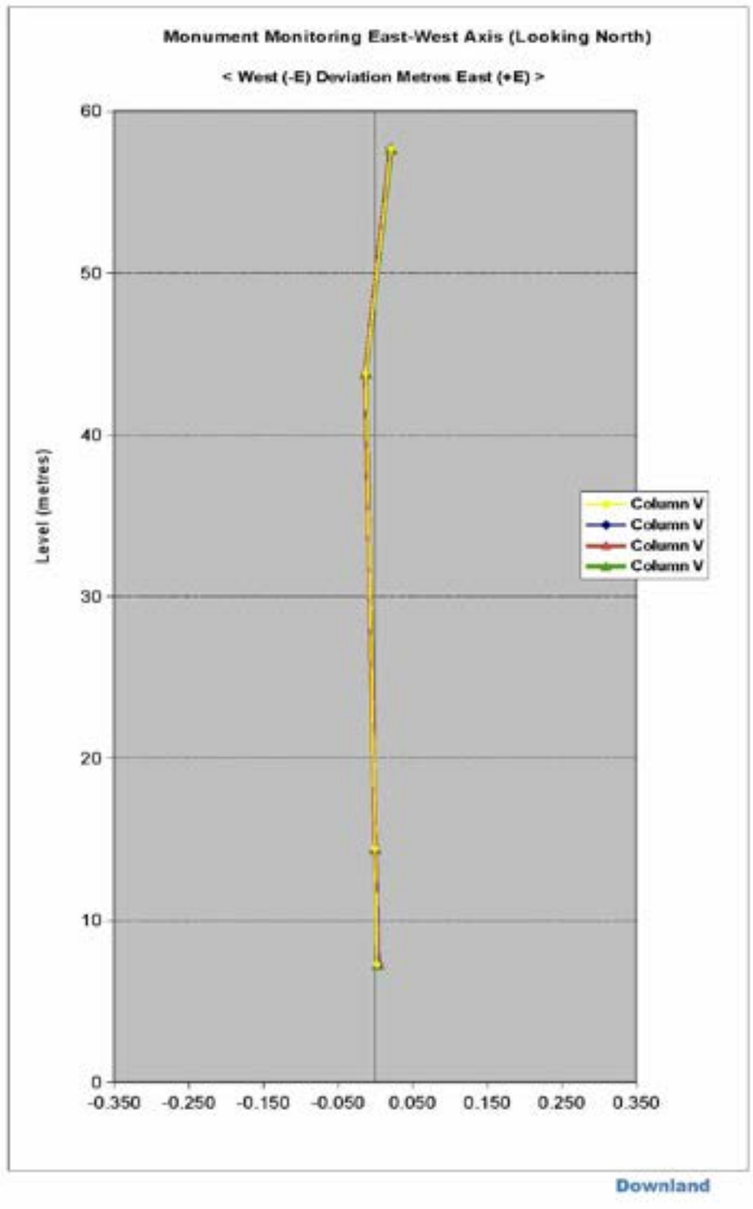
Monument Verticality Report Graph1



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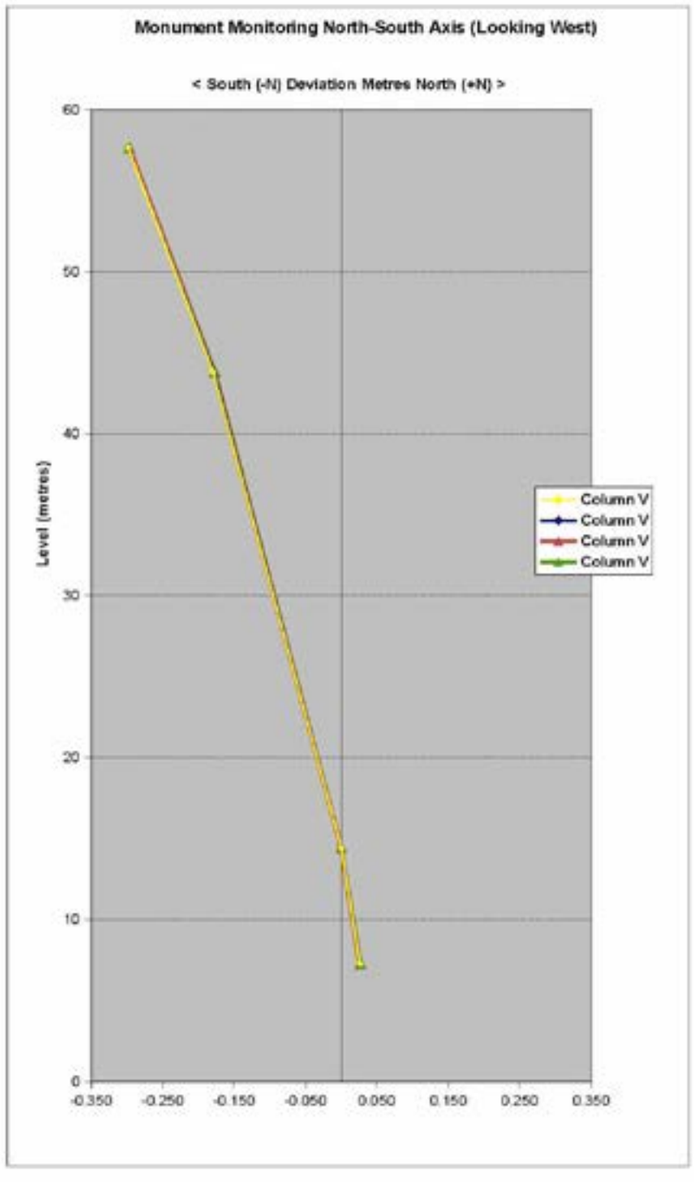
Monument Verticality Report Graph2



