

Figure 6 - Map of publicly owned land (source <https://apps.london.gov.uk/public-land/> accessed 16/1/22)

The Euston Road underpass is an approximately 20m deep diaphragm wall underpass underneath the intersection with Hampstead Road and is located approximately 14m from the basement of the Euston Tower site. The underpass was constructed around 1961-1966 as part of public realm and highway improvements to dual Marylebone to Euston Road. The location is slightly to the north of the original location of Euston Road to avoid conflict with the London Underground Limited (LUL) cut and cover tunnels (Hammersmith City & Metropolitan lines) and involved demolition of Eden Street.



Figure 7 - Euston Road underpass under construction (Evening Standard, 1965)



Figure 8 - Euston Road Underpass under construction ~1966 Source- A London Inheritance/ London Metropolitan Archives <https://alondoninheritance.com/london-streets/a-lost-bank-and-the-adam-and-eve-pub-on-the-corner-of-euston-road-and-hampstead-road/attachment/eus>

2.7 Tunnels and utilities

Various utilities are identified as present east and south of the site boundaries, as shown in the Plowman Craven topographic survey dated June 2018 (see Appendix A). A Groundwise statutory utility search was commissioned by Arup in December 2019 (Report ref. URO6731.1DM).

A summary of the assets identified is provided in Table 2. Site constraints plans showing tunnels and utilities are included in Appendix B.

The following deep tunnels have been identified in proximity to the site:

- A cable route between St Johns Wood and Back Hill runs under Euston Road west-east, approximately 6m south of the site, with a crown level at approximately +11.0mOD.
- The Northern line and Victoria line are located approximately 8m east and 31m south-east of the site respectively at track levels of approximately +1mOD (27mbgl) and -5mOD (34mbgl) respectively; and
- The Hammersmith and City, Circle & Metropolitan lines run underneath Euston Road, 37m south of the site at a track level of approximately +18mOD (10mbgl).

Table 2 - Summary of tunnels and utilities identified from statutory search.

Asset	Provider	Details
Sewers	Thames Water	Large brick sewers between 1143mmx762mm (4m south of basement, under Euston Road) and 1372mmx864mm (7m east of basement, under Hampstead Road)
Water mains		Water mains of trunk 18" & 8" (possibly cast-iron based on dimensions), Indicated in the search response to be at approximately 1.0m depth. Unknown pressure at the time of writing.
Electricity	UK Power Networks	Multiple cables and contain HV and LV at approximately 0.5m depth with diameter unknown along the east side on

Asset	Provider	Details
		Hampstead Road, round the corner onto Euston Road heading west.
Gas	Cadent	A low pressure (LP) main at approximately 1.3m depth mains running along the east side on Hampstead Road, round the corner onto Euston Road heading west. Diameter is 125mm polyethylene within 200mm ductile iron.
Telecommunications	BT, Colt, Instalcom Ltd, SSE, Verizon, Virgin Media, Vodafone	Indicated in the search response to be at approximately between 0.2 and 1.0m below ground level. Diameter unknown.
Transport	LUL/Transport for London (TfL) power assets	Traffic control cables up to 0.5m depth. HV and LV track and road cables also present along Euston Road and up to Hampstead Road
	London Underground lines	Victoria line Northern line Hammersmith & City, Circle & Metropolitan Line.

Figure 9 shows the location of TfL assets as identified within a statutory utility search (deep tunnels) during November 2019.

