

Fig 1 Site location

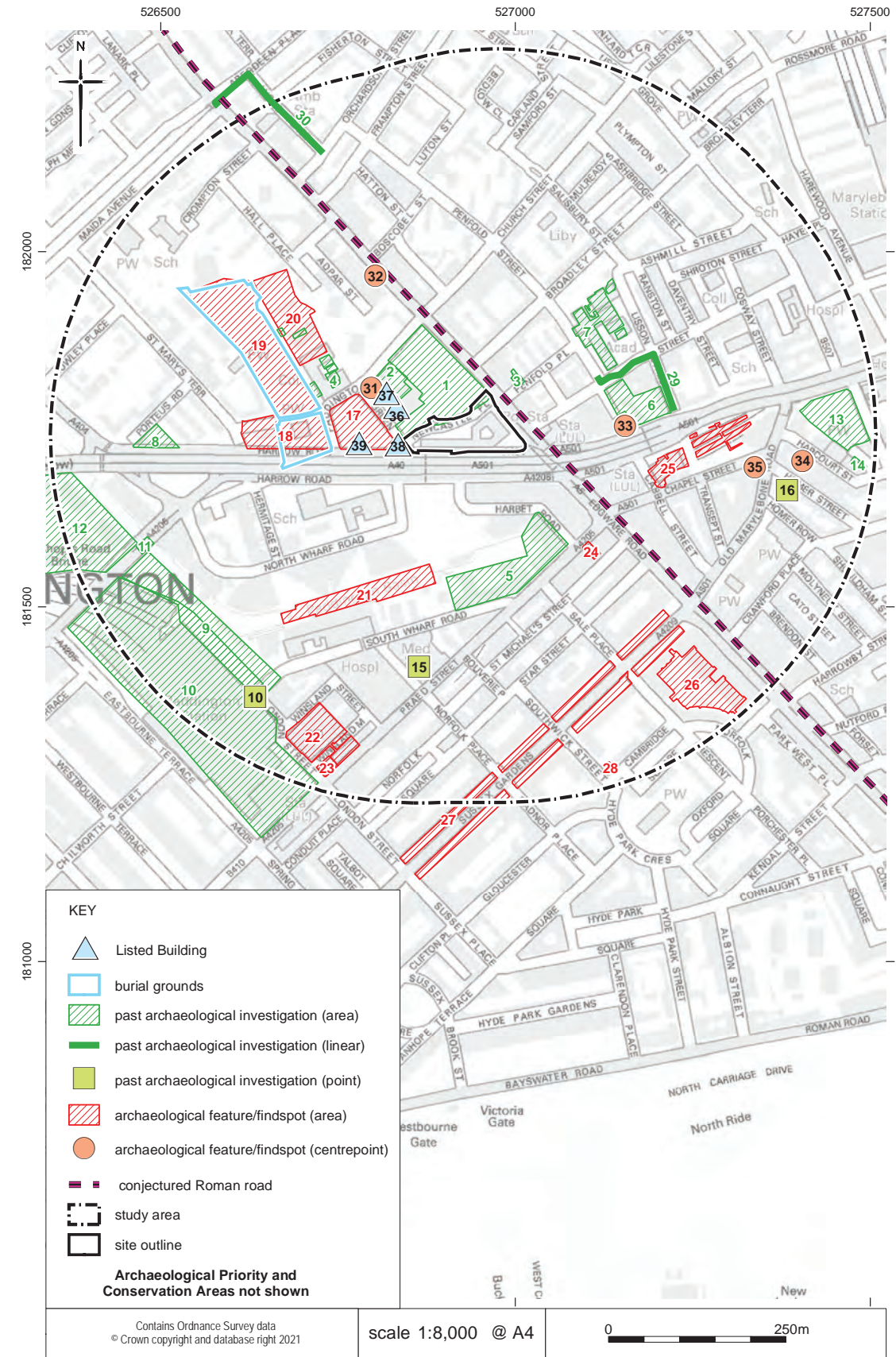


Fig 2 Historic environment features map

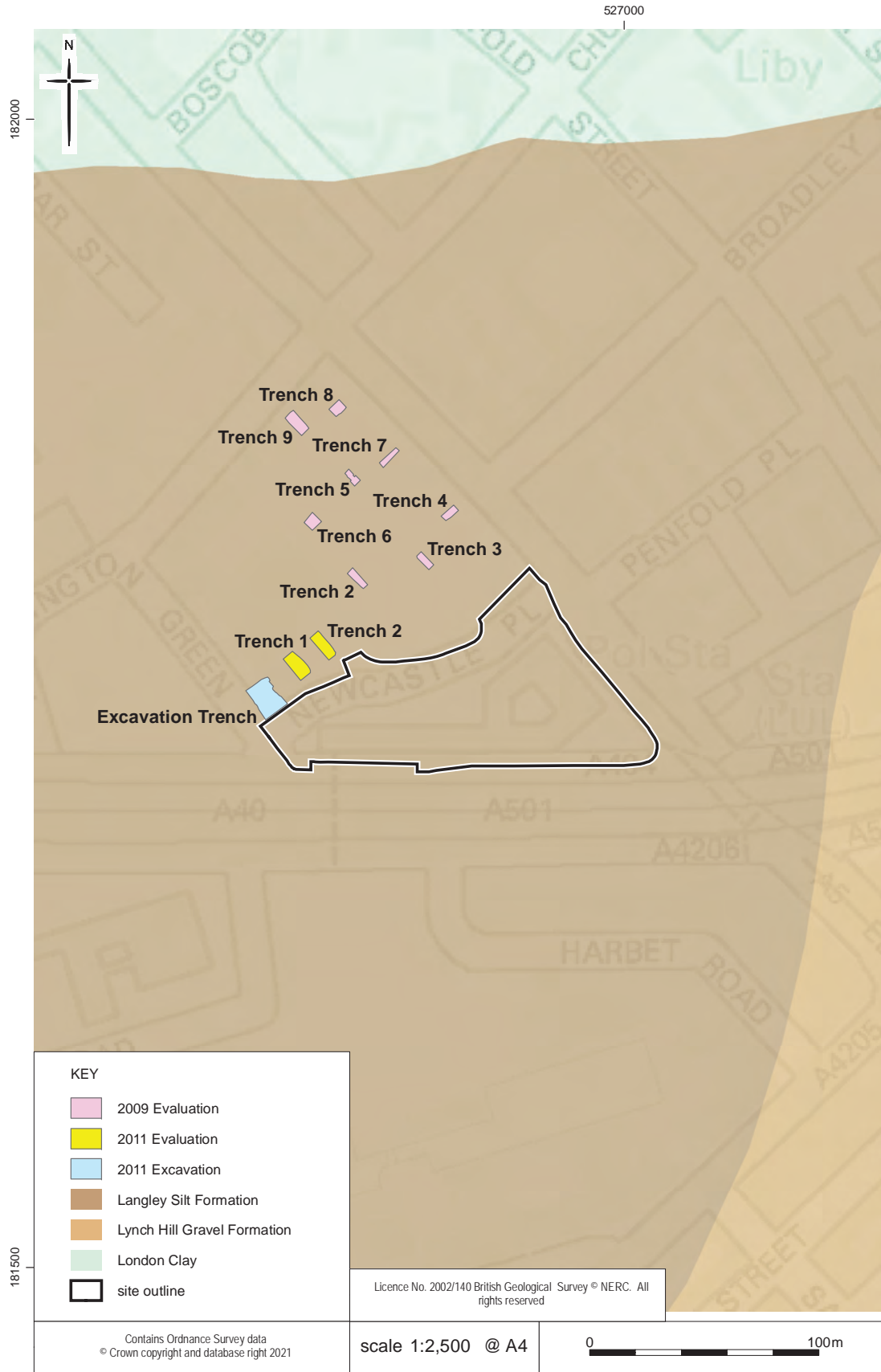


Fig 3 Geology of the site and past investigation trenches



Fig 4 Brasier's map of 1742

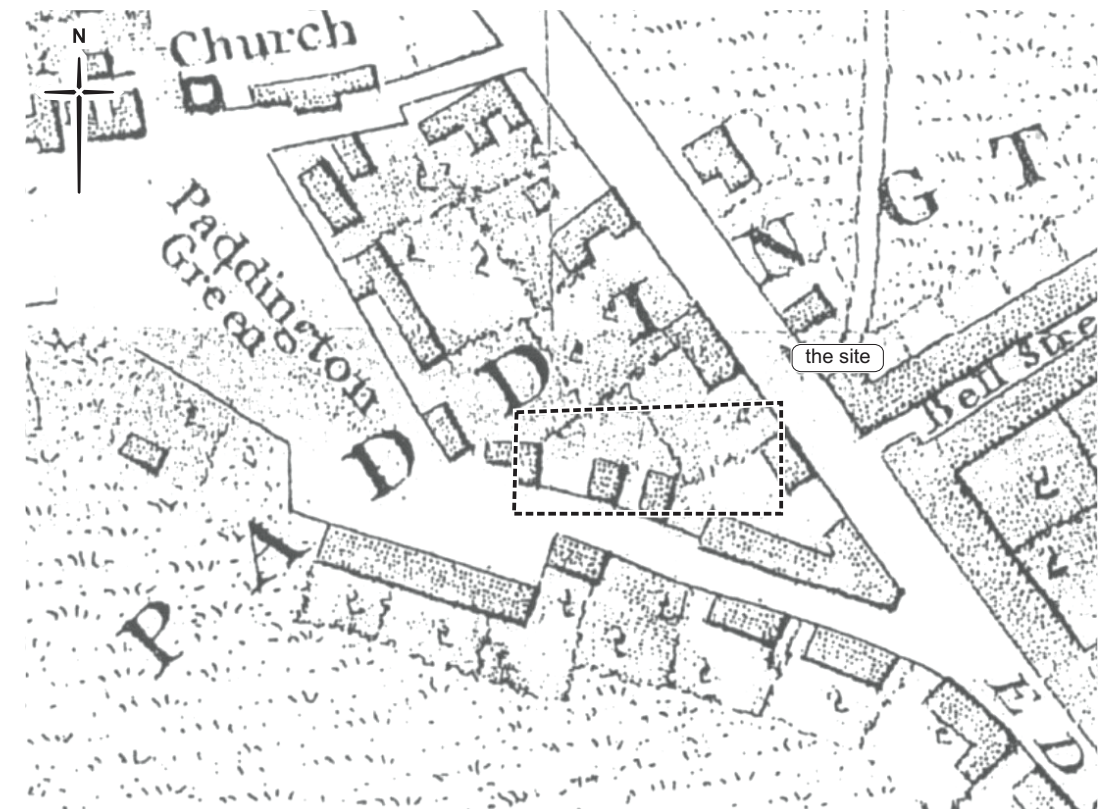


Fig 5 Morgan's map of 1682



Fig 6 Rocque's map of 1746

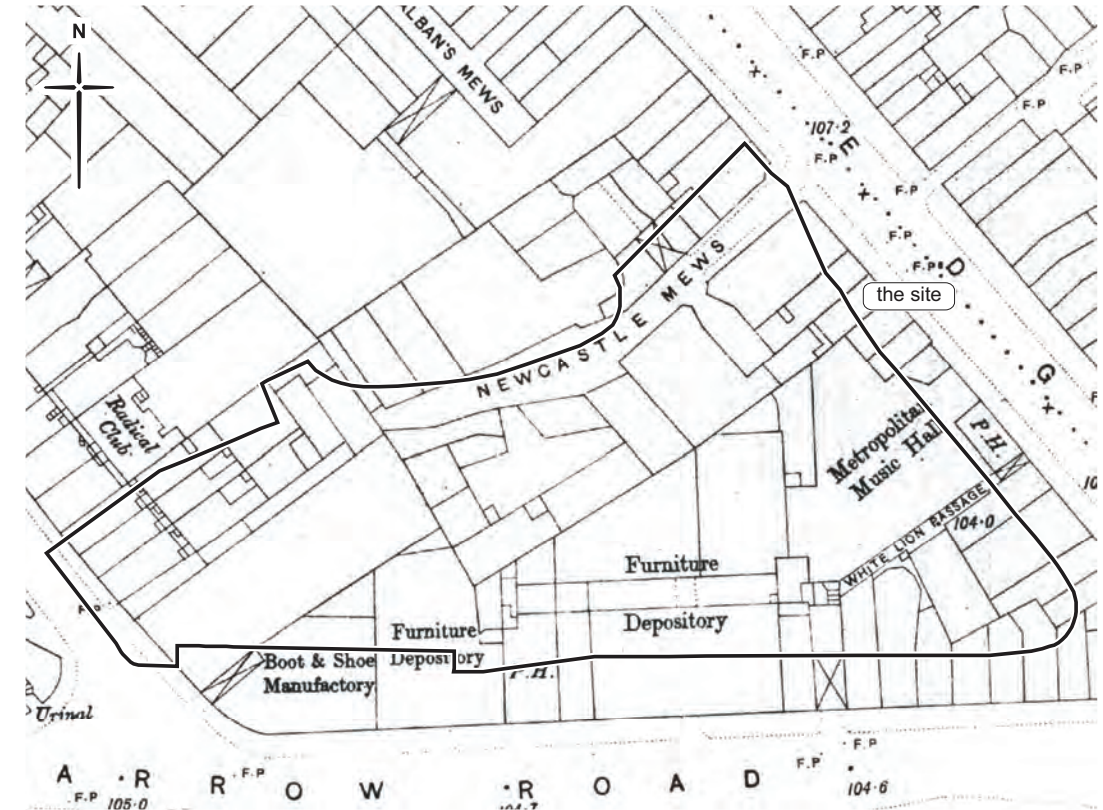


Fig 8 Ordnance Survey 2nd edition 5':mile map of 1896

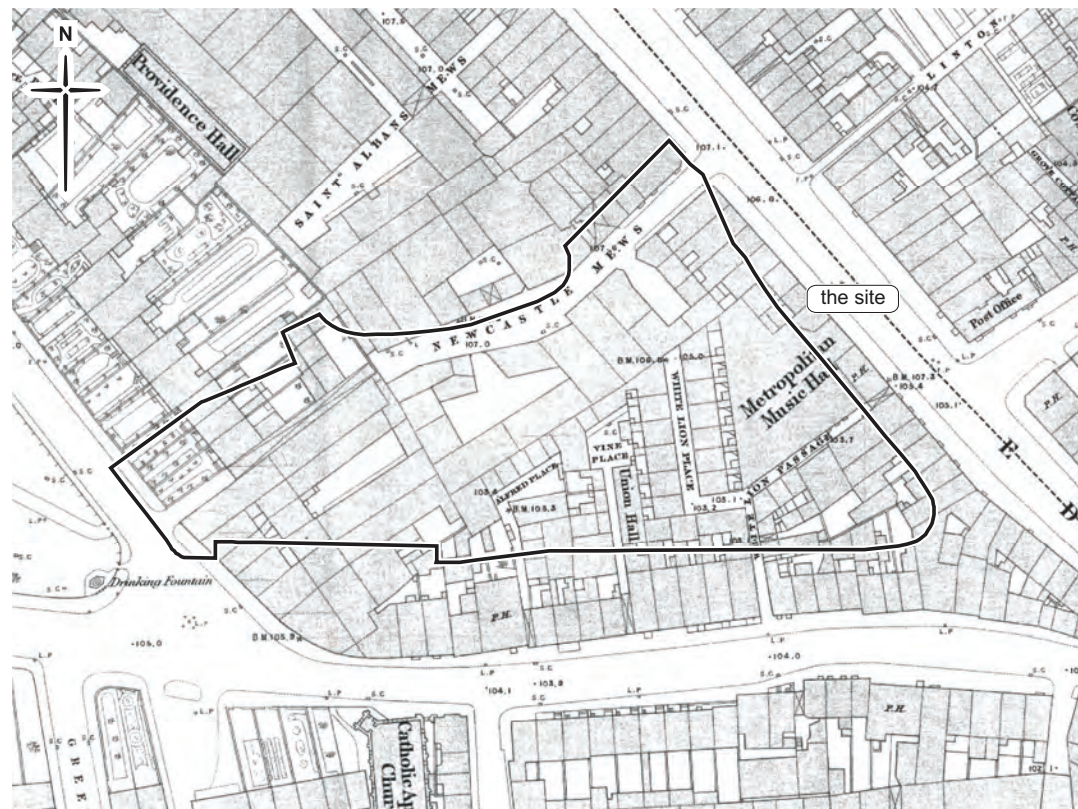


Fig 7 Ordnance Survey 1st edition 5':mile map of 1868

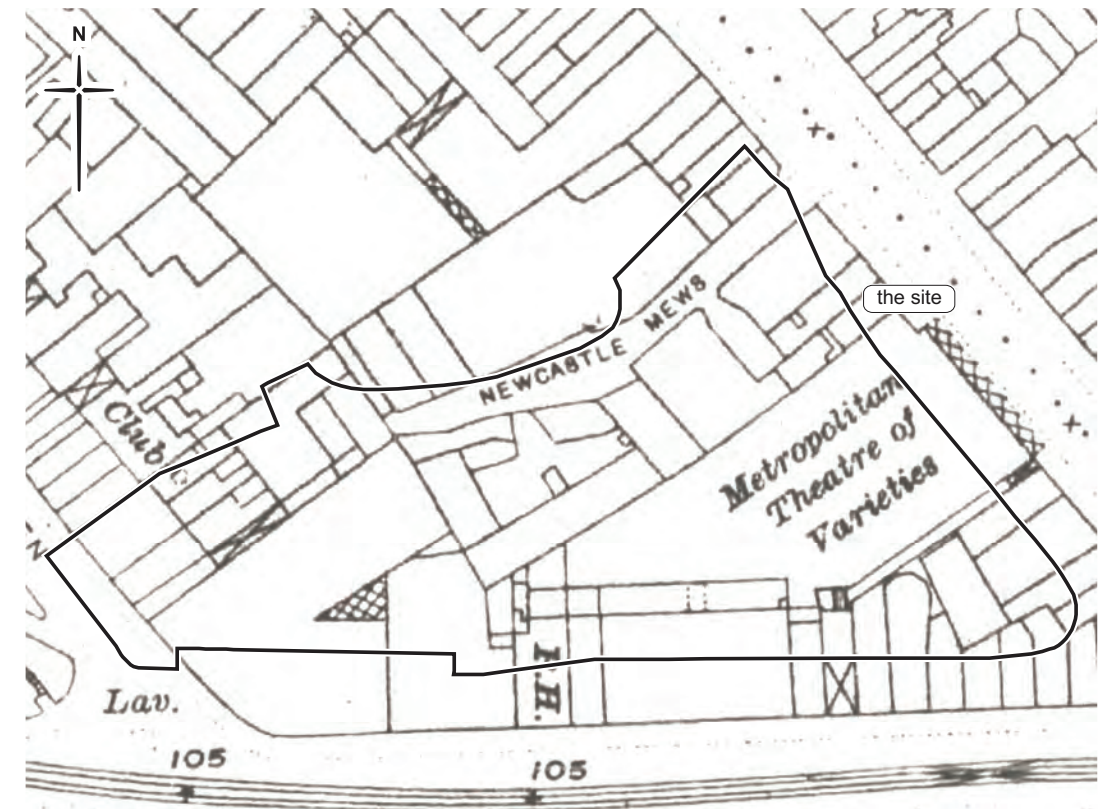


Fig 9 Ordnance Survey 3rd edition 25":mile map of 1915-16