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Monument Monitoring Record Sheet

MONUMENT MONITORING RECORD SHEET						DATE SURVEYORS	2005 BM/ MR	
2005	FIRST			SECON			OVER	
TARGET	FL	FR	MEAN	FL	FR	MEAN	MEAN	
Basement								
BN	1129	1129	1129	1129	1129	1129	1129	
BE	1054	1054	1054	1054	1053	1053.5	1053.75	
BS	963	963	963	963	963	963	963	
BW	1068	1068	1068	1068	1068	1068	1068	
Low								
LN	1410	1410	1410	1411	1410	1410.5	1410.25	
LE	1342	1343	1342.5	1343	1344	1343.5	1343	
LS	1296	1296	1296	1296	1297	1296.5	1296.25	
LW	1362	1363	1362.5	1363	1364	1363.5	1363	
Middle								
MN	1226	1230	1228	1225	1230	1227.5	1227.75	
ME	1320	1324	1322	1320	1325	1322.5	1322.25	
MS	1470	1474	1472	1471	1475	1473	1472.5	
MW	1366	1370	1368	1365	1370	1367.5	1367.75	
High								
HN	910	920	915	912	918	915	915	
HE	1150	1162	1156	1150	1164	1157	1156.5	
HS	1391	1405	1398	1390	1405	1397.5	1397.25	
HW	1140	1130	1135	1140	1130	1135	1135	

MONUMENT MONITORING RECORD SHEET						DATE SURVEYORS	2024 RA/MR		Differences to 2005 Millime
2024	FIR			SECON			OVERA		
TARGET	FL	FR	MEAN	FL	FR	MEAN	MEAN		
Basement									
BN	112 8	1128	1128	1128	1128	1128	1128		-1
BE	N/A	N/A		N/A	N/A				
BS	962	962	962	962	962	962	962		-1
BW	106	1067	1067	1067	1067	1067	1067		-1
Low									
LN	141	1410	1410	1411	1411	1411	1410.5		0
LE	134	1345	1345	1344	1344	1344	1344.5		2
LS	129	1298	1298	1299	1299	1299	1298.5		2
LW	136	1363	1363	1364	1364	1364	1363.5		1
Middle									
MN	123	1229	1229.5	1230	1228	1229	1229.25		2
ME	132	1325	1324	1324	1324	1324	1324		2
MS	147	1472	1471	1470	1471	1470.5	1470.75		-2
MW	132	1369	1369.5	1370	1370	1370	1369.75		2
High									
HN	912	914	913	914	916	915	914		-1
HE	115	1157	1155	1154	1156	1155	1155		-2
HS	139	1398	1396.5	1395	1398	1396.5	1396.5		-1
HW	113	1133	1132	1131	1133	1132	1132		-3