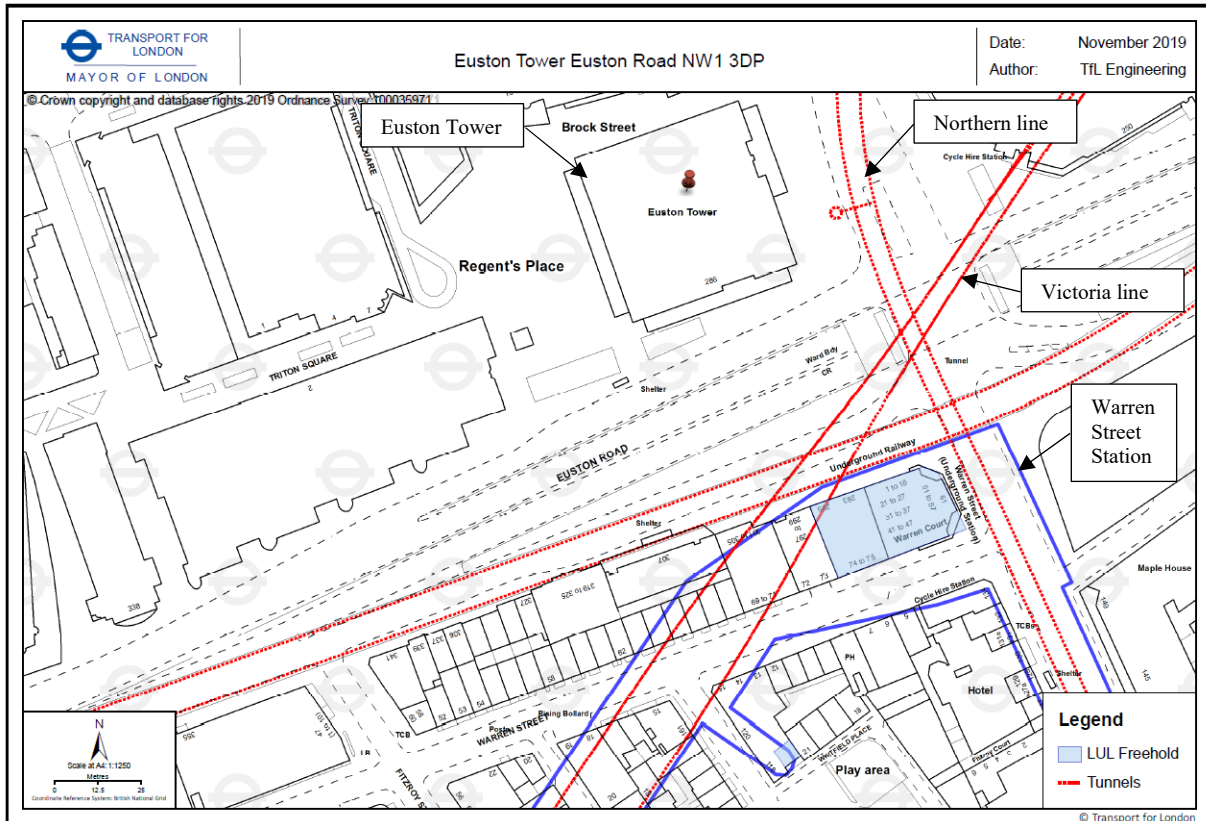


Figure 9 – TfL/LUL Statutory utility search response dated 7 November 2019, obtained via Groundwise. The location of Warren Steet station is shown in blue.

An initial meeting with the TfL Infrastructure Protection team took place on 3rd November 2023 to discuss the proposed development of Euston Tower and to seek initial feedback on the scheme proposals.

2.8 Future infrastructure

The Crossrail 2 safeguarded zone provides the anticipated route of the tunnels, as well as land at ground level, that may be used for the future construction of the tunnels, station, and shafts. The safeguarded route was published in 2015 together with notes for guidance. The site location and safeguarding limits (2015) defined in the 2015 safeguarding directions are shown in Figure 10. Further details can be found at: <https://crossrail2.co.uk/discover/safeguarding/>.