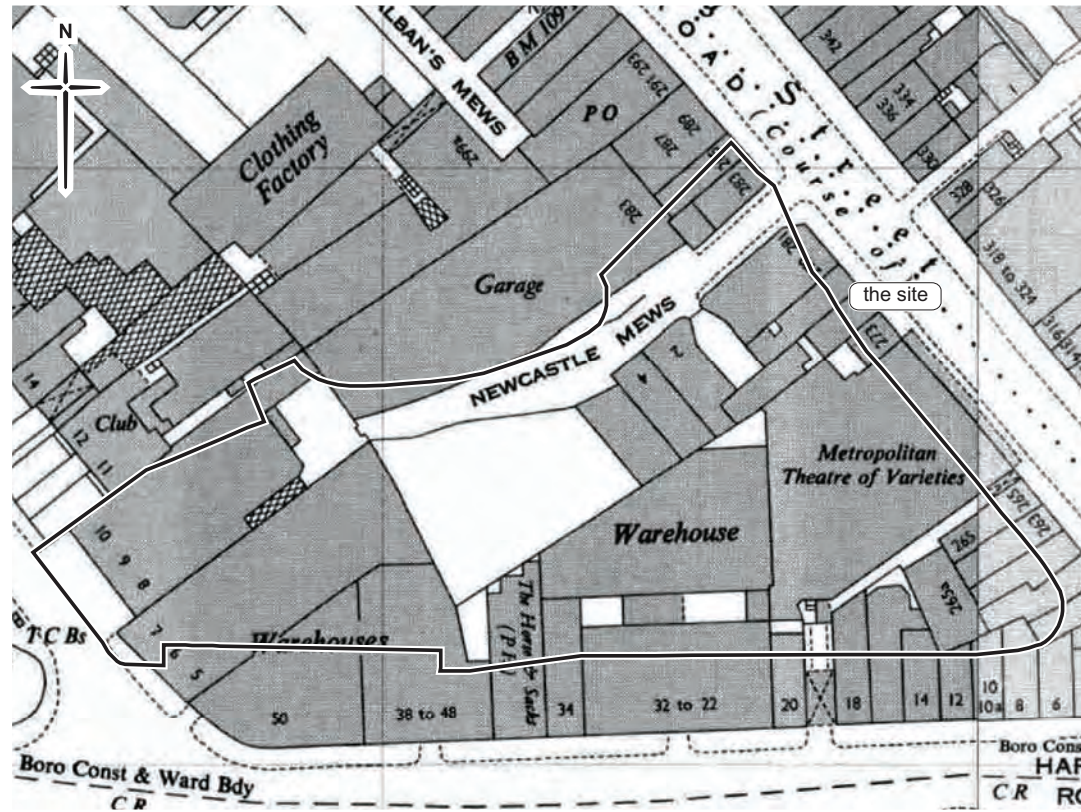


Fig 10 Ordnance Survey 1:1250 scale map of 1952-53

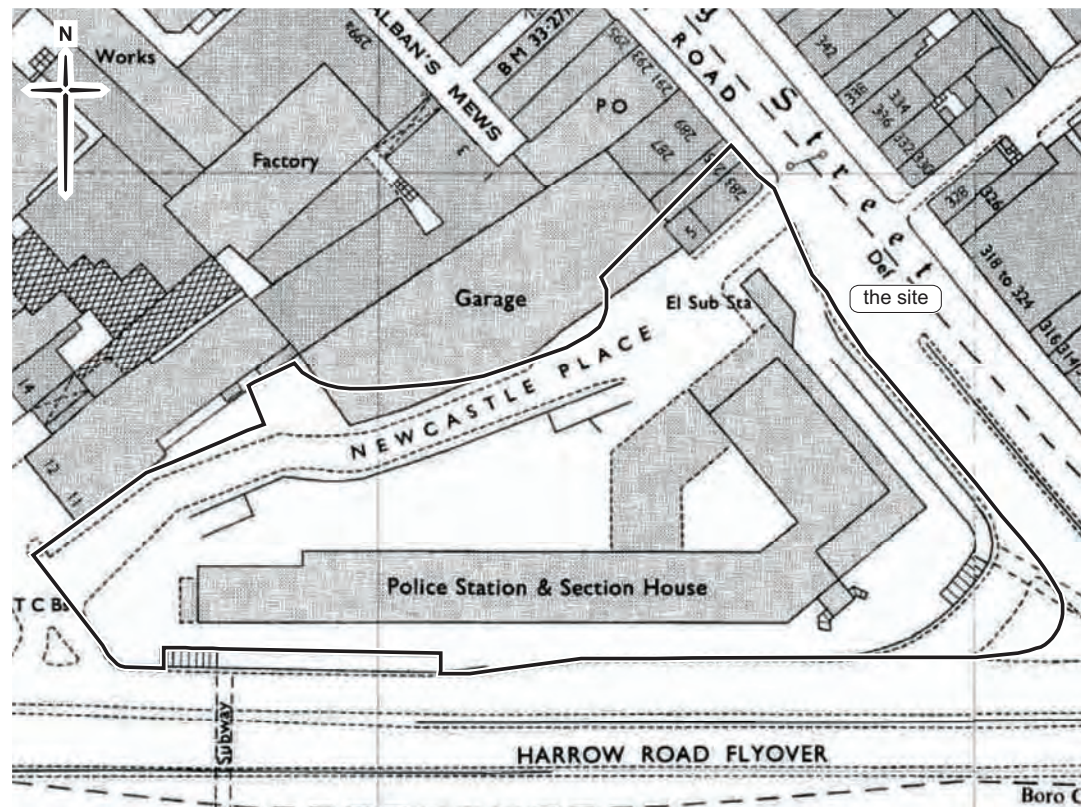


Fig 11 Ordnance Survey 1:1250 scale map of 1969-72



Fig 12 Existing basement plan (Squire & Partners; job. 15044; dwg. 15044-SQP-ZZ-B1-DP-A-PL01002; rev. P1; 2020)

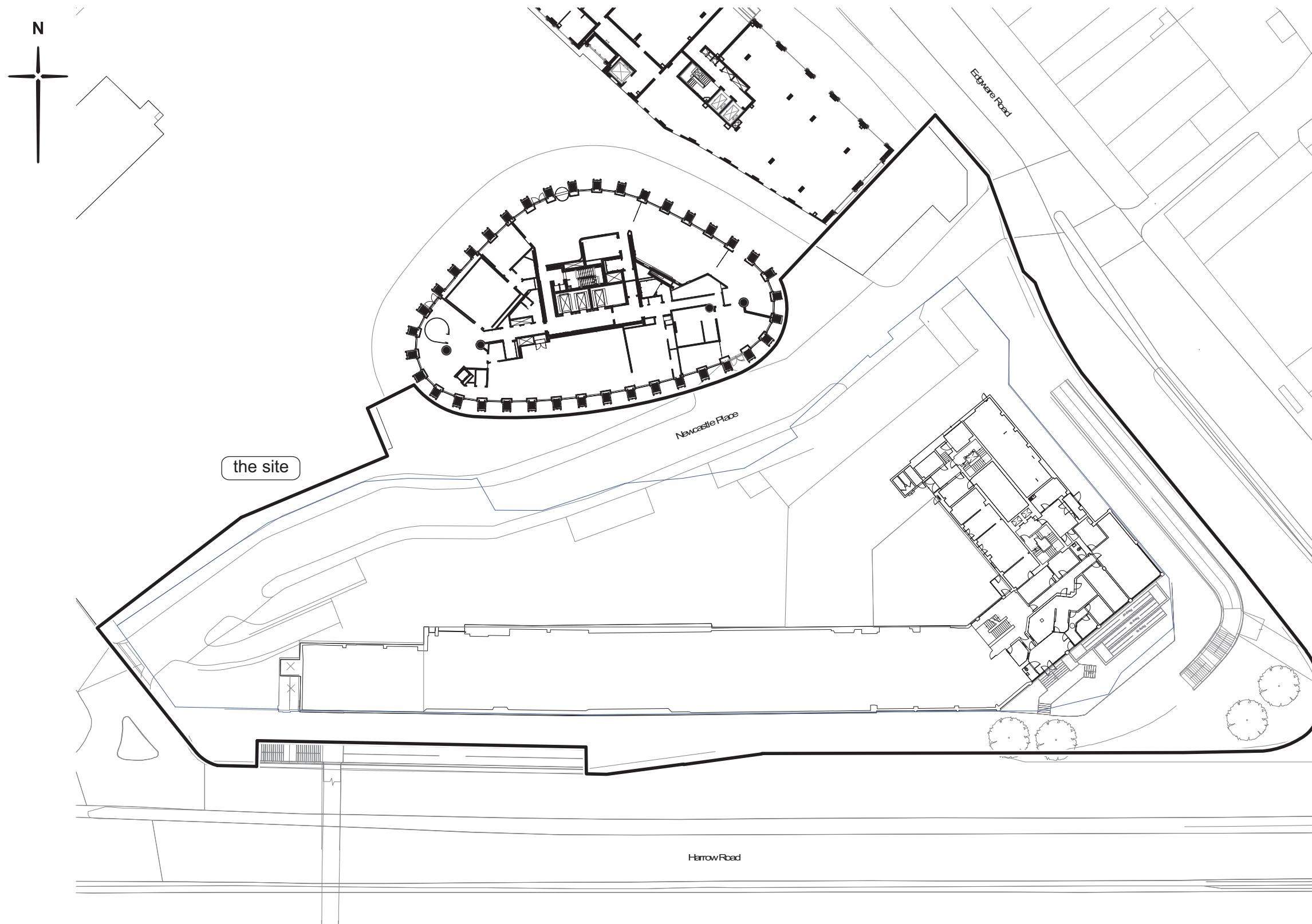


Fig 13 Existing ground floor plan (Squire & Partners; job. 15044; dwg. 15044-SQP-ZZ-00-DP-A-PL01003; rev. P1; 2020)

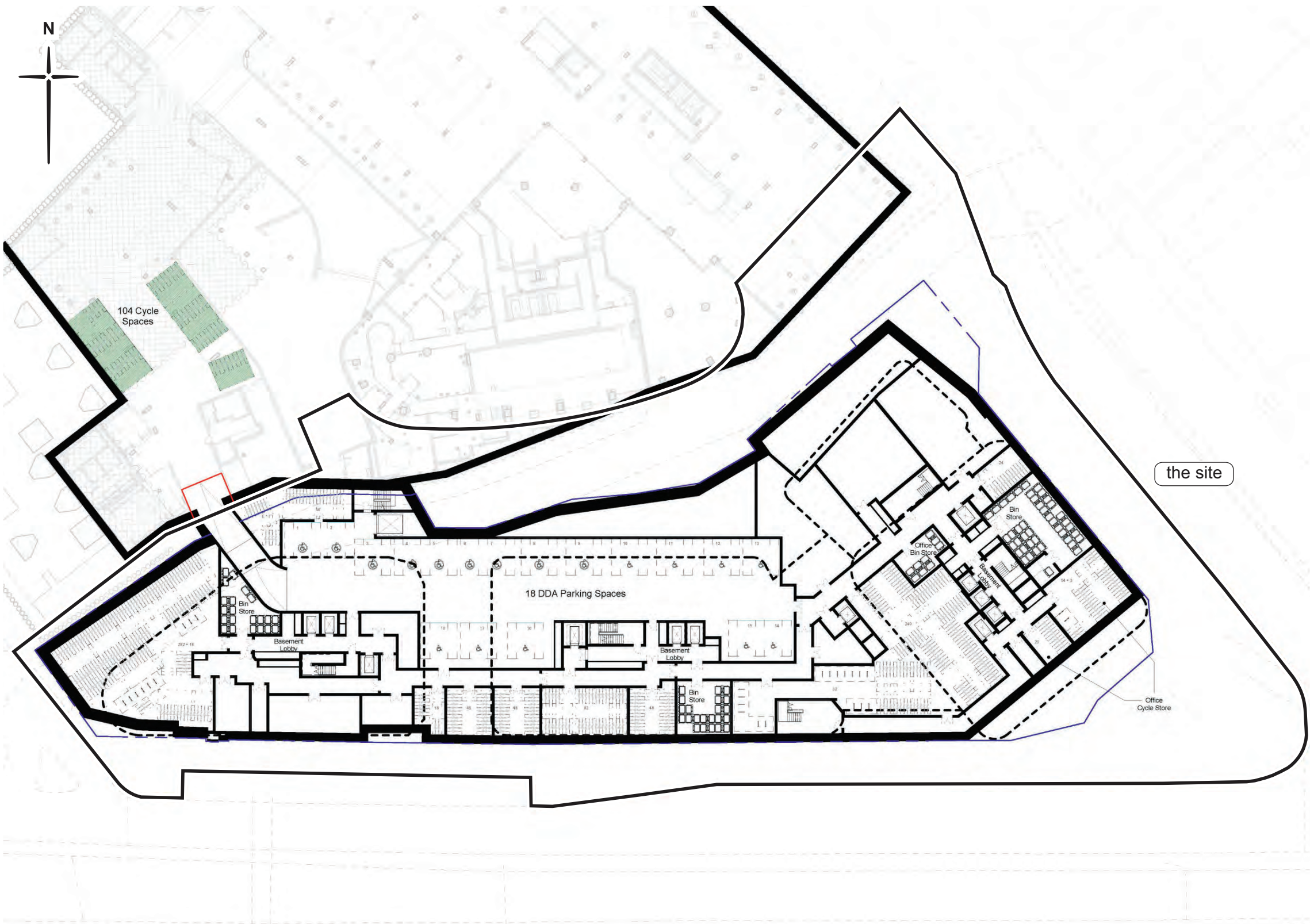


Fig 14 Proposed Basement-1 (Squire & Partners; job. 15044; dwg. 15044-SQP-ZZ-B1-DP-A-PL01103; rev. P1; 2020)