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PERSONNEL

The personnel from The Downland Partnership present :-

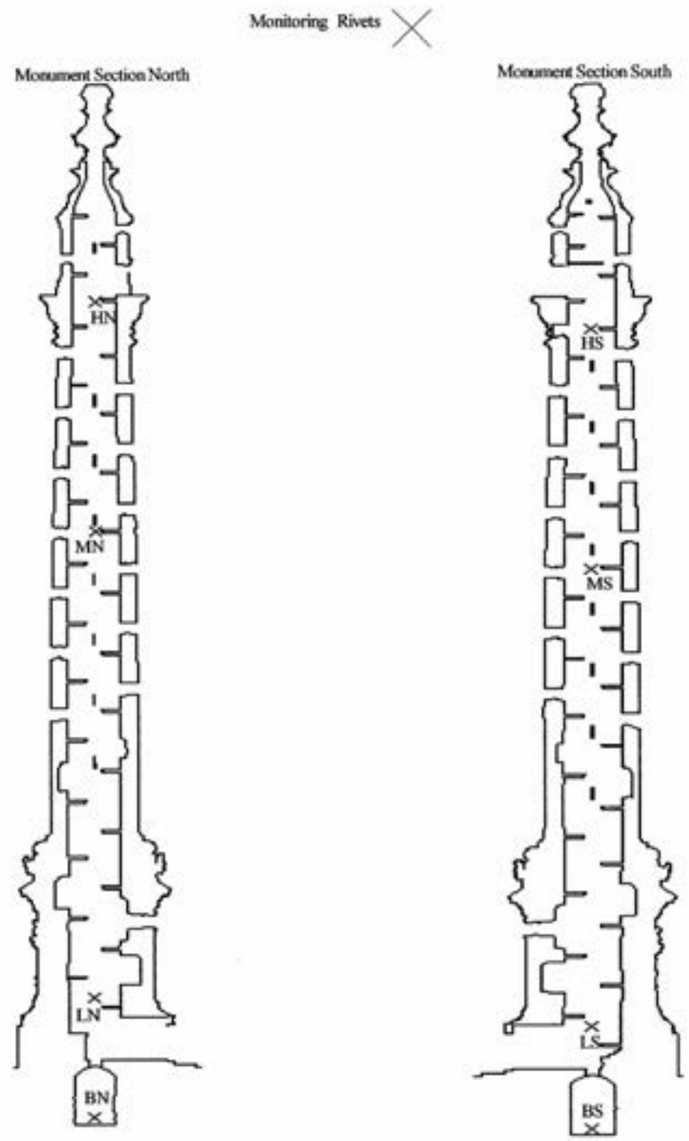
Visit 1	22 September 2005
W. Mowatt	Senior Surveyor
M. Read	Senior Surveyor
Visit 2	15 January 2013
W. Mowatt	Senior Surveyor
M. Read	Senior Surveyor
Visit 3	30 June 2015
W. Mowatt	Senior Surveyor
M. Read	Senior Surveyor
Visit 4	07 July 2024
R. Ault	Senior Surveyor
M. Read	Senior Surveyor

EQUIPMENT

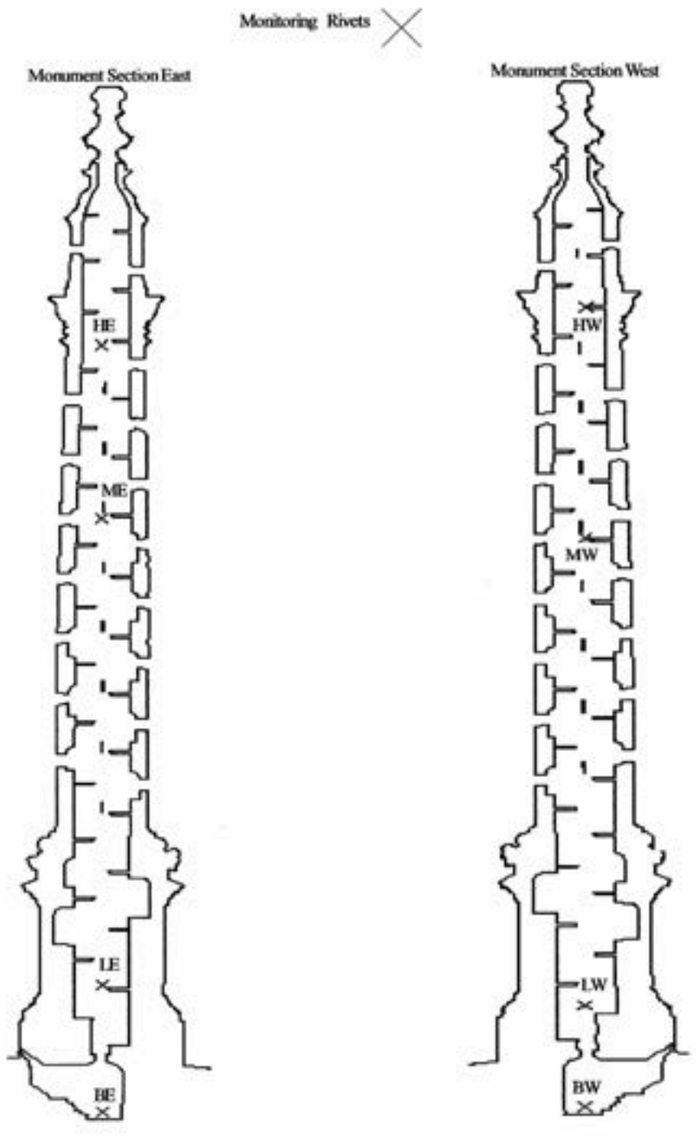
Geo Fennel FLP100
Leica GZR2 Plummet
Leica TS 30
Leica GST 20 Tripods
Yamayo Minirod-C
1.4 metre Power Master Spirit Level

Appendices 1

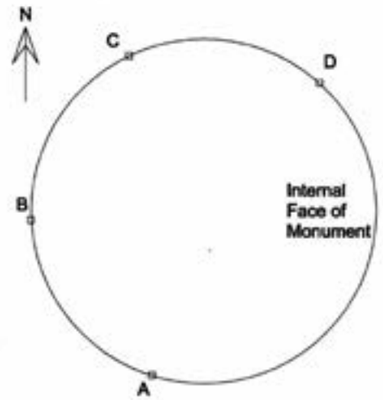
Monitoring Rivet Positions – North & South