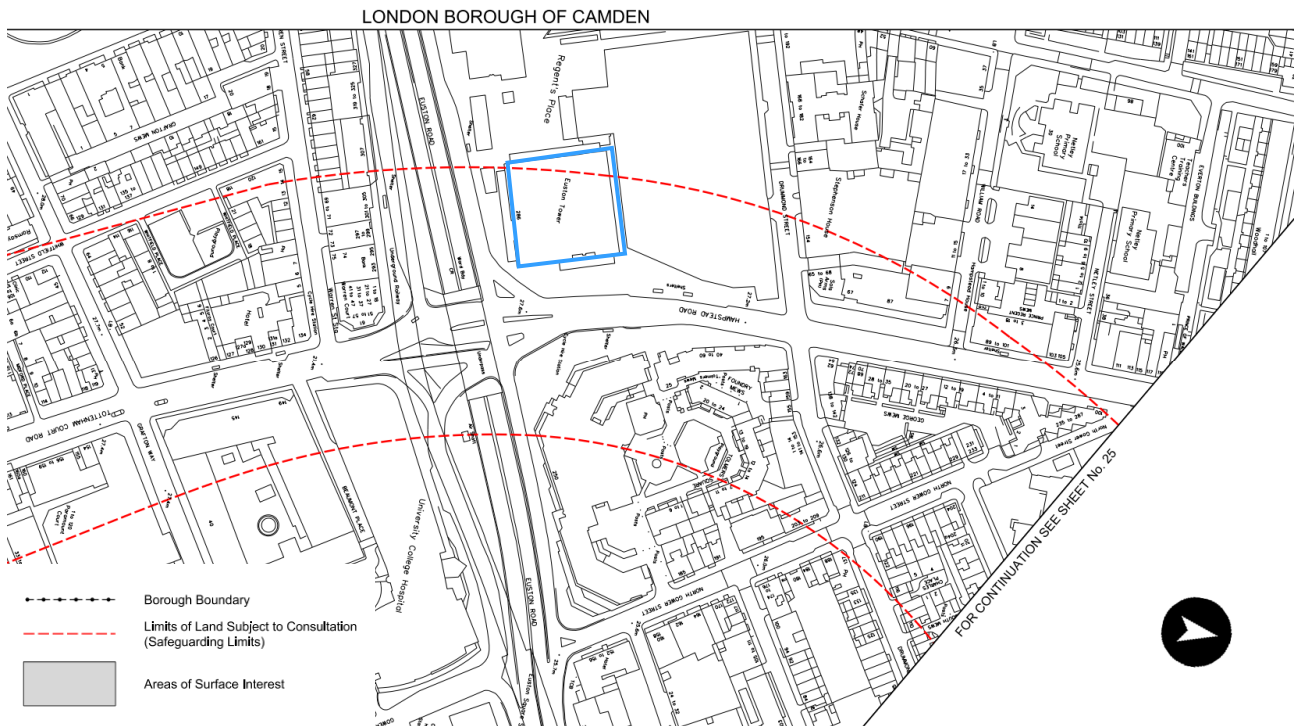


Figure 10 - Crossrail 2 safeguarding directions Sheet No24. March 2015. [MMD-307346-C-DR-SG-XX-1124]

The safeguarded limits of Crossrail 2 (2015) shown on the Crossrail 2 interactive map is shown in Figure 11a. The safeguarded limits crosses most of the Euston Tower site and the alignment is shown to cross the south-eastern corner of the junction of Euston Road and Hampstead Road. The viewer and further details can be found at the following URL:

<https://cr2.maps.arcgis.com/apps/webappviewer/index.html?id=21a7f72dfd0c443db5733bd81a707a67>.

It is understood that the route alignment has evolved since the safeguarding directions were published in 2015 and the latest route alignment iteration has been requested from the Crossrail 2 Safeguarding Manager. The latest Mk20.1 alignment received from the Crossrail 2 Safeguarding Manager on 9/10/2023 is shown in Figure 11b. The proposed alignment is slightly closer to the location of Euston Tower than that shown in the publicly available webmap presented as Figure 11a, however shows that the proposed alignment is to the east of the location of Euston Tower beneath Hampstead & Euston Roads, and that the proposed development is not located within the tunnel exclusion zone or alignment adjustment zone.