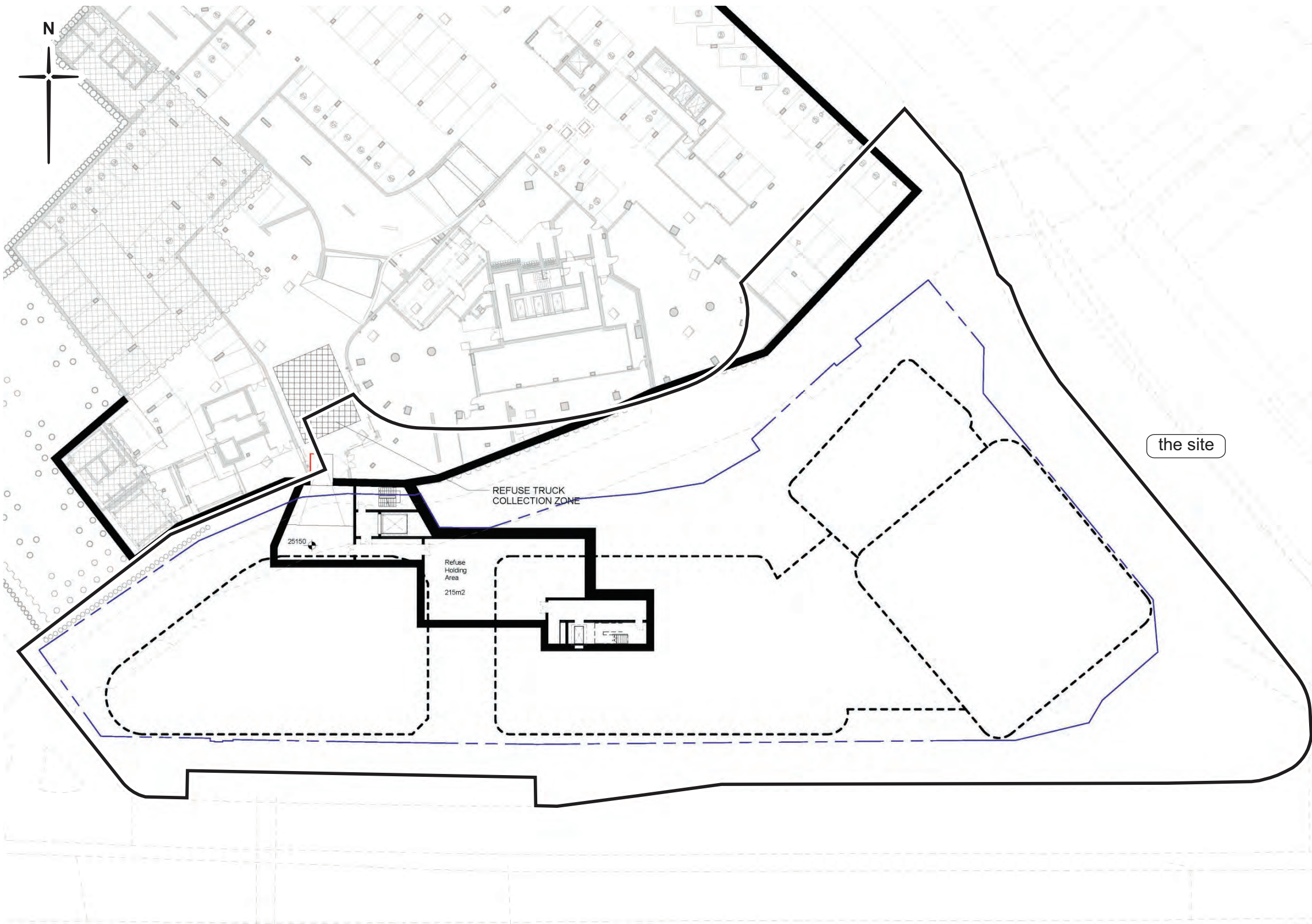
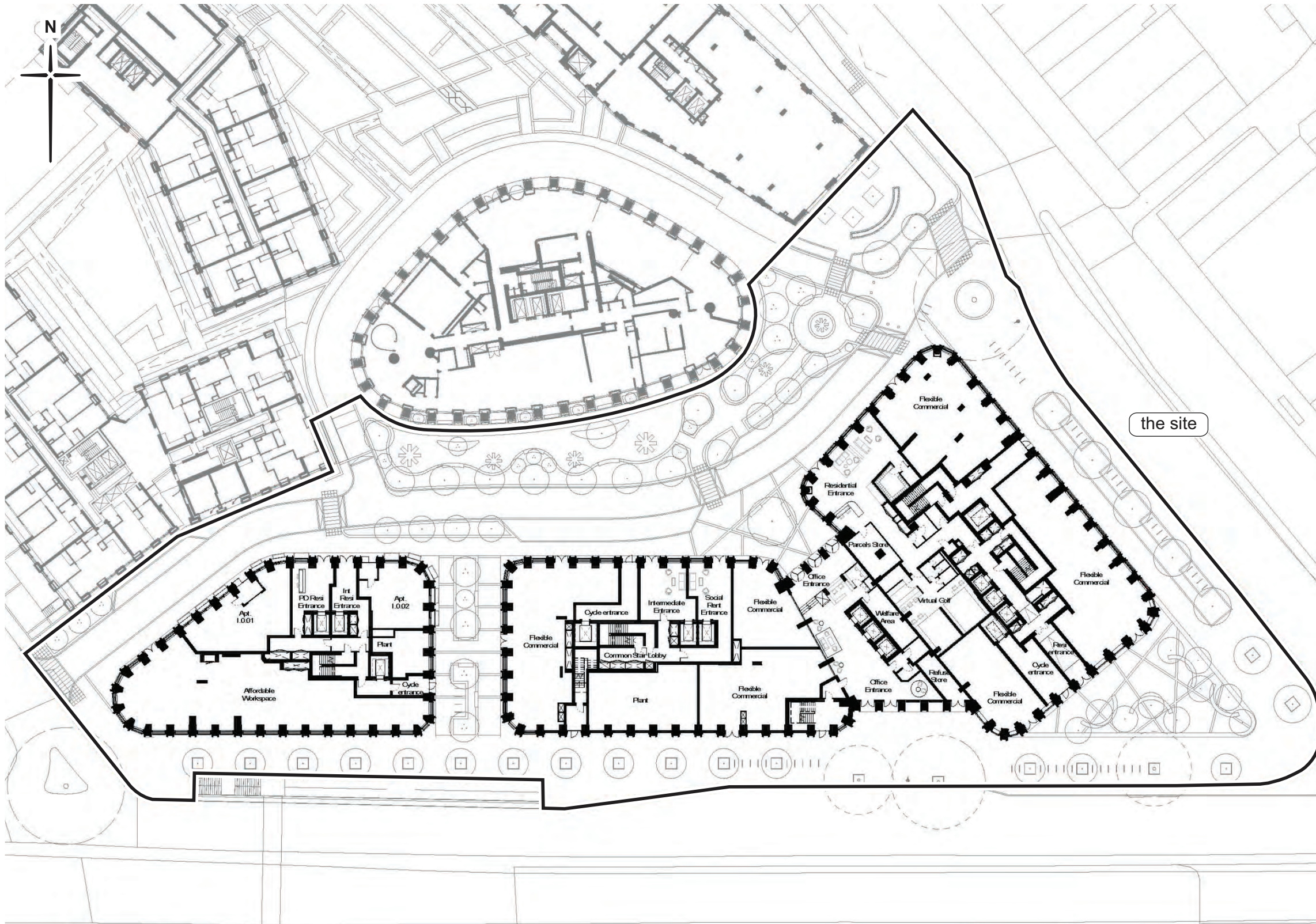


Fig 15 Proposed Basement-2 (Squire & Partners; job. 15044; dwg. 15044-SQP-ZZ-B2-DP-A-PL01102; rev. P1; 2020)



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Archaeological desk-based assessment MOLA 2021

Fig 16 Proposed Ground Floor Plan (Squire & Partners; job. 15044; dwg. 15044-SQP-ZZ-00-DP-A-PL01104; rev. P1; 2021)

Technical Appendix 2.7: Flood Risk Assessment Statement

Nathan Barrett
Area Planning Officer - North Team
Westminster City Council
PO Box 732
Redhill
RH1 9FL

Dear Mr Barrett

Date 31/03/2021

PADDINGTON GREEN: FLOOD RISK ASSESSMENT STATEMENT

Ramboll UK Limited ('Ramboll') has been commissioned by Berkeley Homes (Central London) Limited (the 'Applicant') to prepare a Flood Risk Statement for the proposed redevelopment of a site at 2-4 Harrow Road, Paddington, London W2 1XJ (hereinafter referred to as the 'site'). The site is located within the administrative boundary of the Westminster City Council (WCC).

The Applicant intends to submit an application for full planning permission for the redevelopment of the site. This letter presents a 'Flood Risk Assessment' required by WCC for major development applications. The succinct reporting format has been adopted due to the small site area, the flood zone designation and the proposed use, as agreed during the EIA Scoping Process.

SITE INFORMATION AND BASELINE CONDITIONS

Site Location

As shown in Figure 1, the site is located at 2-4 Harrow Road, Paddington, London W2 1XJ. The immediate boundaries of the site are defined by the following:

- West End Gate (WEG) development (ref: 16/12162/FULL under construction to be completed 2025) to the north;
- Edgware Road to the east;
- Harrow Road and the A40 to the south;
- Paddington Green road and open space to the west; and
- 14-17 Paddington Green (PG) development (ref: 16/11562/FULL and 16/11563/LBC) to the north-west recently cleared by demolition works prior to the implementation of the WEG development.

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The wider context surrounding the site is of a mixed nature with residential use predominant to the north, north-west and north-east; small scale commercial use along Edgware Road to the east; larger scale mixed-use to the south of the A40 in the Paddington Basin (including hotels; the Saint Mary's Hospital; offices; and residential uses); public open space in the form of Paddington Green to the west; and educational facilities (including the City of Westminster College Paddington Green campus) to the north-west.

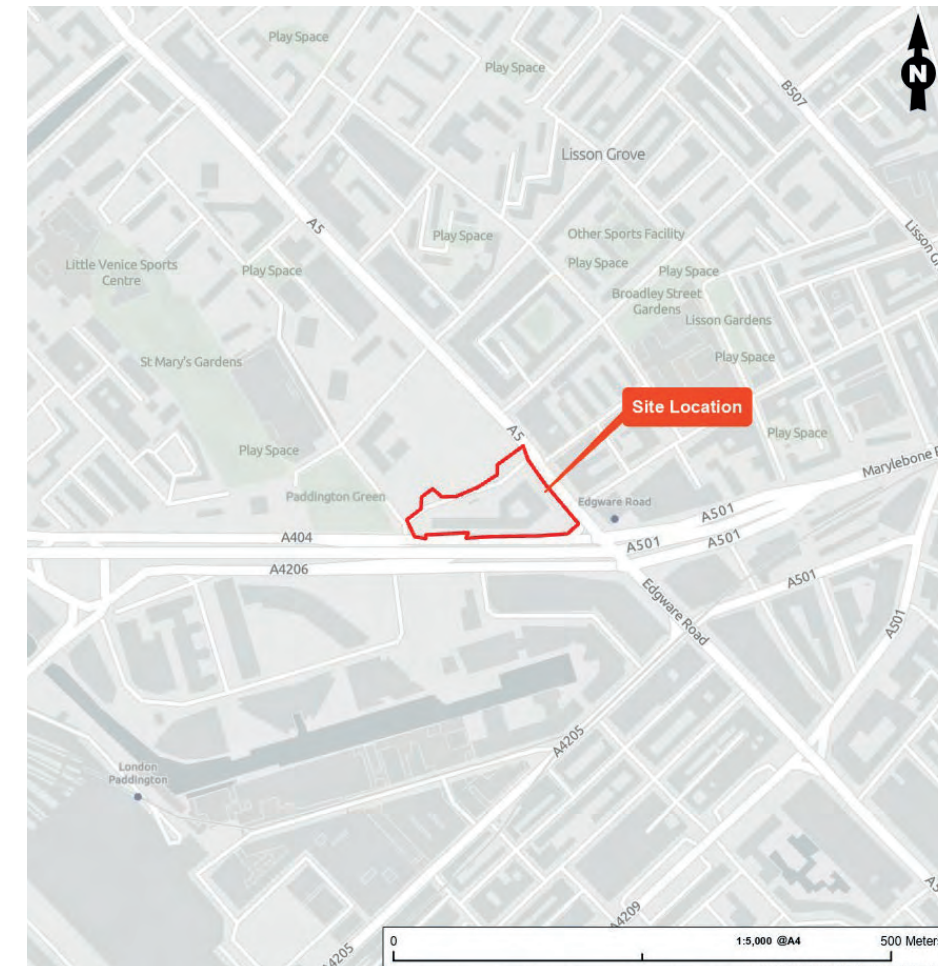


Figure 1: Site Location

The Edgware Road London Underground Station (which is served by the Bakerloo Line) is located approximately 50 m to the east of the site. Paddington Mainline Station is located approximately 400 m to the south-west.

The site is surrounded by a number of tall buildings located in the Hall Place Estate (Hall Tower and Braithwaite Tower, Parsons House) and WEG to the north; and the Hilton London Metropole Hotel, Burne House, Capital House and Merchant Square development to the south. There are further tall buildings with planning permission in the Paddington basin which are partially or yet to be implemented.

Current Site Description

The site covers an area of approximately 0.83 hectares (ha) and is currently occupied by the Paddington Green Police Station, which has been in this location since the 1970's, and Newcastle Place. The building

was acquired by the Applicant in 2020 following the relocation of the police station to Church Street in 2018.

The site consists of the following:

- A single, interconnected building, albeit with a number of different, interrelated built forms, with hardstanding. This includes the 17 storey accommodation/section house on the eastern side of the site, a main office and police front of house 3-storey building below this on the eastern side of the site, and an 8 storey annex at the western side of the site, connected by a single storey building that previously housed high security cells;
- A single level of basement and a surface level podium car park to the rear, both accessed from Newcastle Place;
- Newcastle Place;
- An electricity substation in the north-eastern corner; and
- Six existing trees.
- The remaining areas of the site are formed of concrete, tarmac, cobble and paving hardstanding.

Proposed Development

The planning application description of the proposed development is as follows:

“Demolition and redevelopment of the site to provide three buildings, providing private and affordable residential units (Class C3), commercial uses (Class E), flexible community/affordable workspace (Class E/F.1), provision of private and public amenity space, landscaping, tree and other planting, public realm improvements throughout the site including new pedestrian and cycle links, provision of public art and play space, basement level excavation to provide associated plant, servicing and disabled car and cycle parking, connecting through to the basement of the neighbouring West End Gate development.”