Monitoring Rivet Positions – East & West



1981-82 Brass Plate Locations



Brass Plate Coordinates (Monument Grid)

Point	Easting	Northing	Elevation
A	203.606	502.802	14.034
B	202.655	504.025	14.030
C	203.427	505.320	14.037
D	204.922	505.106	14.024

Tower Centre Line - Centre of circle fitted to plates

204.013 504.097 14.031

Plumbed Centre Line - computed from 1981 measurements

204.058 503.787 14.031

Appendices 2 – Historic Data

1980's Survey Extracts & Information

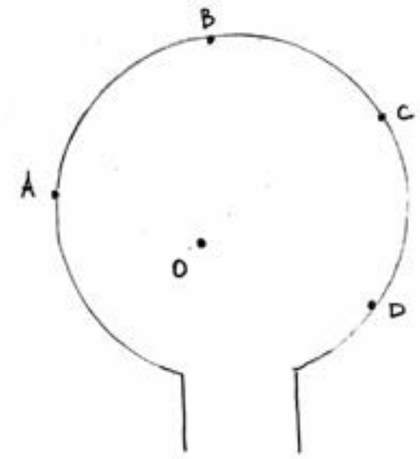
Hockley & Dawson
Consulting Engineers Ltd
The Great Barn
Smithbrook Barns
Cranleigh
Surrey GU6 8LH
Tel: (01483) 548784
Fax: (01483) 268765

Job No. 12867
Sheet No. SD1
Date Nov 05
Prepared

Contract THE MONUMENT
Client CORPORATION OF LONDON

O = PLUMBED CENTRE POINT.