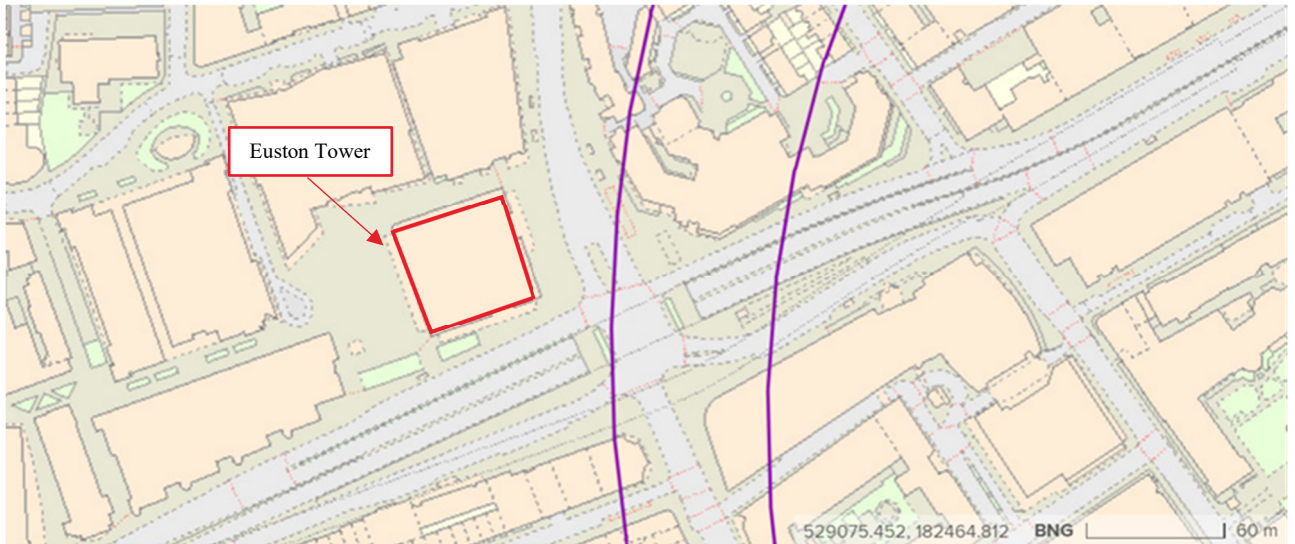
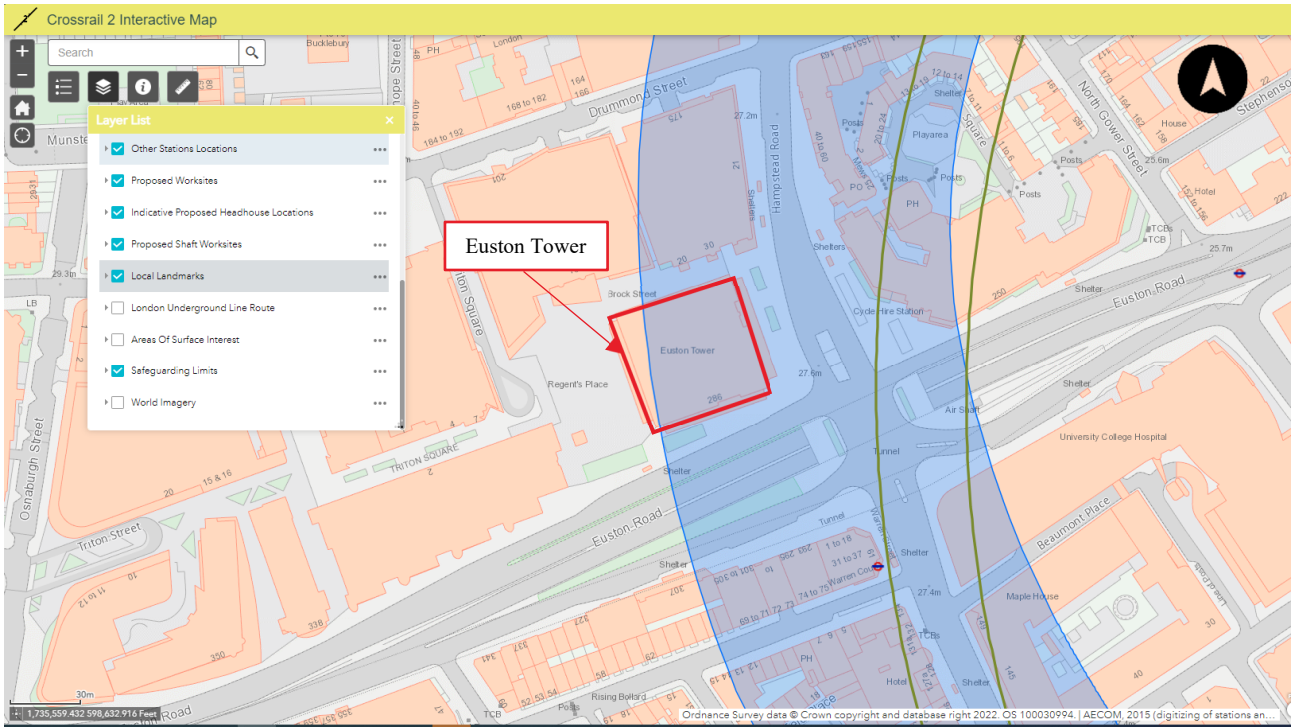