The proposed development would comprise the following:

- Demolition of the Paddington Green Police Station buildings;
- Excavation of a basement with a connection into the WEG development basement;
- Erection of three blocks (I, J and K) along, set back from, Harrow Road and Edgware Road;
- Delivery of office, commercial and residential uses, with associated amenity and landscaped residential gardens; and
- Stopping up of and realignment of Newcastle Place with associated public realm and landscaping.

The proposed land uses would comprise the following:

- 556 homes, including 210 affordable housing units (Class C3);
- 4,762 m² gross internal area (GIA) office floorspace (Class E);
- 1,088 m² GIA flexible community/affordable workspace (Class E/F1);
- Servicing, disabled parking and cycle parking at basement level; and
- Connection to the West End Gate (WEG) basement and energy centre with combined heat and power (CHP) plant.

A surface water drainage strategy has been prepared for the proposed development by WSP¹, in accordance with local and national policy, and is presented in a separate report that accompanies the application. The proposed development would aim to reduce surface water discharge to greenfield runoff rates. There is limited space on-site to incorporate rainwater storage systems for reuse, and the use of infiltration techniques has not been considered viable due to the basement extent on the site, the requirement for infiltration devices to be at least 5 m away from permanent structures and as the

¹ WSP, 2021. Paddington Green Police Station, Outline Drainage Strategy, 70069424-RP-D-001, February 2021.

geological strata is likely to be London Clay Formation. The use of open water features such as ponds as a design feature has also not been considered practical given the limited size of the site and amount of external area, relative to building envelope areas. Therefore, it is proposed to include green roofs, as the primary SuDS feature for the development (on Blocks J and K, as well as green areas on top of the podium slab). Further surface water attenuation would be in the form of two separate attenuation tank systems located on the basement B1 slab. Stored water from the two tanks would then be pumped at restricted rates to ground level.

The proposed drainage network has been designed to contain a 1 in 100 annual probability event including a potential 40 % increase in rainfall depths to allow for climate change in accordance with national policy. Therefore, the proposed development would not lead to any increase in downstream flood risk.

POLICY CONTEXT

National Policy

National Planning Policy Framework

The NPPF was updated in June 2019², with flood risk remaining primarily regulated through planning policy. The NPPF requires that an FRA should be submitted with planning applications for all development sites within Flood Zones 2 and 3; and all development sites over 1 ha in area to determine the risks of flooding from all sources including rivers, the sea, sewers and groundwater. The NPPF sets out that flood risk should be defined according to Flood Zone 3 (High Probability), Flood Zone 2 (Medium Probability) and Flood Zone 1 (Low Probability).

Flood Zone 3 represents land that the EA considers could be affected by flooding:

- from the sea by an event with a 0.5% (1 in 200) or greater chance of occurring each year; or
- from a river by an event with a 1% (1 in 100) or greater chance of occurring each year.

Flood Zone 2 represents land that the EA considers could be affected by flooding, from rivers or the sea with up to a 0.1% (1 in 1,000) chance of occurring in each year.

Flood Zone 1 represents land assessed as having less than a 0.1% (<1 in 1,000) annual probability of flooding from rivers or the sea.

In terms of flood risk, the NPPF classifies land uses according to vulnerability as follows:

- Essential Infrastructure;
- Highly Vulnerable;
- More Vulnerable;
- Less Vulnerable; and
- Water-compatible Development.

Planning Practice Guidance

The Planning Practice Guidance (PPG) is an online resource which was first launched in March 2014 and is continuously updated. The ‘Flood Risk and Coastal Change’ part of the PPG provides further information on the requirements for SuDS. Surface water drainage for a proposed development should aim to discharge as high up the following hierarchy of options as reasonably practicable, in accordance with the following hierarchy:

- Into the ground (infiltration);

² <https://www.gov.uk/government/publications/national-planning-policy-framework--2>.

- To a surface water body;
- To a surface water sewer, highway drain, or another drainage system; and
- To a combined sewer.

The PPG also sets out that clear arrangements should be put in place for ongoing maintenance of any SuDS and drainage measures. However, it is acknowledged in the PPG that it is unlikely to be reasonably practical to expect compliance with the technical standards if these are more expensive than complying with building regulations.

Regional and Local Policy

London Plan, 2021

A new version of The London Plan³ was published on 3 March 2021.

Policy 'SI 12 - Flood Risk Management' states that *"current and expected flood risk from all sources across London should be managed in a sustainable and cost-effective way in collaboration with the Environment Agency, the Lead Local Flood Authorities, developers and infrastructure providers"*.

Policy 'SI 13 – Sustainable Drainage' describes that, as London is at particular risk from surface water flooding, mainly due to the large extent of impermeable surfaces, *"development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:*

1. *rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)*
2. *rainwater infiltration to ground at or close to source*
3. *rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)*
4. *rainwater discharge direct to a watercourse (unless not appropriate)*
5. *controlled rainwater discharge to a surface water sewer or drain*
6. *controlled rainwater discharge to a combined sewer."*

Sustainable Design Construction Supplementary Guidance, 2014

The 'Sustainable Design and Construction Supplementary Planning Guidance'⁴ produced by the Mayor of London, sets out that developers will be expected to clearly demonstrate that all opportunities to minimise runoff have been taken, such that discharge is as close to greenfield rate as practical.

It is suggested that, on previously developed sites, runoff rates should not be more than three times the calculated greenfield rate; however, it is acknowledged that there are exceptions to this where a pumped discharge would be required to meet the standards or where surface water drainage is to tidal waters.

³ Greater London Authority, 2021. The London Plan, The Spatial Development Strategy for Greater London.

⁴ Greater London Authority, 2014. Sustainable Design and Construction. Supplementary Planning Guidance. London Plan 2011 Implementation Framework. London.

Draft WCC City Plan, 2019

The WCC submitted the City Plan 2019-2040⁵ to the Secretary of State on 19 November 2019. Following an independent examination by the Planning Inspectorate the council received the Inspectors' Report on the City Plan 2019-2040 on 19 March 2021. This concludes that with the recommended main modifications, the plan is sound and compliant with legal requirements.

The conclusions of this report mean that the council will now proceed towards formal adoption of the City Plan 2019-2040: Intend to Adopt version (incorporating these main modifications) at the next meeting of Full Council.

Given the advanced stage in the plan-making process, all policies in the City Plan 2019-2040 now carry significant weight as a material consideration in the determination of planning applications.

WCC Draft City Plan Policy '35 – Flood Risk' requires that *"all developments should be safe for their lifetime from the risk of flooding, complying with the council's Strategic Flood Risk Assessment (SFRA), Surface Water Management Plan (SWMP), Local Flood Risk Management Strategy (LFRMS) and the Mayor of London's Regional Flood Risk Appraisal (RFRA)"*.

It is confirmed that *"A site-specific Flood Risk Assessment (FRA) must be submitted for:*

- *developments of 1 hectare or greater;*
- *all developments in Flood Zones 2 and 3; and*
- *all developments within a Surface Water Flood Risk Hotspot"*.

As described in this Flood Risk Statement, the site is less than 1 ha in area, is located entirely outside of Flood Zones 2 and 3, and is located outside of a Surface Water Flood Risk Hotspot (although land offsite to the west is located within a Surface Water Flood Risk Hotspot as identified within the 2019 Draft Strategic Flood Risk Assessment). Therefore, an FRA is not considered to be a requirement as part of the planning application.

WCC City Plan, 2016

The adopted WCC City Plan⁶ Policy 'S30 – Flood Risk' reiterates the requirements of the NPPF that *"Highly Vulnerable Uses will not be allowed within Flood Zone 3, and in Flood Zone 2 will be required to pass the Exception Test"*. Due to the site's location entirely within Flood Zone 1, this requirement does not apply to the site.

It is also required that *"All development proposals should take flood risk into account and new development should reduce the risk of flooding"*.

WCC Unitary Development Plan (Saved Policies), 2010

Saved policies of the UDP⁷ of relevance to flood risk relate predominantly to the River Thames and are not of relevance to the site. Policy 'ENV9 – Water Quality and Conservation' has been deleted and replaced by the Westminster City Plan.

⁵ Westminster City Council, 2019. Westminster's Draft City Plan 2019 – 2040. London. WCC.

⁶ Westminster City Council, 2016. Westminster City Plan, London. Adopted November 2016.

⁷ Westminster City Council, 2007. Unitary Development Plan. London. WCC.

ASSESSMENT OF FLOOD RISK

Tidal and Fluvial

The EA Flood Map for Planning (Figure 2) is used to identify the risk of flooding from tidal and/or fluvial flooding sources, using the three Flood Zones described previously. This mapping shows the entire site to be located within Flood Zone 1 (Low probability) with a less than a 1 in 1,000 (0.1%) annual probability of flooding from tidal or fluvial sources. The closest areas within Flood Zones 2 or 3 are located at least 2.5 km distant from the site. The EA's online geo-spatial data (as shown in Figure 2) suggests that there are no records of historic flooding at the site; the closest record of historic flooding being approximately 3.9 km south-east. Therefore, the risk of flooding from this source is considered low.

In accordance with NPPF, new development proposals located within Flood Zone 1 and less than 1 hectare (ha) would not require the submission of a FRA as part of a planning application. No further assessment of fluvial or tidal flood risk is considered necessary.

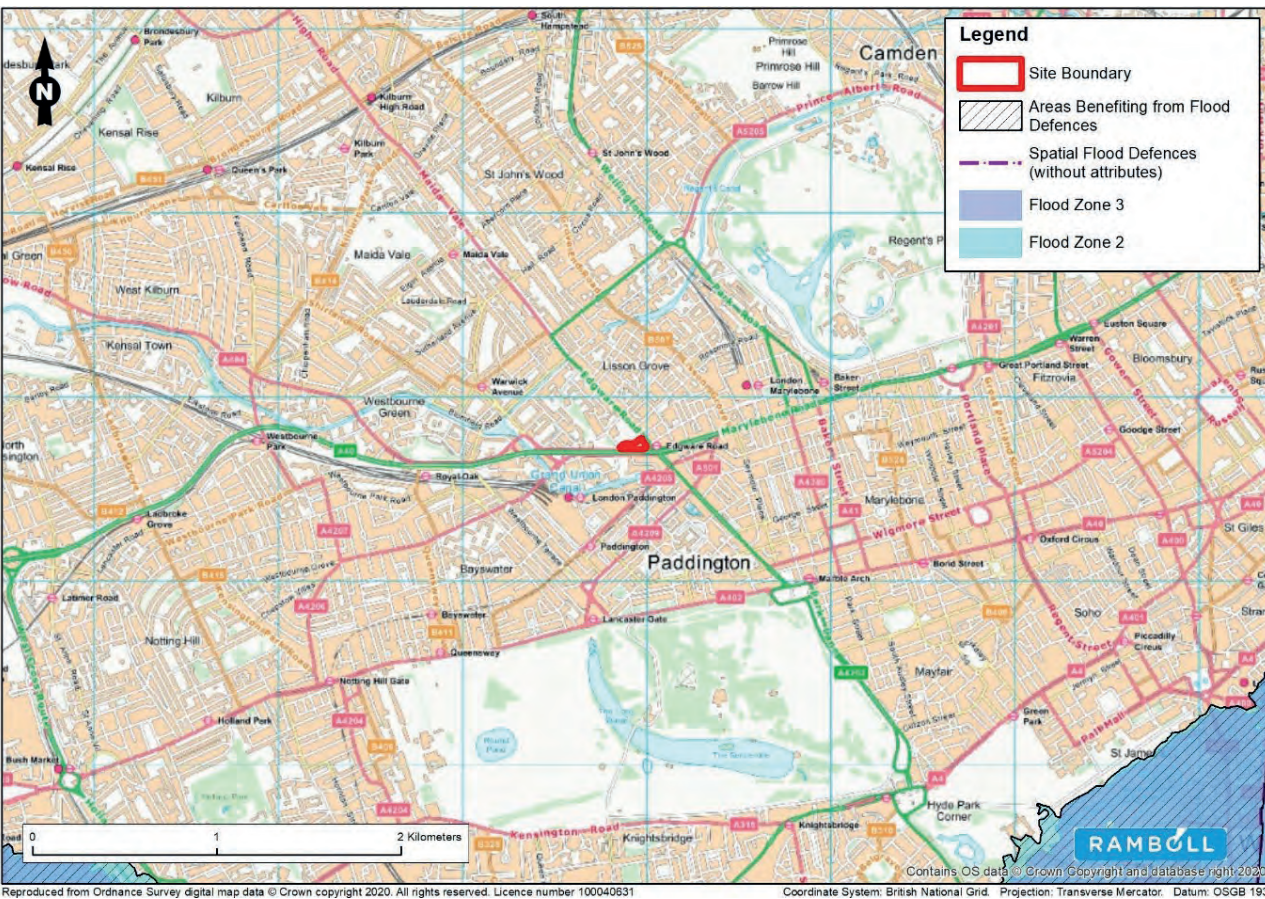


Figure 2: Flood Zone Extents

Pluvial (Surface Water)

The EA's online Flood Map for Surface Water⁸ presents a broad scale assessment of potential pluvial flood risk which is not considered within the extents of Flood Zones 2 and 3. The Flood Map for Surface Water delineates risk into the following four categories:

⁸ <https://flood-warning-information.service.gov.uk/long-term-flood-risk>.

- Very Low - each year, this area has a chance of flooding of less than 1 in 1,000 (<0.1 %);
- Low - each year, this area has a chance of flooding of between 1 in 1,000 (0.1 %) and 1 in 100 (1 %);
- Medium - each year, this area has a chance of flooding of between 1 in 100 (1 %) and 1 in 30 (3.3 %); and
- High - each year, this area has a chance of flooding of greater than 1 in 30 (3.3 %).

The EA Flood Map for Surface Water Flooding as shown in Figure 3, shows the majority of the site, within an area at Low or Medium risk of flooding from surface water. There are areas in the eastern corner, part of the A404 immediately south and Newcastle Place immediately north which are shown to be at potential surface water flood risk. However, the modelling used to determine these areas of surface water flood risk does not take detailed account of existing drainage assets nor of those which would be installed as part of the proposed development. The mapping is also based on pre-development topography. Accordingly, the EA's Flood Map should be interpreted with caution. No further assessment of pluvial flood risk is considered necessary. The SFRA indicates that land off-site to the west is within a Surface Water Flood Risk Hotspot but this does not affect the site.