B

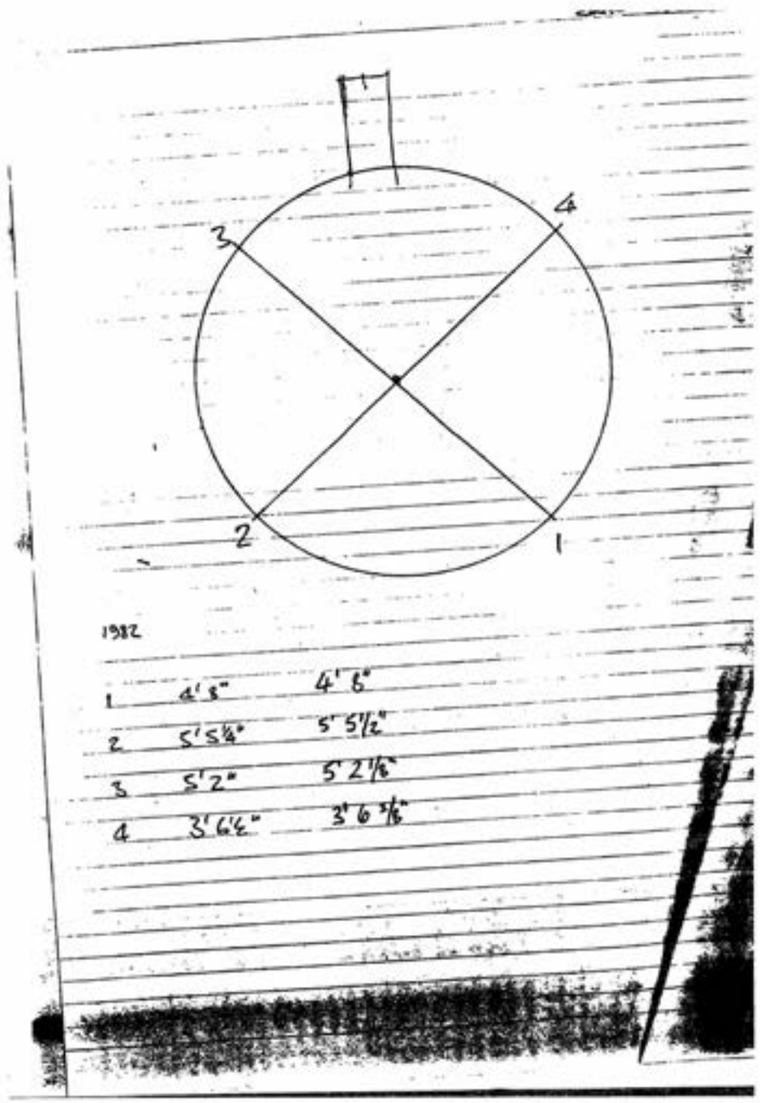


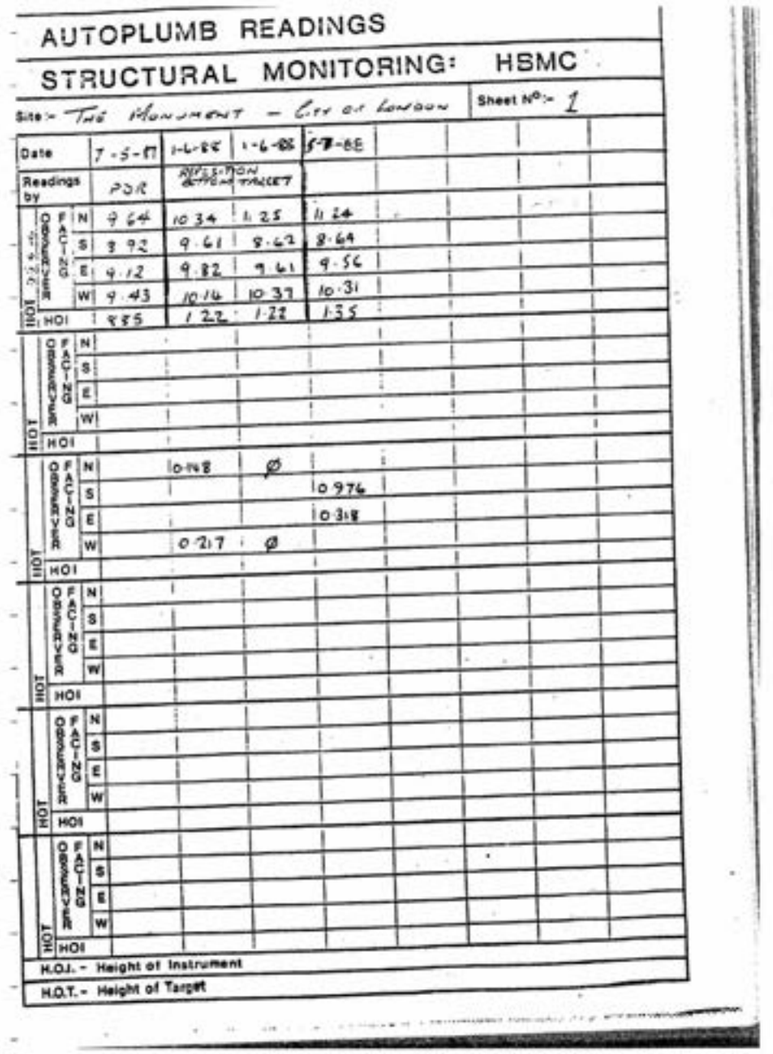
PLAN AT BASEMENT.

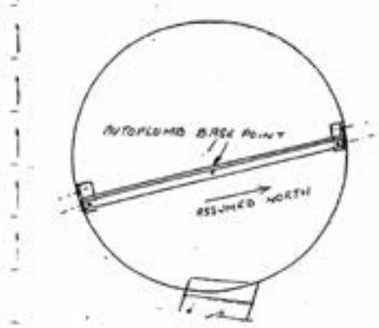
JAN 1981 READINGS

A - O = 1080 ; B - O = 1425

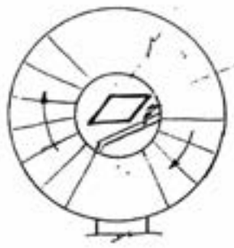
C - O = 1660 ; D - O = 1575







PLAN AT BASEMENT LEVEL



SECTION ~20m ABOVE PLATFORM LEVEL

REPORT NO. 3 A

THE MONUMENT
CITY OF LONDON
STRUCTURAL MONITORING

The verticality of the Monument is being checked with the Auto-Plumb.

A steel angle has been rigidly fixed at Basement level and this is used a base for the bottom target.
The top target is marked on a metal strap approximately 2 metres above the top platform level. An initial set of readings was taken on 7 May 1987 and these are shown on the attached plan together with sketch details.

APPENDIX D

CMP BRIEFS

2024

City of London Corporation

Template for the CMP

(Based on the City's standard CMP template)

Executive Summary

1. Introduction
- Purpose
- Methodology and Structure
- Scope and limitations

2. Understanding the Asset
- Summary description
- Summary history
- Design and Construction
- Existing Building Fabric
- Alterations
- Ownership and Management

3. Assessment of Significance
- Assessing significance
- Summary statement of significance
- Assessment by heritage values

4. Issues, Opportunities and Conservation Policies
- Purpose and approach
- Summary of issues and opportunities
- Issues and Opportunities on (as a minimum):
  - Management and Staffing
  - Visitor Management
  - Access & Circulation
  - User's experience
  - Interpretation
  - Views
  - Building Fabric
  - Condition
  - Immediate Setting
  - External lighting
  - Security
  - Events and Experiments
- Conservation Philosophy and Policies

5. 20 year Forward Maintenance Plan

6. Action Plan

Bibliography
- Authorship
- Acknowledgements and consultation
- References / index

Appendices
- Condition Survey Report
- Other surveys
- Relevant documents and literature

The Monument – Brief for the Preparation of a Conservation Management Plan

Brief for Quinquennial inspection/condition survey

The inspection is to be a visual inspection of the interior and exterior of The Monument. The external inspection is to be carried out from ground level, the viewing platform at the top and any other vantage points which are available. Internally, parts of the structure which are inaccessible, enclosed or covered will not be inspected. The inspection is to cover all features of the structure and all aspects of conservation and repair.

