ENGLISH HERITAGE

VIA ON-LINE PORTAL - E-MAIL application
London Borough of Camden
Heritage and Planning Officer

LBC: Covering Letter – HERITAGE STATEMENT 1 November 2021

Dear Sir or Madam

Blue plaque: Oliver Heaviside (1850-1925)

The Proposal: I am writing to advise you that English Heritage's Blue Plaques Panel has approved the recommendation – subject to consents being forthcoming - that a blue plaque be erected to: Oliver Heaviside, at **123 Camden Street, NW1 0HX, in the London Borough of Camden.** This is a listed Grade II building (ref entry 1244159); the street does not lie within one of Camden's Conservation Areas.

The proposed inscription on the blue plaque is:

OLIVER
HEAVISIDE
1850-1925
Theorist of
Telecommunications
lived here

The descriptor of 'theorist of telecommunications' reflects his studies and research publications in the theory and practical application of electrical technology and transmission; it was his work in the later nineteenth century that through physics and electrical engineering laid the basis of 'how to make a decent telephone cable'; (*Oliver Heaviside The Life, Work, and Times of an Electrical Genius of the Victorian Age*, by Paul Nahin, 2002). As Heaviside's residence was not continuous, 'lived here' dates have not been given.

Our proposal for the positioning of the inset mounted blue plaque is for it to be sited centrally between the two first floor windows, vertical height centred on the upper sash window panes and their centre thin transom bar; symmetrically aligned within the brick courses. Located as shown on the attached document surveyor orthophotos, scaled 1:50, and oblique views; these submitted surveyor orthophotos take the role of architect drawings and the square-on view at 1-50 scale will print to scale at A1. The size of the plaque is the standard 19.5-inch diameter, inset into the brickwork by a depth of 50mm. The materials and methodology for the installation of the plaque are considered under accompanying documents.

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BUILDING STATEMENT - The current building history*:*
Number 123 Camden Street lies within a short terrace of six listed houses, nos. 119-129 (odds), built in the early nineteenth-century. A two-bay house, of four storeys and basement, with a cast-iron balcony on the first floor, built of London stock brick and rendered with channeled stucco to the ground-floor and plain render to the full basement; round-headed entrance door with decorative fanlight set to the right; originally numbered 117 Camden Street – renumbered 123 in 1885.

Connection of 123 Camden Street to Oliver Heaviside:

Oliver Heaviside is associated with the borough of Camden for thirty-nine years, and at three addresses, however 123 Camden Street, the family home from 1863-1876, is the only surviving original building where a plaque to him can be located. Born nearby in what is now Plender Street, formerly 55 King Street (the house no longer survives); in 1863 his family moved to 117 Camden Street – (renumbered 123 in 1885). Heaviside lived here from his teens, it was, he later wrote to a friend, 'like heaven in comparison' to the family's previous house. He attended local schools and, although he did very well in natural sciences, the family could not afford for him to be educated further, and he pursued his own studies at home. It is from Camden Street that Heaviside started his first job as a telegraph operator with the Danish-Norwegian-English Telegraph Company in 1868, sent first to work in Denmark, then Newcastle; while Camden Street remained the family home. Heaviside returned to stay permanently at Camden Street in 1874, and pursued private – and mostly unpaid – researches into electrical theory and over the next thirty years his papers revised and extended the theory of signal transmission. Heaviside was elected an Associate Member of the new Society of Telegraph Engineers in 1874 and elected to its Council in 1876, the same year the family moved from Camden Street to nearby number 3 St Augustine's Road (house demolished). Heaviside's most important theoretical work was begun during his connection with Camden Street, and developed during the 1880s while living in the borough, until 1889 when the family moved to Devon. Camden Street therefore represents the place where he began his scientific endeavours, self-taught and without the benefit of social privilege, a blue plaque to celebrate his contribution to physics and electrical engineering during the second half of the nineteenth century would be a fitting recognition to his achievements in the technology which now plays a greater role in our everyday lives than Heaviside ever imagined.