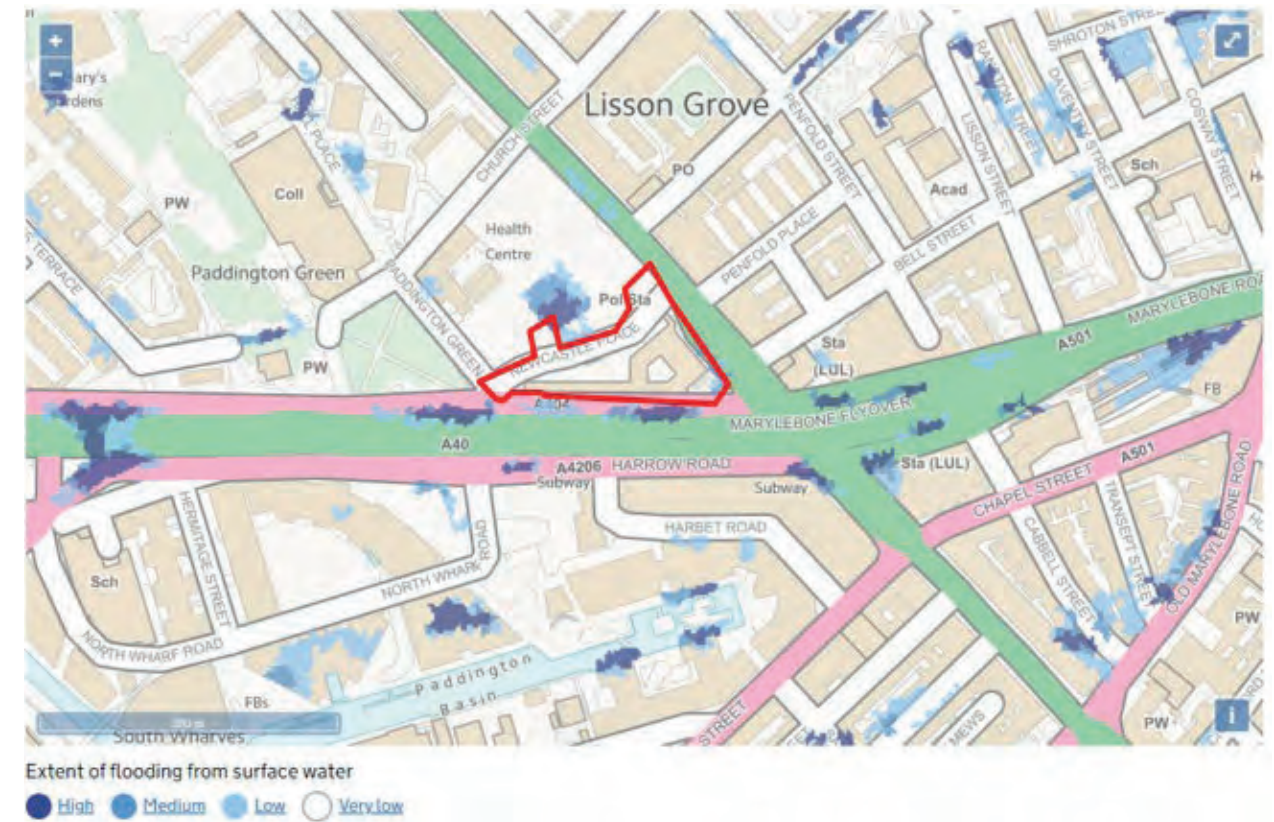


Figure 3: Flood Zone Extents

Reservoir

The EA publishes online flood mapping which presents the flood risk associated with failure of reservoirs. Such mapping represents a 'worst case' scenario assuming that a reservoir would release all the water it contains, if it were to fail. The site is not shown to be located within an area at risk from a reservoir breach.

Groundwater

The City of Westminster Strategic Flood Risk Assessment (SFRA)⁹ sets out that the London Regional Flood Risk Appraisal (2009) advises that: "*There are no known locations where groundwater flooding has been a problem*". It is concluded in the SFRA that flooding from rising groundwater is not considered to be a major problem in Westminster.

The basement waterproof grade would be determined at the detailed design stage by the principal contractor, subject to agreement with the Applicant and WCC Building Control, which would ensure no ingress of groundwater. All waterproofing provisions would be subject to agreement with building control. The design of the waterproofing systems would be audited, approved and certified by an independent specialist registered with the Property Care Association (PCA). The podium car park and retaining walls would be designed to account for potential hydrostatic pressure and would also be designed to prevent flotation.

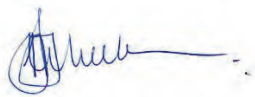
SUMMARY

The site is considered to be at low risk of flooding from the sources described above. As the site is less than 1 ha in area, no further assessment of flood risk is considered necessary and the proposed development is considered acceptable in flood risk terms.

A surface water drainage strategy has been prepared for the proposed development informed by the constrained nature of the site. It is proposed to include green roofs, as the primary SuDS feature (on Blocks J and K as well as green areas on top of the podium slab). Further surface water attenuation would be in the form of two separate attenuation tank systems located on the basement B1 slab. Stored water from the two tanks would be pumped at restricted rates to ground level.

The proposed drainage network has been designed to contain a 1 in 100 annual probability event including a potential 40 % increase in rainfall depths to allow for climate change in accordance with national policy. Therefore, the proposed development would not lead to any increase in downstream flood risk.

Yours sincerely



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⁹ City of Westminster Planning and City Development, Strategic Flood Risk Assessment, May 2010.

Technical Appendix 2.8: Transport Data

PGPS EIA Traffic Flow Assumptions

2015 Baseline Traffic Flows have been taken from the West End Gate (WEG) EIA (planning ref: 16/11562/FULL). DfT traffic data over time has been reviewed. This was available for Edgware Road and Westway. The data shows that traffic flows have not increased since 2015 (see graphs below). Background traffic growth is generally not expected in Central London locations. On this basis, no TEMPRO growth has been applied to future year scenarios. Traffic growth has been accounted for by applying traffic from cumulative schemes in the local area. The data presented is the best information available, given traffic surveys were not possible because of the 2020 covid / lockdown situation.

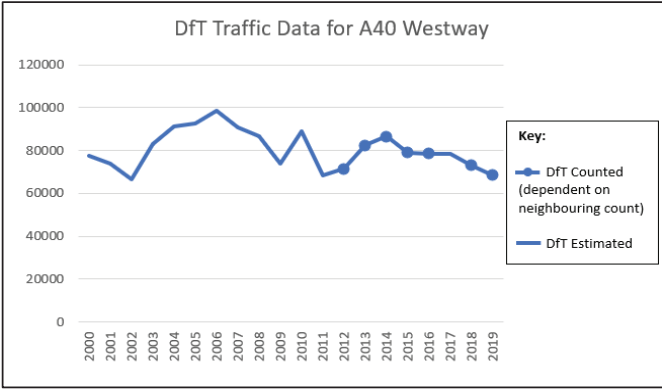
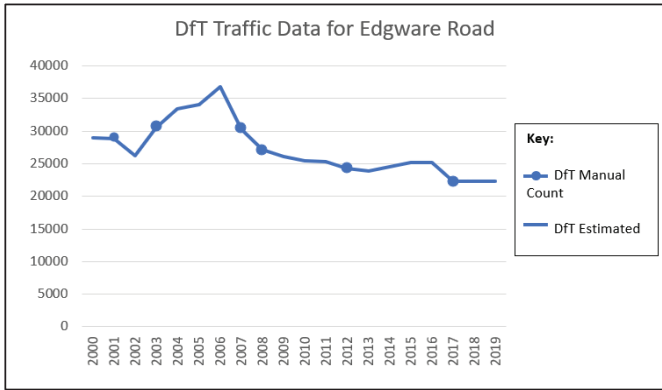
For the A40 Westway, baseline flows taken from 2019 DfT count data.

WEG EIA was assessed for 812 units. The WEG development flows by link have been adjusted on a pro-rata basis to the number of expected WEG units in each scenario. A subsequent planning application (ref: 16/12162/FULL) provided a loading bay on Newcastle Place, and an approximate adjustment has been made to reallocated WEG residential delivery trips from Church Street to Newcastle Place to reflect this. WEG AAWT: Residential weekday to AADT ratio of 95% assumed.

Survey data of residential developments suggests that HGVs for servicing are not likely to be a daily occurrence. For a robust assessment, 5% of residential deliveries have been assumed to be HGVs.

No average speed data is available and speed limits have been provided.

Construction traffic has been provided by Berkeley Homes. WEG construction traffic distributed 50% north and 50% west based on the WEG EIA. PGPS construction traffic distributed 25% north and 75% west based on assumed likely traffic routes on the strategic PGPS peak construction traffic is 2025, when WEG is expected to be completed (March 2025). This scenario has therefore been used for the Demolition and Construction Future Baseline.



Subject Paddington Green Police Station – Proposed Vehicle Trips (AM and PM Peak)
Date March 2021 **Job No/Ref** 277685-00

**Paddington Green Police Station (PGPS)
 Proposed Vehicle Trips in the AM and PM Peak**

Demolition and Construction

The highest construction traffic generated in one week is estimated to be 56 vehicles (one-way). Assuming a 5.5 day working week and a 10 hour working day, this equates to an average of one HGV per hour (one-way). For a more robust analysis, Berkeley Homes has advised that the peak number of daily demolition and construction vehicles could be 29. This equates to around 3 vehicles an hour when considered over a 10 hour working day.

The expected level of vehicle movement is very low and will not affect severance, pedestrian delay, pedestrian amenity, fear and intimidation, driver delay, or accidents and safety. Demolition and construction traffic would be managed through the Construction Logistics Plan (CLP). Accordingly, no significant traffic and transport effects are expected during demolition and construction.

Completed Development

The proposed development will be car-free, except for the provision of 18 disabled car parking spaces. Therefore it is not expected there the proposed development will be a significant net contributor to residential car trips onto the surrounding roads.

The proposed development is estimated to generate the following vehicle trips in the peak hours:

- 11 and 10 two-way car trips in the AM and PM peak, respectively. These will access the basement via Church Street.
- Three two-way taxi trips in both peak hours. These will access Newcastle Place.
- Six delivery vehicles in the AM peak and 3 vehicles in the PM peak. The residential deliveries will access Newcastle Place and the commercial deliveries will take place in the basement via Church Street.

These trips have been distributed onto the local highway network, taking into account one-way streets and restricted turns. Figure 1 and Figure 2 show the proposed scheme vehicle trips in the AM and PM peak hours.

\\GLOBAL.ARUP.COM\LONDON\PTG\ICL-JOBS\277000\277685-00 PGPS SITE, LONDON\4 INTERNAL PROJECT DATA\4-05 ARUP REPORTS\EIA TRANSPORT NOTE\20210331 EIA PROPOSED VEHICLE TRIPS (AM AND PM PEAK).DOCX

Subject Paddington Green Police Station – Proposed Vehicle Trips (AM and PM Peak)
Date March 2021 **Job No/Ref** 277685-00

Figure 1: Proposed vehicle trips in the AM peak

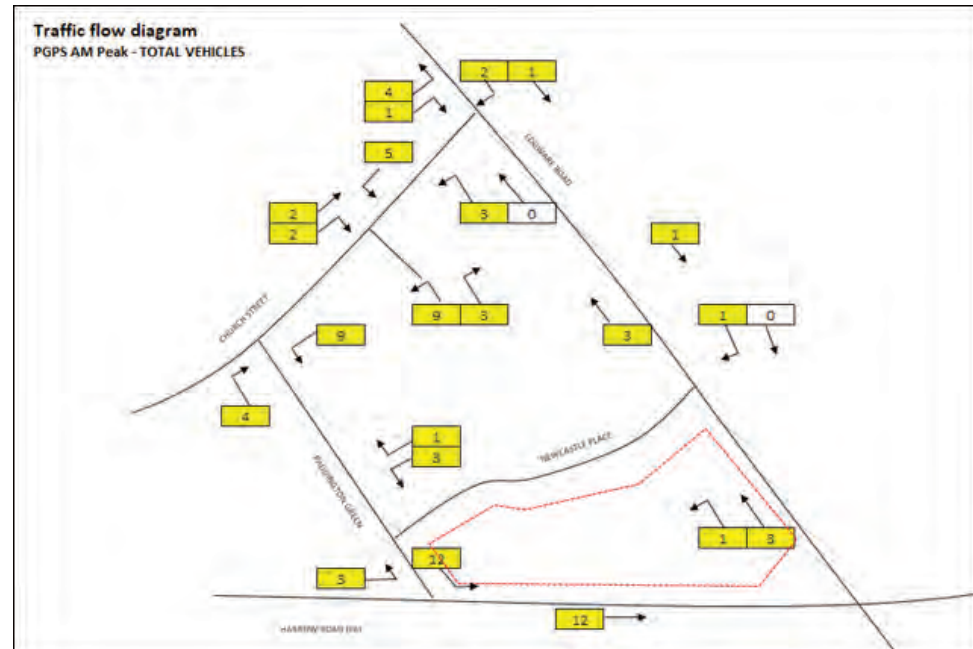
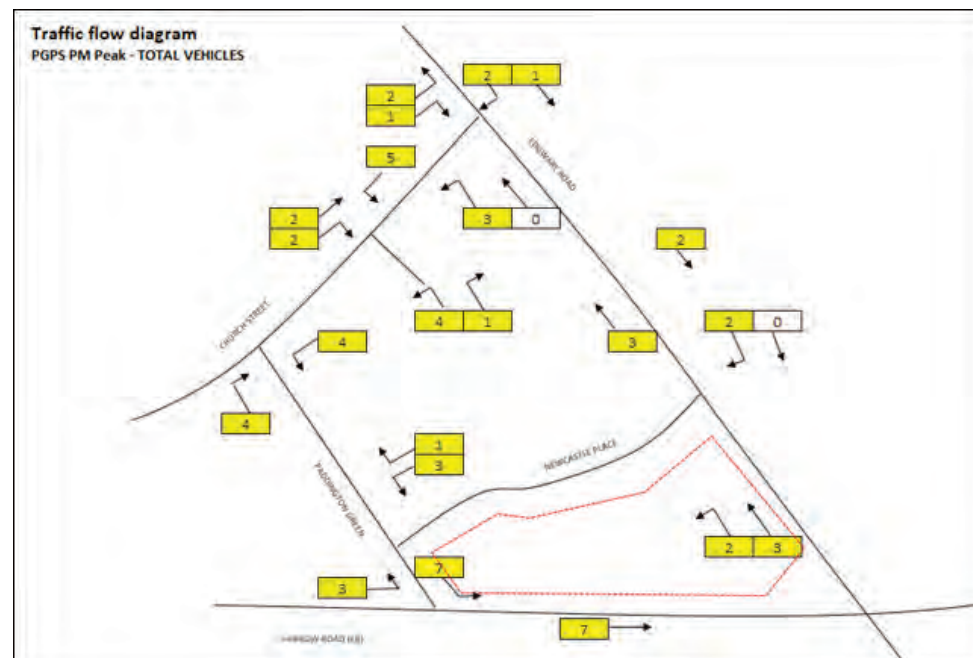


Figure 2: Proposed vehicle trips in the PM peak



In the AM peak, the proposed vehicle trips by street:

- Church Street: 13 vehicles to the west and 10 vehicles to the east of basement access.
- Newcastle Place: 4 vehicle trips.
- Paddington Green (south of Newcastle Place): 15 vehicle trips

Subject Paddington Green Police Station – Proposed Vehicle Trips (AM and PM Peak)
Date March 2021 **Job No/Ref** 277685-00

In the PM peak, the proposed vehicle trips by street:

- Edgware Road: 4 vehicle trips
- Harrow Road: 12 vehicle trips
- Church Street: 8 vehicles to the west and 8 vehicles to the east of basement access.
- Newcastle Place: 4 vehicle trips
- Paddington Green (south of Newcastle Place): 10 vehicle trips
- Edgware Road: 5 vehicle trips
- Harrow Road: 7 vehicle trips

The assessment shows that the proposed development will result in a very low number of additional vehicles on the local streets. The highest increase is 15 vehicle trips on Paddington Green, south of Newcastle Place. This equates to, on average, one vehicle every four minutes. The peak hour flows are therefore not expected to exceed the relevant thresholds at which significant traffic and transport and accessibility effects could result.