Figure 11 - Crossrail 2 safeguarding map extract – a) accessed 13/1/2023 b) Mk20.1 provided by CR2 9/10/23.

The safeguarding processes for Crossrail 2 require vertical and horizontal exclusion zones for future tunnels to be maintained, together with a technical approval process for consenting schemes within this zone. Details of the exclusion zone definition and alignment adjustment zone are given in the Information for Developers (April 2021) and reproduced in Figure 12. It is anticipated that the future Crossrail 2 tunnel will be deeper than the existing London Underground lines and have a diameter of ~8m.

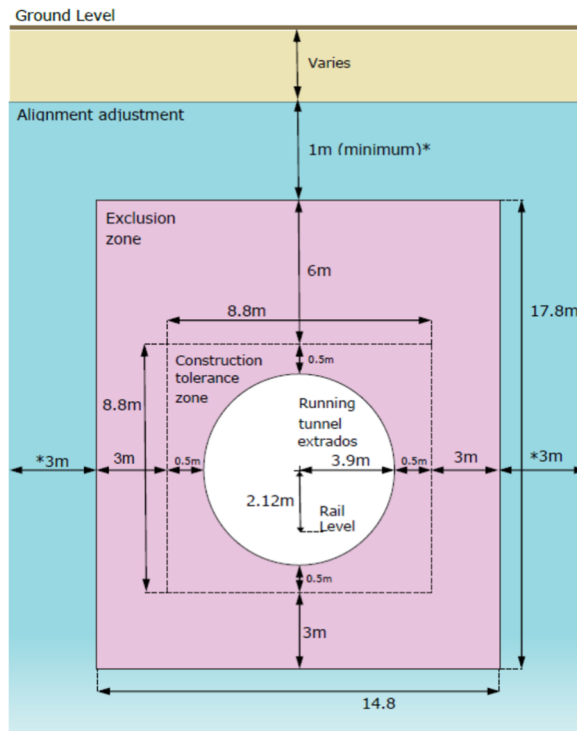


Figure 12 - Exclusion zone section from the Crossrail 2 Information for Developers, (April 2021)

As a result of future Crossrail 2 train services, there is the potential for vibrations to be transmitted to the buildings which could be re-radiated as ground borne noise within the building.

Engagement is in progress with TfL & Crossrail 2 to confirm the latest alignment proposals and to inform the subsequent design process. It is anticipated that Crossrail 2 would be a consultee to any planning application at the site. An initial meeting with the Crossrail 2 Safeguarding Manager took place on 3rd November 2023 to discuss the proposed development of Euston Tower, to confirm the principles of the safeguarding process and to determine the latest alignment information.

2.9 Unexploded ordnance

Assessment for the potential of encountering unexploded ordnance is outside the remit of this report. Based on the London Metropolitan Archives bomb damage map (shown in Figure 13), the Euston area was recorded as subject of bombing during World War II with most of the site receiving blast damage. Buildings which suffered damage beyond repair and total destruction were located within the eastern portion of site and immediately to the south of the site respectively. A review of UXO risk maps provided online by Zetica indicated the site as 'high risk'.

A detailed UXO risk assessment is recommended ahead of intrusive works at the site.