BIOGRAPHICAL summary of proposed figure Oliver Heaviside:

Oliver Heaviside was born on 18 May 1850 in Camden Town. He was the youngest of four sons of Rachel (née West) and Thomas Heaviside, a wood engraver and watercolour artist. Oliver and his brother Arthur were perhaps led into telegraphy because their mother's sister had married Charles Wheatstone, one of the inventors of the telegraph (and whose LCC bronze plaque is installed at Park Crescent, Regents Park). Heaviside's first job (1868-1874), involved working on submarine telegraph cables, and with his brother, developed a system of transmission, which speeded up communications by sending messages in both directions at the same

time. Between 1874 and 1881 he revised the existing but unsatisfactory theory of signal transmission along wires by studying James Clerk Maxwell's *Treatise on Electricity and Magnetism* (1873) – a revolutionary but notoriously difficult work. Heaviside along with the physicists Oliver Lodge, George Francis Fitzgerald and Heinrich Hertz, were the leaders of electrical theory through the 1880s and 1890s. Heaviside published his theories in articles and then in his collected *Electrical Paper*s (1892); and three volumes of *Electromagnetic Theory* (1893,1894,1912) which significantly developed mathematical analysis and electromagnetic wave theory. Heaviside made little money from his work, failing to patent his 1893 method of improving telephone transmission by 'lumped loading'; which eventually proved of enormous commercial value. Heaviside was elected a Fellow of the Royal Society of London in 1891. In 1896 he was awarded a modest civil pension. In 1902, more or less as an aside in an *Encyclopaedia Britannica* entry, Heaviside posited the existence of a reflective layer in the upper atmosphere which allowed radio waves to be 'bent' around the earth, as Marconi had done the previous year with his transatlantic transmissions. The existence of such a layer was proved experimentally in the 1920s by Edward Appleton and is known as the 'Heaviside layer' or the 'Kennelly-Heaviside layer', in deference to Arthur Kennelly, the American who had a similar notion at around the same time. In 1922 Heaviside was awarded the Institution of Electrical Engineers' newly instituted Faraday medal.

Heaviside lived quietly with his parents until their death, and then alone in Devon; considered by his neighbours as reclusive, acerbic, eccentric, and odd, Beverley Nichols recalled him in his old age as wearing an increasingly grubby pale-pink kimono but with immaculately painted cherry-pink nails (autobiography by Beverley Nichols – *Father Figure*, 1972); though loved and admired by his few scientific friends. Heaviside remained at his Torquay house until shortly before his death in a local nursing home on 3 February 1925. He was buried beside his parents in Paignton cemetery. The *Oxford Dictionary of National Biography* entry on Heaviside is an attached document for further information.

Historical Reputation

Not a name easily recognised by the public, the professional bodies of the Institution of Electrical Engineers, and the Royal Society, fully acknowledge Heaviside's contribution to the advancement of the understanding of electromagnetic waves; and note that his work laid the foundation for many applications beyond those which he originally contemplated – the practical everyday uses that today includes communication by cell phone, radio broadcasting and WiFi. Heaviside is the subject of several books and numerous articles and entries in biographical dictionaries. Basil Mahon summed up his legacy in *Oliver Heaviside: Maverick Mastermind of Electricity* (2009, p.146-7): "The advance of electrical communications in the past hundred years is the greatest leap of technology in humankind's history. … On the face of it we have left Heaviside way behind. But in one important sense it was Heaviside who made it all possible".

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Oliver Heaviside has enjoyed some popular recognition, and in some unexpected places: T. S Eliot referred to the Heaviside layer in *The Family Reunion* and it is name-checked in the musical *Cats*. Heaviside's loss over the patent and eventual profit of cable 'lumped-loading', won by AT&T in America was the subject of a 1959 novel, *The Tempter*, by the mathematician Norbert Wiener of MIT. In 2014 a South Devon musical company produced *Oliver Heaviside FRS;* The Torbay Civic Society has erected a plaque commemorating Heaviside in Paignton. A lunar and a Martian crater are named after him. It would be fitting to commemorate Oliver Heaviside's life in Camden, where he began his scientific endeavours and established his reputation.

Consents
Recent consultation with the freeholders has resulted in positive support and their final approval for the design and positioning of the blue plaque as shown attached. The Historic England Conservation Architect has confirmed that he is happy with the proposed location, that the building is structurally sound to support an inset plaque, and has approved the methodology of fixing the inset mounted ceramic plaque.

I should be grateful if you would let me know whether you have any observations on our proposal. If you would like to discuss the matter further, or require any additional information, please do not hesitate to contact me.

Yours faithfully

Cathy Power

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