PGPS Traffic Flows for EIA - FULL OUTPUT

16/02/2021

Scenarios

- Existing Baseline (2019): 2015 WEG Existing Baseline flows + Construction traffic flows for WEG Blocks A, B, D-F + Occupied Cumulative Schemes
- Demolition and Construction: Future Baseline (2025): 2015 WEG Existing Baseline flows + WEG occupied Blocks (844 units) + Occupied Cumulative Schemes
- Demolition and Construction: Future Baseline (2025) + Proposed Development Peak Construction Traffic
- Completed Development: Future Baseline (2029): 2015 WEG Existing Baseline flows + WEG occupied Blocks (844 units) + Occupied Cumulative Schemes
- Completed Development: Future Baseline (2029) + Proposed Development
- Completed Development: Future Baseline (2029) + Proposed Development + Cumulative Schemes

Residential Weekday to AADT factor

A40 Baseline AADT to AAWT factor (all vehicles)

A40 Baseline AADT to AAWT factor (HGVs)

WEG 2015 Existing Baseline

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	26,619	3,823	14%	22,351	3,060	14%	32
2. Church Street (west of Edgware Road)	1,560	33	2%	1,554	37	2%	32
3. Newcastle Place	376	47	13%	368	55	15%	32
4. Paddington Green	1,221	32	3%	1,304	37	3%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	25,296	1,307	5%	21,513	1,138	5%	48
6. A40 Westway*	68,591	3,022	4%	58,637	2,645	5%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	24,586	1,698	7%	20,910	1,479	7%	48
8. A5 Edgware Road (north of Church Street)	27,673	3,854	14%	23,247	3,087	13%	32
9. A5 Edgware Road (south of Newcastle Place)	26,706	3,664	14%	22,380	2,928	13%	32

* DfT Count Data for 2019, AAWT derived from 2015 factor

Occupied WEG Block C (98 units)

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	63	8	13%	66	8	12%	32
2. Church Street (west of Edgware Road)	95	11	11%	100	11	11%	32
3. Newcastle Place	3	0	0%	3	0	0%	32
4. Paddington Green	13	0	0%	13	0	0%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	11	1	12%	11	1	9%	48
6. A40 Westway	0	0	0%	0	0	0%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	76	1	2%	80	1	1%	48
8. A5 Edgware Road (north of Church Street)	33	3	8%	34	3	9%	32
9. A5 Edgware Road (south of Newcastle Place)	63	8	12%	66	8	12%	32

Construction traffic flows for WEG Blocks A, B, D-F

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	4	3	75%	3	3	100%	32
2. Church Street (west of Edgware Road)	4	3	75%	3	3	100%	32
3. Newcastle Place	0	0	0%	0	0	0%	32
4. Paddington Green	7	7	100%	7	7	100%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	7	7	100%	7	7	100%	48
6. A40 Westway	0	0	0%	0	0	0%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	7	7	100%	7	7	100%	48
8. A5 Edgware Road (north of Church Street)	7	7	100%	7	7	100%	32
9. A5 Edgware Road (south of Newcastle Place)	4	3	75%	3	3	100%	32

Occupied Cumulative Schemes in Existing Baseline

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	15	0	0%	16	0	0%	32
2. Church Street (west of Edgware Road)	0	0	0%	0	0	0%	32
3. Newcastle Place	0	0	0%	0	0	0%	32
4. Paddington Green	0	0	0%	0	0	0%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	0	0	0%	0	0	0%	48
6. A40 Westway	0	0	0%	0	0	0%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	20	0	0%	22	0	0%	48
8. A5 Edgware Road (north of Church Street)	15	0	0%	16	0	0%	32
9. A5 Edgware Road (south of Newcastle Place)	15	0	0%	16	0	0%	32

1. Existing Baseline (2019): 2015 WEG Existing Baseline flows + Construction traffic flows for WEG Blocks A, B, D-F + Occupied Cumulative Schemes

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	26,638	3,826	14%	22,370	3,063	14%	32
2. Church Street (west of Edgware Road)	1,564	36	2%	1,557	40	3%	32
3. Newcastle Place	376	47	13%	368	55	15%	32
4. Paddington Green	1,228	39	3%	1,311	44	3%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	25,303	1,314	5%	21,520	1,145	5%	48
6. A40 Westway	68,591	3,022	4%	58,637	2,645	5%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	24,613	1,705	7%	20,939	1,486	7%	48
8. A5 Edgware Road (north of Church Street)	27,695	3,861	14%	23,270	3,094	13%	32
9. A5 Edgware Road (south of Newcastle Place)	26,725	3,667	14%	22,399	2,931	13%	32

Existing Baseline (2019) + WEG occupied Block C (98 units)

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	26,701	3,834	14%	22,436	3,071	14%	32
2. Church Street (west of Edgware Road)	1,659	47	2%	1,657	51	3%	32
3. Newcastle Place	379	47	13%	371	55	15%	32
4. Paddington Green	1,241	39	3%	1,324	44	3%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	25,314	1,315	5%	21,531	1,146	5%	48
6. A40 Westway	68,591	3,022	4%	58,637	2,645	5%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	24,689	1,706	7%	21,019	1,487	7%	48
8. A5 Edgware Road (north of Church Street)	27,728	3,864	14%	23,304	3,097	13%	32
9. A5 Edgware Road (south of Newcastle Place)	26,788	3,675	14%	22,465	2,939	13%	32

Occupied WEG Blocks in 2025 (844 units)

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	540	68	13%	569	71	12%	32
2. Church Street (west of Edgware Road)	763	90	12%	803	95	12%	32
3. Newcastle Place	83	0	0%	87	0	0%	32
4. Paddington Green	110	0	0%	116	0	0%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	94	11	12%	98	12	12%	48
6. A40 Westway	0	0	0%	0	0	0%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	652	11	2%	686	12	2%	48
8. A5 Edgware Road (north of Church Street)	281	23	8%	295	24	8%	32
9. A5 Edgware Road (south of Newcastle Place)	542	68	12%	570	71	12%	32

Occupied Cumulative Schemes in Future Baseline

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	51	0	0%	54	0	0%	32
2. Church Street (west of Edgware Road)	0	0	0%	0	0	0%	32
3. Newcastle Place	0	0	0%	0	0	0%	32
4. Paddington Green	0	0	0%	0	0	0%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	0	0	0%	0	0	0%	48
6. A40 Westway	0	0	0%	0	0	0%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	26	0	0%	27	0	0%	48
8. A5 Edgware Road (north of Church Street)	51	0	0%	54	0	0%	32
9. A5 Edgware Road (south of Newcastle Place)	51	0	0%	54	0	0%	32

2. Demolition and Construction: Future Baseline (2025): 2015 WEG Existing Baseline flows + WEG occupied Blocks (844 units) + Occupied Cumulative Schemes

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	27,211	3,891	14%	22,974	3,131	14%	32
2. Church Street (west of Edgware Road)	2,323	123	5%	2,357	132	6%	32
3. Newcastle Place	459	47	10%	455	55	12%	32
4. Paddington Green	1,331	32	2%	1,420	37	3%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	25,390	1,318	5%	21,611	1,150	5%	48
6. A40 Westway	68,591	3,022	4%	58,637	2,645	5%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	25,263	1,709	7%	21,623	1,491	7%	48
8. A5 Edgware Road (north of Church Street)	28,005	3,877	14%	23,596	3,111	13%	32
9. A5 Edgware Road (south of Newcastle Place)	27,299	3,732	14%	23,004	2,999	13%	32

PGPS Demolition and Construction Traffic (2025)

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	1	1	100%	1	1	100%	32
2. Church Street (west of Edgware Road)	1	1	100%	1	1	100%	32
3. Newcastle Place	0	0	0%	0	0	0%	32
4. Paddington Green	1	1	100%	1	1	100%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	5	5	100%	7	6	86%	48
6. A40 Westway	1	1	100%	1	1	100%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	5	5	100%	7	6	86%	48
8. A5 Edgware Road (north of Church Street)	2	2	100%	2	2	100%	32
9. A5 Edgware Road (south of Newcastle Place)	1	1	100%	1	1	100%	32

3. Demolition and Construction: Future Baseline (2025) + Proposed Development Peak Construction Traffic

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	27,212	3,892	14%	22,975	3132	14%	32
2. Church Street (west of Edgware Road)	2,324	124	5%	2,358	133	6%	32
3. Newcastle Place	459	47	10%	455	55	12%	32
4. Paddington Green	1,332	33	2%	1,421	38.0355	3%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	25,395	1,323	5%	21,618	1156.393	5%	48
6. A40 Westway	68,592	3,023	4%	58,638	2646.432	5%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	25,268	1,714	7%	21,630	1497.014	7%	48
8. A5 Edgware Road (north of Church Street)	28,007	3,879	14%	23,598	3113.271	13%	32
9. A5 Edgware Road (south of Newcastle Place)	27,300	3,733	14%	23,005	2999.561	13%	32

4. Completed Development: Future Baseline (2029): 2015 WEG Existing Baseline flows + WEG occupied Blocks (844 units) + Occupied Cumulative Schemes

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	27,211	3,891	14%	22,974	3,131	14%	32
2. Church Street (west of Edgware Road)	2,323	123	5%	2,357	132	6%	32
3. Newcastle Place	459	47	10%	455	55	12%	32
4. Paddington Green	1,331	32	2%	1,420	37	3%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	25,390	1,318	5%	21,611	1,150	5%	48
6. A40 Westway	68,591	3,022	4%	58,637	2,645	5%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	25,263	1,709	7%	21,623	1,491	7%	48
8. A5 Edgware Road (north of Church Street)	28,005	3,877	14%	23,596	3,111	13%	32
9. A5 Edgware Road (south of Newcastle Place)	27,299	3,732	14%	23,004	2,999	13%	32

PGPS Proposed Development

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	44	2	5%	49	2	4%	32
2. Church Street (west of Edgware Road)	63	4	6%	71	5	7%	32
3. Newcastle Place	50	2	4%	56	3	5%	32
4. Paddington Green	86	5	6%	98	5	5%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	22	2	9%	25	2	8%	48
6. A40 Westway	0	0	0%	0	0	0%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	64	3	5%	73	3	4%	48
8. A5 Edgware Road (north of Church Street)	44	3	7%	50	4	8%	32
9. A5 Edgware Road (south of Newcastle Place)	44	2	5%	49	2	4%	32

5. Completed Development: Future Baseline (2029) + Proposed Development

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	27,255	3,893	14%	23,023	3133	14%	32
2. Church Street (west of Edgware Road)	2,386	127	5%	2,428	137	6%	32
3. Newcastle Place	509	49	10%	511	58	11%	32
4. Paddington Green	1,417	37	3%	1,518	42.0355	3%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	25,412	1,320	5%	21,636	1152.393	5%	48
6. A40 Westway	68,591	3,022	4%	58,637	2645.432	5%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	25,327	1,712	7%	21,696	1494.014	7%	48
8. A5 Edgware Road (north of Church Street)	28,049	3,880	14%	23,646	3115.271	13%	32
9. A5 Edgware Road (south of Newcastle Place)	27,343	3,734	14%	23,053	3000.561	13%	32

Cumulative Developments

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	82	0	0%	86	0	0%	32
2. Church Street (west of Edgware Road)	0	0	0%	0	0	0%	32
3. Newcastle Place	0	0	0%	0	0	0%	32
4. Paddington Green	0	0	0%	0	0	0%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	0	0	0%	0	0	0%	48
6. A40 Westway	0	0	0%	0	0	0%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	0	0	0%	0	0	0%	48
8. A5 Edgware Road (north of Church Street)	82	0	0%	86	0	0%	32
9. A5 Edgware Road (south of Newcastle Place)	82	0	0%	86	0	0%	32

6. Completed Development: Future Baseline (2029) + Proposed Development + Cumulative Schemes

Highway Links	AADT			AAWT			Speed Limit (kph)
	All Vehs	HGVs	% HGV	All Vehs	HGVs	% HGV	
1. A5 Edgware Road (between Newcastle Place and Church Street)	27,336	3,893	14%	23,109	3133	14%	32
2. Church Street (west of Edgware Road)	2,386	127	5%	2,428	137	6%	32
3. Newcastle Place	509	49	10%	511	58	11%	32
4. Paddington Green	1,417	37	3%	1,518	42.0355	3%	32
5. A404 Harrow Road eastbound (west of Paddington Green)	25,412	1,320	5%	21,636	1152.393	5%	48
6. A40 Westway	68,591	3,022	4%	58,637	2645.432	5%	48
7. A404 Harrow Road eastbound (east of Paddington Green)	25,327	1,712	7%	21,696	1494.014	7%	48
8. A5 Edgware Road (north of Church Street)	28,131	3,880	14%	23,732	3115.271	13%	32
9. A5 Edgware Road (south of Newcastle Place)	27,424	3,734	14%	23,139	3000.561	13%	32

Technical Appendix 6.1: Socio-Economic Planning Policy and Legislation

Appendix 6.1: Socio-Economic Planning Policy & Legislation

PROJECT NAME	Paddington Green Police Station
REF.	Appendix 6.1
DATE	March 2021

NATIONAL PLANNING POLICY

National Planning Policy Framework, 2019

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. It should be seen as a framework within which locally prepared plans and other development can be produced.

The planning system has three over-arching objectives (paragraph 8):

- An economic objective: to build the economy by ensuring that the right amount of land is available at the right time and place in order to support growth and innovation;
- A social objective: to support strong, vibrant and healthy communities, ensuring that sufficient homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs; and
- An environmental objective: contributing to protecting and enhancing our natural, built and historic environment.

At the heart of the NPPF is a presumption in favour of sustainable development, which should be applied to both plan-making and decision-making. In the case of the former, it means that the objectively assessed needs for housing and other uses should be provided for in plans. For the latter, it means approving proposals that accord with the development plan without delay and in the absence of a development plan or an out of date one, approving unless the NPPF provides a clear reason for refusal. In both plan-making and decision-taking, should the policies' or proposals' adverse impacts significantly and demonstrably outweigh the benefits when assessed against the NPPF's policies then they should also not be progressed or the application refused.

The NPPF sets out a number of policies to deliver sustainable development, those of most relevance to this chapter are as follows:

- Chapter 5 – Delivering a sufficient supply of homes: the objective of significantly boosting the supply of homes with a sufficient amount and variety of land brought forward where it is needed, addressing the needs of groups with specific housing requirements, and developing land that has permission without unnecessary delay. Strategic policies should be informed by a local housing need assessment and where major housing development is proposed at least 10% of the homes are to be available for affordable home ownership.
- Chapter 6 – Building a strong, competitive economy: Policies should set a clear economic strategy encouraging sustainable economic growth with regard to Local Industrial Strategies and other local policies for economic development and regeneration. They should identify and set criteria for strategic sites, address potential barriers to investment (e.g. inadequate infrastructure, services or housing, or a poor environment) and be flexible, enabling a rapid response to changes in economic circumstances.
- Chapter 7 – Ensuring the vitality of town centres: Planning policies and decisions should support the role that town centres play at the heart of local communities, by taking a positive approach to their growth, management and adaptation. They should promote town centres' long-term vitality and viability by allowing them to grow and diversify in a way that can respond to rapid changes in the

Appendix 6.1: Socio-Economic Planning Policy & Legislation

retail and leisure industries, allowing a suitable mix of uses (including housing) that reflects their distinctive characters.

- Chapter 8 – Promoting healthy and safe communities: Planning policies and decisions should seek to achieve healthy, inclusive and safe places that promote social interaction, are safe and accessible, enable and support healthy lifestyles, and, provide the social, recreational and cultural facilities and services the community needs. In particular, Chapter 8 identifies the need for:
 - mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages;
 - prevention of crime and disorder, and the fear of crime, so that they do not undermine the quality of life or community cohesion, using clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas;
 - policies and proposals that address identified local health and well-being needs through the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, allotments, and, layouts that encourage walking and cycling;
 - sufficient choice of school places to meet the needs of existing and new communities;
 - promotion of public safety, taking into account wider security and defence requirements by anticipating and addressing possible malicious threats and natural hazards, especially in locations where large numbers of people are expected to congregate (including transport hubs, night-time economy venues, cinemas and theatres, sports stadia and arenas, shopping centres, health and education establishments, places of worship, hotels and restaurants, visitor attractions and commercial centres);
 - access to a network of high quality open spaces and opportunities for sport and physical activity to support the health and well-being of communities. Planning policies should be based on robust and up-to-date assessments of the need for open space, sport and recreation facilities (including quantitative or qualitative deficits or surpluses) and should consider opportunities for new provision.
- Chapter 12 – Achieving well-designed places: Good design is a key aspect of sustainable development, creating better places in which to live and work and helping to make development acceptable to communities. Amongst several benefits of good design, the NPPF references the benefits that design can have in creating places that are safe, inclusive and accessible, promoting health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.