Report Details
The report shall include the following details:

- Name of building and statutory status.
- Key plan or elevation identifying problem areas.
- Relevant photographs highlighting items to which the report is drawing attention.
- Brief description of the building, including orientation.
- When The Monument is open to the public and restrictions on public access if any.

Limitations: e.g., that the inspections are visual, opening up of enclosed spaces is excluded, even if further inspection of these spaces may be recommended.
If appropriate, list items not inspected.
Note that the report is restricted to the general condition of the building and its defects.

Contents:

1. Schedule of works completed since previous Quinquennial Inspection Report in 2016. List repairs carried out since the last inspection:
   - Works recommended in the last report
   - Items of emergency repair
   - Alterations, additional and demolitions.

2. General Condition: Describe the general condition of the building noting:
   - Any particular movements
   - Subsidence and settlement
   - Areas of damp penetration
   - General areas of damage and decay
   - Any particular work undertaken outside The Monument which might have an impact on the building and its setting.

3. Externally: Systemically record materials, construction, general condition and any special features.

4. Rainwater goods and disposal systems: record materials, condition and cleanliness, assess whether adequate.

5. Timber doors and metal windows: comment on the materials and general condition of all timber structures, including doors and their frames, timber and metal window frames, commenting on external finishes.

6. Windows: Comment on the condition of external window openings, stonework and glazing.

7. Comment on the condition of internal walling.

8. Comment on the construction and condition of spiral staircase and balustrades.

9. Comment on materials and general condition of all panelling, partitions, doors, frames and ironmongery.

10. Ground Floor Structure: Comment on materials and general condition, ventilation and adequacy.

11. Internal Finishes: Comment on materials and condition of wall and ceiling finishes. Note dampness and any other apparent defects.

12. Fittings and Fixtures: Comment on condition of fittings and fixtures.

13. Signage.

14. Service Installations Generally: Note that the report and comments are based on a visual examination only and that no tests or services have been undertaken. Make recommendations for testing, as appropriate.

15. Heating Installation: State type of system installed, fuel, age, apparent condition and existence of maintenance agreements (City to advise).

16. Electrical Installation: Note location and apparent condition of incoming mains, meters and distribution boards. Note last inspection by NICEIC contractor (City to advise).

17. Lighting System: Condition, state of maintenance and efficiency, safety of means of access.

18. Sound System: Comment on the provision and condition of the sound systems and loop systems and whether they are regularly maintained under a maintenance agreement (City to advise).

19. Lightning Conductor: Comment on condition, when last inspected.

20. Fire Precautions: Note number, position and types of fire extinguishers provided. Examine records of maintenance for appliances.

21. Disabled Provision and Access: Comment on provision for the disabled, including access to various parts of the building and make recommendations for improvements in accordance with current legislations.

22. Safety: Comment in general on the safety of the building for its users and visitors, including reference to the Fire Risk Assessment by the City.

23. External Railings and Paved Area within Railings: Comment on general condition.

24. Monument Yard: Comment on general condition of the paved area.

25. Bench: Comment on general condition.

26. Logbook: Inspect the logbook provided by the City.

Recommendations

List items under the following degrees of priority:

1. Urgent works requiring immediate attention.
2. Works recommended to be carried out during the next twelve months.
3. Works recommended to be carried out during the quinquennial period.
4. Works needing consideration beyond the quinquennial period.

Additional notes:

- The report is not a specification for works and it does not give permission for them to be carried out.
- Standard explanatory notes to be added to all inspection reports.
- The quinquennial inspecting architect is willing to advise the City on implementing the recommendations.
- The repairs recommended in the report may require Scheduled Ancient Monument consent and this should be discussed with the City of London Planning Department.

Brief for Structural condition survey

The 2014 Conservation Management Plan described the need for annual structural inspections which could be reviewed after say 5 years and the period reconsidered. The survey is to be carried out by a structural engineer who is skilled in the conservation of historic structures and sites. Membership of the Conservation Accreditation Register for Engineers (CARE) is desirable.

The inspection should include an assessment of the whole structure, including the following elements:

- The Flaming Orb: The inspection should include the Flaming orb and camera mounts, Armature and connections supporting the orb, etc.
- Cage, SS mesh & Balustrade: All items should be thoroughly inspected to ensure the structural integrity is maintained and any loose bolts or fixings are rectified. Loose bolts should be tightened to the correct torque for the relevant bolt size. A correct metric tool must be used.
- The Stairwell and spiral staircase and viewing platform: The inspection should include the following:
    - The performance of the structural repairs to the steps, landing and viewing platform should be monitored with a photographic record on completion.
    - Inspect the black limestone for wear damage, water and frost damage.
    - inspection of balustrade structure and caulking by blacksmith, due to great numbers of visitors putting pressure on the historic balustrade
- Exterior Stonework, including structural repairs to the carved stone dragons.

The final report should advise on the frequency of subsequent inspections and include prioritised recommendations.