National Planning Practice Guidance

The Planning Practice Guidance (PPG) was last published by the MHCLG in 2016 and updated in October 2019. Relevant guidance addresses the following:

- Ensuring the vitality of town centres;
- Health and wellbeing; and
- Housing and economic land availability assessment.

Appendix 6.1: Socio-Economic Planning Policy & Legislation

REGIONAL PLANNING POLICY

London Plan, 2021

The London Plan 2021 is the Spatial Development Strategy for Greater London, adopted in March 2021. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth.

Good Growth is about working to re-balance development in London towards more genuinely affordable homes for working Londoners to buy and rent, delivering a more socially integrated and sustainable city, where people have more of a say, and bringing the best out of existing places while providing new opportunities to communities.

The population of London is estimated to increase by 70,000 every year, reaching 10.8 million in 2041. This means that to meet demand, tens of thousands of new homes need to be built, along with space for new jobs.

The minimum ten-year housing provision target for the period from 2019/20 -2028/29 for the City of Westminster (CoW) is 9,850 homes, which corresponds to an annual target of 985 homes.

Policy 'GG1 – Building strong and inclusive communities' builds on the city's tradition of openness, diversity and equality and helps deliver strong and inclusive communities.

Policy 'GG4 Delivering the homes Londoners need' creates a housing market that works better for all Londoners.

Policy 'GG5 – Growing a good economy' conserves and enhances London's global economic competitiveness and ensures that economic success is shared amongst all Londoners.

Policy 'H1 – Increasing housing supply' sets the ten-year targets for net housing completions that each local planning authority should plan for.

Policy 'H10 – Housing size mix' states that schemes should generally consist of a range of unit sizes.

Policy 'S1 – Developing London's social infrastructure' states that boroughs should ensure the social infrastructure needs of London's diverse communities are met.

Policy 'S2 – Health and social care facilities' states that boroughs should work with Clinical Commissioning Groups (CCGs) and other NHS and community organisations to identify and address local health and social care needs.

Policy 'S3 – Education and childcare facilities' states that boroughs should ensure there is a sufficient supply of good quality education and childcare facilities to meet demand and offer educational choice.

Policy 'S4 – Play and informal recreation' states that development proposals for schemes that are likely to be used by children and young people should increase opportunities for play and informal recreation and enable children and young people to be independently mobile.

Policy 'G4 Open space' states that it should be ensured open space, particularly green space, included as part of development remains publicly accessible.

LOCAL PLANNING POLICY

Westminster City Council Draft City Plan 2019 – 2040, 2020

The Westminster City Council (WCC) Draft City Plan 2019 – 2040 submitted the draft plan to the Secretary of State on 19 November 2019. Following an independent examination by the Planning Inspectorate the WCC received the Inspectors' Report on the City Plan 2019-2040 on 19 March 2021, which concludes that

Appendix 6.1: Socio-Economic Planning Policy & Legislation

with the recommended main modifications, the plan is sound and compliant with legal requirements. The WCC will now proceed towards formal adoption of the City Plan 2019-2040: Intend to Adopt version (incorporating these main modifications) at the next meeting of Full Council. Given the advanced stage in the plan-making process, all policies in the City Plan 2019-2040 will carry significant weight as a material consideration in determining planning applications. Once the City Plan 2019-2040 has been adopted, it will be the Local Plan for Westminster and will replace all current policies in Westminster's City Plan (November 2016) and saved policies in the Unitary Development Plan (2007).

It contains the following policies which are relevant to this assessment:

- Policy '8 – Housing delivery';
- Policy '13 – Supporting economic growth';
- Policy '17 – Community infrastructure and facilities'; and
- Policy '18 – Education and skills'.

Westminster City Plan, 2016

The current Westminster City Plan which was adopted by the WCC on 9 November 2016, contains the following policies which are relevant to this assessment:

- Policy 'S1 – Mixed use in the Central Activities Zone';
- Policy 'S12 – North Westminster Economic Development Area';
- Policy 'S14 – Optimising Housing Delivery';
- Policy 'S15 – Meeting Housing Needs';
- Policy 'S18 – Commercial Development';
- Policy 'S19 – Inclusive Local Community';
- Policy 'S29 – Health, Safety and Wellbeing';
- Policy 'S34 – Social and Community Infrastructure'; and
- Policy 'S35 – Open Space'.

Westminster City Council Unitary Development Plan (Saved Policies) (2010)

The following saved policies of WCC's Unitary Development Plan (UDP) are relevant to this assessment:

- Policy 'H 3 - To Encourage the Provision of More Housing'; and
- Policy 'H 8 - Provision of Homes for Long Term Needs'.

Technical Appendix 6.2: Socio-Economic Magnitude Thresholds

Appendix 6.2: Socio-Economic Magnitude Thresholds

TOPIC	MAGNITUDE THRESHOLD
Demolition & Construction Employment	High: >250 jobs Medium: >50/≤250 jobs Low: ≤50 jobs
Housing	<u>Neighbourhood</u> High: ≥150 units Medium: ≥10/<150 units Low: <10 units
	<u>Local Authority</u> High: ≥20% of target over plan period Medium: ≥1/<20% of target over plan period Low: <1% of target over plan period
Education Facilities	High: ≥3 class sizes Medium: ≥1/<3 class sizes Low: <1 class size
Healthcare Facilities	High: >2 GPs Medium: >0.5/≤2 GPs Low: ≤0.5 GPs
Open Space & Playspace	The significance of effect related to this topic has been based on professional judgment, national and local guidance and the population generation.
Operational Employment	High: >200 jobs Medium: >50/≤200 jobs Low: ≤50 jobs
Additional Spending	High: >£10 million Medium: >£5 million/≤£10 million Low: ≤£5 million
Crime	The significance of effect related to this topic has been based on professional judgment.

Technical Appendix 6.3: Pupil and Net Capacity Forecast Data

Planning Areas

Underlying Forecast Data				Actuals 2018/19													Forecast Year 2019/20															
LA Number	LA Name	Planning Area Code	Planning Area Name	R	1	2	3	4	5	6	7	8	9	10	11	12	13	R	1	2	3	4	5	6	7	8	9	10	11	12	13	
213	Westminster	2130001	Maida Vale Primary	321	340	355	373	355	362	352								341	318	340	358	369	356	362								
213	Westminster	2130002	Marylebone Primary	84	87	82	86	85	83	82								80	77	85	80	84	85	83								
213	Westminster	2130003	St John's Wood Primary	275	302	295	335	347	347	359								290	272	309	300	335	349	348								
213	Westminster	2130004	Bayswater Primary	193	202	210	237	254	256	256								216	187	199	208	228	253	253								
213	Westminster	2130007	All Secondary								1,828	1,768	1,702	1,736	1,643	1,201	1,077								1,908	1,820	1,755	1,722	1,767	1,346	1,022	
Underlying Forecast Data				Forecast 2020/21													Forecast 2021/22															
LA Number	LA Name	Planning Area Code	Planning Area Name	R	1	2	3	4	5	6	7	8	9	10	11	12	13	R	1	2	3	4	5	6	7	8	9	10	11	12	13	
213	Westminster	2130001	Maida Vale Primary	322	334	315	340	352	368	352								316	317	331	318	337	352	365								
213	Westminster	2130002	Marylebone Primary	80	74	76	82	78	84	85								79	74	73	73	82	79	83								
213	Westminster	2130003	St John's Wood Primary	287	282	274	303	298	333	347								274	281	286	273	303	299	331								
213	Westminster	2130004	Bayswater Primary	206	209	184	197	201	228	248								205	201	206	182	192	200	225								
213	Westminster	2130007	All Secondary								1,874	1,895	1,805	1,770	1,745	1,366	1,071								1,880	1,864	1,876	1,823	1,789	1,380	1,086	
Underlying Forecast Data				Forecast 2022/23													Forecast 2023/24															
LA Number	LA Name	Planning Area Code	Planning Area Name	R	1	2	3	4	5	6	7	8	9	10	11	12	13	R	1	2	3	4	5	6	7	8	9	10	11	12	13	
213	Westminster	2130001	Maida Vale Primary	319	312	316	333	314	339	351								313	311	309	318	327	314	336								
213	Westminster	2130002	Marylebone Primary	81	73	72	70	73	81	78								81	75	72	70	70	72	82								
213	Westminster	2130003	St John's Wood Primary	278	270	284	287	272	303	299								281	283	286	292	296	280	309								
213	Westminster	2130004	Bayswater Primary	207	199	196	204	177	191	197								205	200	195	195	196	175	187								
213	Westminster	2130007	All Secondary								1,900	1,868	1,844	1,890	1,838	1,399	1,097								1,864	1,899	1,862	1,880	1,917	1,449	1,112	
Underlying Forecast Data				Forecast 2024/25													Forecast 2025/26															
LA Number	LA Name	Planning Area Code	Planning Area Name	R	1	2	3	4	5	6	7	8	9	10	11	12	13	R	1	2	3	4	5	6	7	8	9	10	11	12	13	
213	Westminster	2130001	Maida Vale Primary																													
213	Westminster	2130002	Marylebone Primary																													
213	Westminster	2130003	St John's Wood Primary																													
213	Westminster	2130004	Bayswater Primary																													
213	Westminster	2130007	All Secondary								1,831	1,852	1,877	1,878	1,891	1,487	1,153									1,803	1,824	1,837	1,898	1,893	1,474	1,184

*Figures based on the latest available data (2018/19) published in 2020

Forecast

Primary Schools											
LA Number	LA Name	Planning Area Code	Planning Area Name	Actuals 2018/19	Forecast Year 2019/20	Forecast Year 2020/21	Forecast Year 2021/22	Forecast Year 2022/23	Forecast Year 2023/24	Forecast Year 2024/25	Forecast Year 2025/26
Westminster											
213	Westminster	2130001	Maida Vale Primary	2,458	2,444	2,383	2,336	2,284	2,228	2,185	2,142
			Percentage Change	-	-0.57	-2.50	-1.97	-2.23	-2.45	-1.94	-1.94
213	Westminster		Maida Vale Primary Capacity	2,898	2,898	2,898	2,898	2,898	2,898	2,898	2,898
			Maida Vale Primary Net Capacity	440	454	515	562	614	670	713	756
213	Westminster	2130002	Marylebone Primary	589	574	559	543	528	522	510	497
			Percentage Change	-	-2.55	-2.61	-2.86	-2.76	-1.14	-2.38	-2.38
213	Westminster		Marylebone Primary Capacity	630	630	630	630	630	630	630	630
			Marylebone Primary Net Capacity	41	56	71	87	102	108	120	133
213	Westminster	2130003	St John's Wood Primary	2,260	2,203	2,124	2,047	1,993	2,027	1,984	1,941
			Percentage Change	-	-2.52	-3.59	-3.63	-2.64	1.71	-2.13	-2.13
213	Westminster		St John's Wood Primary Capacity	2,610	2,610	2,610	2,610	2,610	2,610	2,610	2,610
			St John's Wood Primary Net Capacity	350	407	486	563	617	583	626	669
213	Westminster	2130004	Bayswater Primary	1,608	1,544	1,473	1,411	1,371	1,353	1,307	1,263
			Percentage Change	-	-3.98	-4.60	-4.21	-2.83	-1.31	-3.39	-3.39
213	Westminster		Bayswater Primary Capacity	2,037	2,037	2,037	2,037	2,037	2,037	2,037	2,037
			Bayswater Primary Net Capacity	429	493	564	626	666	684	730	774
			Primary	6,915	6,765	6,539	6,337	6,176	6,130	5,985	5,844
			Primary Capacity	8,175	8,175	8,175	8,175	8,175	8,175	8,175	8,175
			Percentage Change	-	-2.22	-3.46	-3.19	-2.61	-0.75	-2.42	-2.42
			Net Capacity	1,260	1,410	1,636	1,838	1,999	2,045	2,190	2,331
Secondary Schools											
LA Numb	LA Name	Planning Area Code	Planning Area Name	Actuals 2018/19	Forecast Year 2019/20	Forecast Year 2020/21	Forecast Year 2021/22	Forecast Year 2022/23	Forecast Year 2023/24	Forecast Year 2024/25	Forecast Year 2025/26
Westminster											
213	Westminster	2130007	All Secondary	10,955	11,340	11,526	11,698	11,836	11,983	11,969	11,913
			Percentage Change	-	3.51	1.64	1.49	1.18	1.24	-0.12	-0.47
213	Westminster		All Secondary Capacity	11,693	11,693	11,693	11,693	11,693	11,693	11,693	11,693
			All Secondary Net Capacity	738	353	167	-5	-143	-290	-276	-220
			Secondary	10,955	11,340	11,526	11,698	11,836	11,983	11,969	11,913
			Secondary Capacity	11,693	11,693	11,693	11,693	11,693	11,693	11,693	11,693
			Percentage Change	-	3.40	1.61	1.47	1.17	1.23	-0.12	-0.47
			Net Capacity	738	353	167	-5	-143	-290	-276	-220

*Figures based on the latest available data (2018/19) published in 2020

Technical Appendix 6.4: Socio-Economic Cumulative Schemes Details

Appendix 6.4: Socio-Economic Cumulative Scheme Details

PROJECT NAME	Paddington Green Police Station
REF.	Appendix 6.4
DATE	March 2021

This note details the likely effects of the proposed development in combination with other cumulative schemes within the study area.

Following a review of the 13 cumulative schemes identified, 12 have been considered in respect of the cumulative socio-economic effects. The following cumulative scheme has not been considered, due to the nature of the development and the lack of a socio-economic assessment:

- 11/05349/XRPS – Crossrail Paddington Station Eastbourne Terrace.

Cumulative effects are predominantly considered relevant in socio-economic terms regarding construction employment creation, operational employment creation, demand for school places at both primary and secondary levels, demand for primary healthcare provision, demand for open space and play space and consideration of crime. The following subsections have considered the combined cumulative effects in respect of the proposed development and the following cumulative schemes:

- 18/05018/FULL – One Merchant Square and Six Merchant Square (1 & 2);
- 10/09757/FULL – Two Merchant Square (3);
- 13/11045/FULL, S73 – 16/12289/FULL – Paddington Exchange (North Wharf Gardens) Phase 2 East (4);
- 09/09773/FULL, 14/04393/FULL, 15/00529/FULL, S73 – 15/02673/FULL – The Landseer 38-44 Lodge Road (5);
- 12/07668/FULL – Paddington Triangle (6);
- 13/12002/FULL – Warner Stand Redevelopment (7);
- 16/09050/FULL, S73 18/08240/FULL – Paddington Cube (8);
- 17/05609/FULL – 1A Sheldon Square, W2 (9);
- 18/08510/FULL – Lords Cricket Ground – Compton and Edrich Stands Redevelopment, St John’s Wood Road, NW8 (10);
- 17/08619/FULL – Luton Street/Capland Street/Bedlow Close site, NW8 (11); and
- 19/03673/FULL – 5 Kingdom Street (12).

In addition, consideration has been given to the following two schemes (combined under one planning reference) to present a worst-case assessment:

- 16/11562/FULL – West End Gate (WEG) and 14-17 Paddington Green (13 & 14).

An overview of the cumulative scheme details is provided in Table 1.

Appendix 6.4: Socio-Economic Cumulative Scheme Details

Table 1
Cumulative Scheme Details

CUMULATIVE SCHEME	CONSTRUCTION PERIOD	UNIT NUMBER	POPULATION	PRIMARY AGED CHILDREN	SECONDARY AGED CHILDREN	OPERATIONAL EMPLOYMENT	OPEN SPACE/ PLAY SPACE (SQM)
1 & 2	2019 – 2022	426	779	33	20	83	3,852 m ² / 544 m ²
3	Currently under construction	N/A	N/A	N/A	N/A	1,617	N/A
4	Currently under construction	335	631	39	19	308	Unknown/ 1,920 m ²
5	Unknown	129	Unknown	Unknown	Unknown	Unknown	3,335 m ²
6	Unknown	N/A	N/A	N/A	N/A	2,332	N/A
7	Unknown	N/A	N/A	N/A	N/A	Unknown	N/A
8	Unknown	N/A	N/A	N/A	N/A	3,217	N/A
9	Unknown	N/A	N/A	N/A	N/A	330	N/A
10	Unknown	N/A	N/A	N/A	N/A	Unknown	N/A
11	Unknown	168	N/A	N/A	N/A	Unknown	N/A
12	2020 – 2024	N/A	N/A	N/A	N/A	3,890 – 5,086	N/A
13 & 14	Currently under construction	812	1,594	63	41	91	7,042 m ² / 1,788 m ²

Appendix 6.4: Socio-Economic Cumulative Scheme Details

A summary of the likely operational effects of the cumulative schemes (where possible sourced from publicly available information), and the operational cumulative effects is provided in Table 2.