Project Boundaries & Existing Photos

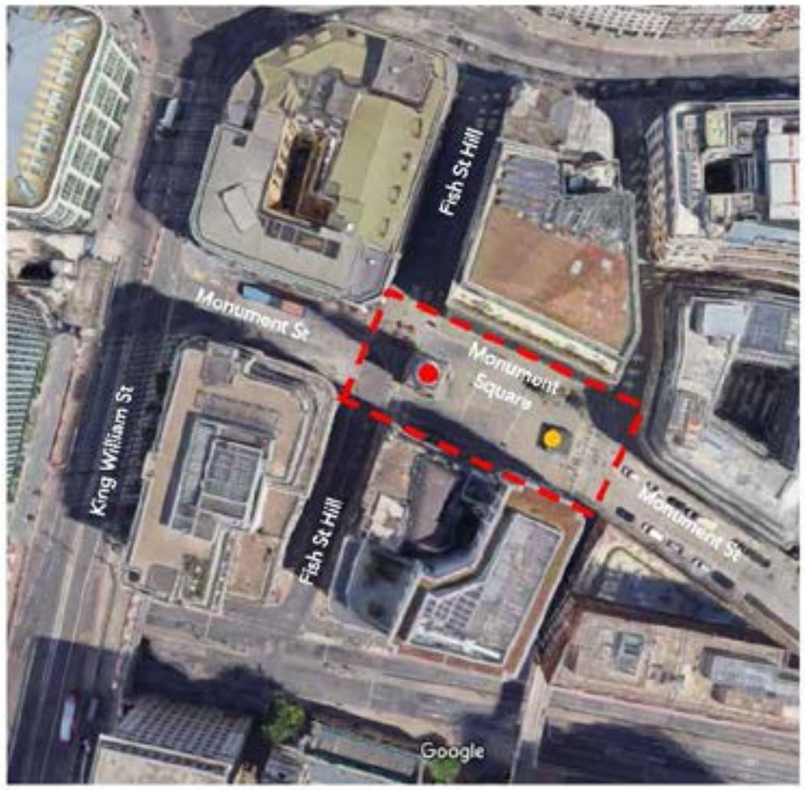


Fig. 1 – Google maps – Proposed Project Bouncaries

- The Monument
- Project Boundaries
- The Pavilion

APPENDIX E

STATUTORY CONSENTS SINCE 2014

APPENDIX E

STATUTORY CONSENTS SINCE 2014

Planning and Scheduled Monument Consent records for The Monument since 2014
Information provided by City Surveyors office 08.07.24

12.07.2021 Letter HE (Jane Sidell Inspector of Ancient Monuments) to CoL (Jessica Lees)
Re. SMC Conditional Approval for installation of new emergency lights within the staircase.
Application documents:

- Covering letter, Sylvania datasheet - waterproof mounted emergency luminaire, Lighting bracket drawing design

The Secretary of State is required to consult HE. *Historic England considers the effect of the proposed works upon the Monument to be beneficial for the management and safe use of the monument, permitting better public access and enjoyment of its heritage.* Cc.Mr Julian Kverndal, Ms Kathryn Stubbs

30.06.2014 Letter EH (Iain Bright, Assistant Inspector of Ancient Monuments to CoL (Maya Polenz)
Re. SMC Conditional Approval for periodic maintenance works.
Conditions include
(b) A detailed method statement, listing in full all maintenance works to be undertaken shall be submitted to and approved by English Heritage prior to commencement of works on site.
(g) A short illustrated note detailing the works carried out is to be submitted within 2 months of completion of said works.

20.01.2014 Letter HE (Jane Sidell Inspector of Ancient Monuments) to H&D (Clive Dawson)
Re. SMC Conditional Approval for attachment of survey targets to the Monument.
Reason: Skanska document 'Monitoring the scheduled monument structure due to the development at 11-19 Monument Street'
d) Before and after photographs shall be sent to English Heritage to demonstrate the materials used did not impact adversely upon the Monument.

02.06.2016 Letter HE (Iain Bright, Assistant Inspector of Ancient Monuments to CoL (Peter Moore)
Re. SMC Conditional Approval for emergency repairs to wrought iron balusters located along main stairwell.
Historic England considers the effect of the proposed works upon the monument to be works that are unavoidable and warranted, and will not significantly compromise the integrity of the monument, nor prejudice substantially its longer term preservation.
(b) Method statements for all works on site shall be provided to Historic England.
(g) An illustrated note detailing the works undertaken should be provided to Historic England within 3 months of completion of works.

27.04.2016 Letter HE (Iain Bright, Assistant Inspector of Ancient Monuments to CoL (Peter Moore)
Re. SMC Conditional Approval for repairs to the interior timber handrail.
Application documents: Method Statement (Paul Dennis Metalworks Ltd)
(c) Any replacement material shall be of a type, texture and colour which matches the original material.
(d) Where necessary, inserted wooden segments shall be stained so as to match the original as closely as possible.
(i) A report detailing the repairs undertaken (including before and after photographs) is to be submitted to Historic England within 3 months

10.07.24 Email response from Mark Butler, Conservation officer, CoL to Joana Antonio, Heritage Estate Officer, City Surveyor Dept. CoL
regarding planning records for The Monument since 2014 , confirming the most recent application received, in 2011 was for the temporary installation of a light-based art piece around the column (app: 11/00660/FULL).

APPENDIX F

WINDOW SCHEDULE

2024

Julian Harrap Architects LLP

THE MONUMENT : SCHEDULE OF WINDOWS numbering from bottom up

Dimensions of openings provided by contractor Cathedral Works Organisation on 27 June 2008. Bronze casement windows and fixed lights manufactured by Gospel Studios in 2008

						Inspection at 29th January 2016	Inspection at 5th August 2024
Window No.	Cill Level approx	Recess No.	Width	Height	Window type	Repairs needed at 29th January 2016	Repairs needed at 5th August 2024
1	19.1.87	3			Oval window	described in text	Oval window with central pivot. Top fixings missing, fill 4no. Redundant fixing holes and redecorate locally. Replace modern casement fastener adjacent to the handle on the right hand side, locking the window shut. Putty defective, reputty.
2	23.547	Not in recess	115	640	Bronze fixed light	none	none
3	27.814	7	110	675	Bronze opening casement	overhaul casement stay	clean chewing gum from around window
4		8	110	690	Bronze opening casement	stiff hinges, oil	stiff hinges, oil
5	29.13	9	140	725	Bronze opening casement	overhaul casement stay	stiff hinges, oil
6		10	180	660	Bronze opening casement	overhaul casement stay, cut visible brown mastic from rhs of frrame	none
7	31.639	11	110	735	Bronze opening casement	overhaul jammed casement stay	replace stay & latch, both missing
8	32.427	Not in recess	140	845/740	New bronze fixed light	trim visible brown mastic from lhs of frrame	stiff hinges, oil
9	33.234	12	130	637	Bronze opening casement	Casement stay has missing component, repair. Trim visible brown mastic from lhs of frrame	replace stay & latch, both missing
10	33.969	Not in recess	132	670	Bronze opening casement	Overhal stiff fastener, repair casement stay. Trim visible brown mastic from rhs of frrame	none
11	35.526	13	200	675	Bronze opening casement	Casement stay has missing component, repair. Overhaul stiff fastener	oil stiff hinges and re-bed / repair glazing where loose and replace missing screw
12	36.291	Not in recess	185	665	Bronze opening casement	Overhaul stiff fastener	
13	37.078	14	105/115	685	Bronze opening casement	Overhaul fastener; casement stay catches - window may have dopped	
14	37.822	Not in recess	145	668	Bronze opening casement	Overhaul stay, window won't fully open	
15	39.327	15	150/155	668	Bronze opening casement	Oil stiff hinges	
16	40.1	Not in recess	162	700	Bronze opening casement	Fastener too stiff to open so casement stay not tested. Overhaul both	stiff hinges, oil
17	40.887	16	160/165	663	Bronze opening casement	Oil hinges	
18	41.637	Not in recess	125	625	Bronze opening casement	Repair broken stay, overhaul stiff fastener	
19	43.201	17	135	670	Bronze opening casement	Repair broken stay (piece missing), overhaul stiff fastener	clean chewing gum from around window and sill
20	43.869	Not in recess	110/115	660	Bronze opening casement	stay is a bit loose, overhaul	replace stay & latch, both missing
21	44.614	18	135/140	685	Bronze opening casement	1 no. frame screw missing	none
22	45.363	Not in recess	115	685	Bronze opening casement	overhaul fastener & stay, both working but stiff	crack on bottom of sill
23	45.886	Not in recess	120	740	Bronze opening casement	none	none
24	47.672	Not in recess	090/095	700	Bronze fixed light	overhaul stiff fastener	none
25	58.424	Not in recess	110	715	Bronze opening casement	none	none
26	48.165	Not in recess	080/085	725	Bronze fixed light	none	none
27	50.711	Not in recess	100/105	660	Bronze fixed light	overhaul fastener & stay, both working but stiff	none
28	51.505	Not in recess	135	665	Bronze opening casement	none	overhaul fastener & stay, both working but stiff
29	52.239	Not in recess	100	720	Bronze fixed light	none	none
30	53.005	Not in recess	O60	715	Bronze fixed light	none	none
31	54.537	Not in recess	080/090	660	Bronze fixed light	none	none
32	55.311	Not in recess	102/108	730	Bronze fixed light	none	none
33	56.787	Not in recess	130	670	Bronze opening casement	overhaul jammed casement stay	none
34	60.551	Not in recess	160	515	Bronze opening casement	not inspected	overhaul fastener & stay, both working but stiff
35	61.185	Not in recess	130/135	520	Bronze opening casement	not inspected	none
36	61.918	Not in recess	150	560	Bronze opening casement	not inspected	overhaul fastener & stay, both working but stiff
37	63.142	Not in recess			Bronze fixed light	not inspected	none

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