Appendix 6.4: Socio-Economic Cumulative Scheme Details

Table 2
Operational Socio-Economic Cumulative Effects

CUMULATIVE SCHEME	HOUSING DELIVERY	SCHOOL PROVISION	HEALTHCARE PROVISION	EMPLOYMENT	OPEN SPACE/PLAYSPACE	CRIME
1 & 2	Moderate Beneficial	Negligible	Negligible	Minor Beneficial	Minor Beneficial	Not assessed
3	N/A	N/A	N/A	Minor Beneficial	N/A	Not assessed
4	Minor Beneficial	Moderate Beneficial	Neutral	Negligible Beneficial	Negligible Beneficial	Neutral
5	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
6	N/A	N/A	N/A	Significant Beneficial	N/A	Not assessed
7	N/A	N/A	N/A	Unknown	N/A	Not assessed
8	N/A	N/A	N/A	Minor Beneficial	N/A	Not assessed
9	N/A	N/A	N/A	Unknown	N/A	Not assessed
10	N/A	N/A	N/A	Unknown	N/A	Not assessed
11	Unknown	Unknown	Unknown	Unknown	Unknown	Not assessed
12	N/A	N/A	N/A	Major Beneficial	N/A	Moderate Beneficial
13 & 14	Major to Moderate Beneficial	Negligible Adverse	Negligible Adverse	Negligible Beneficial	Open Space: Minor Adverse Playspace: Minor Beneficial to Negligible Beneficial	Moderate Beneficial

Technical Appendix 7.1: Air Quality Legislation, Policy and Guidance

1. LEGISLATION AND POLICY

1.1 International Legislation and Agreements

European Union Ambient Air Quality and Clean Air for Europe, 2008

- 1.1.1 EU Directive 2008/50/EC¹ on ambient air quality and cleaner air for Europe (the CAFE directive) sets out the ambient air quality standards for nitrogen dioxide (NO₂) and particulate matter with an aerodynamic diameter of less than 10 µm (PM₁₀) to be achieved by 1 January 2010 and 2005 respectively. The Air Quality Standards Regulations 2010² implements the requirements of the Directive into United Kingdom (UK) legislation.
- 1.1.2 The Directive contains a series of limit values for the protection of human health and critical levels for the protection of vegetation. Compliance with the EU Limit Values is mandatory. However, Member States can apply for a time extension for compliance, subject to approval of an action plan by the European Commission.
- 1.1.3 In December 2015, the Department for Environment Food and Rural Affairs (Defra) on behalf of the UK Government produced plans to improve air quality in the UK in order to meet the EU targets in the shortest possible time³. The adequacy of these plans to bring about the necessary improvements in air quality to meet the relevant NAQOs within the shortest time possible were successfully challenged within the High Court in 2016.
- 1.1.4 Subsequently, in 2017 a plan for the reduction in roadside NO₂ concentrations was released⁴ which requires local authorities to identify local actions to accelerate the improvement in air quality in their jurisdictions. It also includes the national measures, including banning the sale of conventionally powered cars and light goods vehicles by 2035 (subsequently reduced to 2030) and further investment in cleaner transport.

1.2 National Legislation and Policy

Local Air Quality Management

- 1.2.1 Part IV of the Environment Act 1995⁵, requires the UK Government to publish an Air Quality Strategy and local authorities to review, assess and manage air quality within their areas. This is known as Local Air Quality Management (LAQM).
- 1.2.2 The 2007 Air Quality Strategy⁶ establishes the policy for ambient air quality in the UK. It includes the AQOs for the protection of human health and vegetation for 11 pollutants. Those AQOs included as part of LAQM are prescribed in the Air Quality (England) Regulations 2000⁷ and the Air Quality (Amendment) (England) Regulations 2002⁸. Table 1.1 presents the AQOs for NO₂ and PM₁₀ the two pollutants of most concern in urban areas.

Pollutant	Air Quality Objective		
	Concentration	Measured As	Date to be Achieved By
NO ₂	200 micrograms per metre cubed (µg/m ³) not to be exceeded more than 18 times per year	1 hour	31 December 2005
	40 µg/m ³	Annual mean	

¹ Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe.

² Secretary of State, 2010. Statutory Instrument 2010 No. 1001, Air Quality Standards Regulations 2010. HMSO.

³ Defra, December 2015. Improving air quality in the UK, Tackling nitrogen dioxide in our towns and cities, UK overview document. Defra.

⁴ Department for Environment, Food and Rural Affairs, 2017. UK plan for tackling roadside nitrogen dioxide concentrations. Defra.

⁵ Secretary of State, 1995. The Environment Act part IV Air Quality. HMSO.

Table 1.1: Objectives Included in Air Quality Regulations (England) 2000 for Purpose of Local Air Quality Management

Pollutant	Air Quality Objective		
	Concentration	Measured As	Date to be Achieved By
PM ₁₀	50 µg/m ³ not to be exceeded more than 35 times per year	24 hour mean	31 December 2004
	40 µg/m ³	Annual mean	

- 1.2.3 Analysis of long-term monitoring data suggests that if the annual mean NO₂ concentration is less than 60 µg/m³ then the one-hour mean NO₂ objective is unlikely to be exceeded where road transport is the main source of pollution. Therefore, in this assessment this concentration has been used to screen whether the one-hour mean objective is likely to be achieved⁹. Similar to NO₂, a PM₁₀ annual mean below 32 µg/m³ has been used to screen whether the 24-hour PM₁₀ mean objective is likely to be achieved.
- 1.2.4 The 2007 Air Quality Strategy also introduced a new policy framework for tackling PM_{2.5} which included an exposure reduction target and a 'backstop' annual mean AQO. The exposure reduction target is focussed on reducing average concentrations across the most polluted urban areas and is therefore not applicable to individual schemes, whilst the annual mean AQO can be considered a concentration cap to ensure environmental compliance. The UK AQOs for PM_{2.5} are provided in Table 1.2.

Table 1.2: UK Objectives for PM_{2.5}

Averaging Period	Objective	Target Date
Annual mean	25 µg/m ³	2020
3 year running annual mean	15 % reduction in concentrations measured at urban background sites	Between 2010 and 2020

- 1.2.5 The AQOs apply to external air where there is relevant exposure to the public over the associated averaging periods within each AQO. Guidance is provided within LAQM.TG (16)¹⁰ issued by Defra for Local Authorities, on where the AQOs apply, as detailed in Table 1.3. The AQOs do not apply in workplace locations, to internal air or where people are unlikely to be regularly exposed (i.e. centre of roadways).

Table 1.3: Locations Where National Air Quality Objectives Apply

Averaging Period	Objectives should apply at	Objectives should generally not apply at
Annual mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties.
24 Hour Mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties.	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
1 Hour Mean	All locations where the annual mean and: 24 and 8-hour mean	

⁶ Department for Environment, Food and Rural Affairs, 2007. Air Quality Strategy for England, Scotland, Wales and Northern Ireland. HMSO.

⁷ Secretary of State, 2000. Statutory Instrument 2000, No 921, The Air Quality (England) Regulations 2000. HMSO, London.

⁸ Secretary of State, 2002. Statutory Instrument 2002, No 3034, The Air Quality (England) (Amendment) Regulations 2002. HMSO, London.

⁹ Department for Environment, Food and Rural Affairs, 2016. Local Air Quality Management Technical Guidance LAQM.TG (16). HMSO.

¹⁰ Department for Environment, Food and Rural Affairs, 2016. Local Air Quality Management Technical Guidance LAQM.TG (16). HMSO.

Table 1.3: Locations Where National Air Quality Objectives Apply		
Averaging Period	Objectives should apply at	Objectives should generally not apply at
	<p>objectives apply. Kerbside sites (for example, pavements of busy shopping streets).</p> <p>Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more.</p> <p>Any outdoor locations where members of the public might reasonably expect to spend one hour or longer.</p>	

1.2.6 It should be noted that the EU Limit Values are numerically the same as the AQO values but differ in terms of compliance dates, locations where they apply and legal responsibility. The compliance date for the NO₂ Limit Values was 1 January 2010, which is five years later than the date for the AQO.

1.2.7 The Limit Values are mandatory whereas the AQOs are policy objectives. Local authorities are not required to achieve them, but have to demonstrate effort of working towards their achievement. In addition, the Limit Values apply in all locations except:

- where members of the public do not have access and there is no fixed habitation;
- on factory premises or at industrial installations; and
- on the carriageway/central reservation of roads except where there is normally pedestrian access.

1.2.8 Where a local authority's review and assessment of its air quality identifies that air quality is likely to exceed the AQOs, it must designate these areas as AQMAs and draw up an Air Quality Action Plan (AQAP) setting out measures to reduce pollutant concentrations with the aim of meeting the AQOs.

Clean Air Strategy, 2019

1.2.9 Defra published a new Clean Air Strategy¹¹ in January 2019, setting out how the UK will significantly reduce harmful air pollutant emissions by 2020 and 2030. The Clean Air Strategy contains an intention of working towards the World Health Organisation (WHO) guideline value for PM_{2.5} of 10 µg/m³. On 19 August 2020 Defra published a policy paper¹² setting out the process for setting a target for PM_{2.5} concentrations which the 2020 Environment Bill¹³ requires to be set by 31st October 2022. At present therefore, there is no target or timetable set for meeting the WHO guideline value for PM_{2.5} concentrations.

1.3 National Planning Policy and Legislation

The National Planning Policy Framework

1.3.1 The NPPF¹⁴ sets out the Government's planning policies for England and how these are expected to be applied. In relation to achieving sustainable development, paragraph 8 states that:

"Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives): ..."

c) an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

1.3.2 Paragraph 170 on conserving and enhancing the natural environment states:

"Planning policies and decisions should contribute to and enhance the natural and local environment by: ..."

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land stability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans, and..."

1.3.3 Paragraph 180 within ground conditions and pollution states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development."

1.3.4 Paragraph 181 states that:

"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

1.3.5 Paragraph 182 states that:

"Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed..."

Planning Practice Guidance

1.3.6 The Planning Practice Guidance (PPG)¹⁵ was launched as an online resource in March 2014 to support the NPPF and has separate guidance on air quality. Paragraph 001, Reference 32-001-20191101 06 (revision date 01 11 2019) of the PPG provides the following summary as to why air quality is a consideration for planning:

"... It is important that the potential impact of new development on air quality is taken into account in planning where the national assessment indicates that relevant limits have been exceeded or are near the limit, or where the need for emissions reductions has been identified."

1.3.7 The PPG identifies when air quality could be relevant for a development management process, provides guidance on how detailed an assessment needs to be and provides guidance on how an impact on air quality can be mitigated.

¹¹ Defra, 2019. Clean Air Strategy.

¹² <https://www.gov.uk/government/publications/environment-bill-2020/august-2020-environment-bill-environmental-targets>.

¹³ <https://services.parliament.uk/Bills/2019-21/environment/documents.html>.

¹⁴ Ministry of Housing, Communities and Local Government, 2019. National Planning Policy Framework. HMSO.

¹⁵ Ministry of Housing, Communities & Local Government, 2014. Planning Practice Guidance. 'Air Quality'.

1.4 Regional Policy London Plan, 2021

- 1.4.1 The London Plan 2021¹⁶ is the Spatial Development Strategy for Greater London. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth. The Plan is part of the statutory development plan for London, meaning that the policies in the Plan should inform decisions on planning applications across the capital. Borough's Local Plans must be in 'general conformity' with the London Plan, ensuring that the planning system for London operates in a joined-up way and reflects the overall strategy for how London can develop sustainably, which the London Plan sets out.
- 1.4.2 The Policy Planning policy GG3 on Creating a healthy City states:
- "To improve Londoners' health and reduce health inequalities, those involved in planning and development must:*
- F seek to improve London's air quality, reduce public exposure to poor air quality and minimise inequalities in levels of exposure to air pollution..."*
- 1.4.3 Policy D3 on Optimising site capacity through the design-led approach states:
- "D Development proposals should:*
- 9) help prevent or mitigate the impacts of noise and poor air quality"*
- 1.4.4 Policy 'SI 1 Improving Air Quality' states:
- "A Development Plans, through relevant strategic, site-specific and area based policies, should seek opportunities to identify and deliver further improvements to air quality and should not reduce air quality benefits that result from the Mayor's or boroughs' activities to improve air quality.*
- B To tackle poor air quality, protect health and meet legal obligations the following criteria should be addressed:*
- 1) Development proposals should not:*
- a) lead to further deterioration of existing poor air quality*
- b) create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits*
- c) create unacceptable risk of high levels of exposure to poor air quality.*
- 2) In order to meet the requirements in Part 1, as a minimum:*
- a) development proposals must be at least Air Quality Neutral*
- b) development proposals should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or retro-fitted mitigation measures*
- c) major development proposals must be submitted with an Air Quality Assessment. Air quality assessments should show how the development will meet the requirements of B1*
- C Masterplans and development briefs for large-scale development proposals subject to an Environmental Impact Assessment should consider how local air quality can be improved across the area of the proposal as part of an air quality positive approach. To achieve this a statement should be submitted demonstrating:*
- a) how proposals have considered ways to maximise benefits to local air quality, and*
- b) what measures or design features will be put in place to reduce exposure to pollution, and how they will achieve this.*

D In order to reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance.

E Development proposals should ensure that where emissions need to be reduced to meet the requirements of Air Quality Neutral or to make the impact of development on local air quality acceptable, this is done on-site. Where it can be demonstrated that emissions cannot be further reduced by on-site measures, off-site measures to improve local air quality may be acceptable, provided that equivalent air quality benefits can be demonstrated within the area affected by the development."

- 1.4.5 The plan states on air quality positive approach:

"9.1.11 An air quality positive approach is linked to other policies in the London Plan, such as Healthy Streets, energy masterplanning and green infrastructure. One of the keys to delivering this will be to draw existing good practice together in a holistic fashion, at an early stage in the process, to ensure that the development team can identify which options deliver the most improvement to air quality. Large schemes, subject to Environmental Impact Assessments, commonly have project and design teams representing a range of expertise, that can feed in to the development of a statement to set out how air quality can be improved across the proposed area of the development."

9.1.14 The GLA will produce guidance in order to assist developers and boroughs in identifying measures and best practice to inform the preparation of statements for developments taking an air quality positive approach."

- 1.4.6 The policy requirements of Policy S1 fall into two categories; parts B1a) and B1b) concern the impact of development and part B1c) concerns site suitability. There are separate requirements for each, with explanatory text providing further detail on how the policy should be applied.
- 1.4.7 The explanatory note 9.1.3 indicates that new developments should reduce the extent to which the public are exposed to poor air quality and must not cause new exceedances of legal air quality standards, referencing the Air Quality Standard Regulations 2010. These include an annual average limit value of 25 µg/m³ for PM_{2.5} and 40 µg/m³ for PM₁₀. Where limit values are already met, or are predicted to be met at the time of completion, new developments must endeavour to maintain ambient air quality whilst complying with sustainable development principles.
- 1.4.8 The explanatory note 9.1.4 refers specifically to the phrase 'existing poor air quality' and is considered relevant to section B1a) only (there is no further mention of 'existing poor air quality' within the policy). B1a) states that development should not 'lead to further deterioration of existing poor air quality'.
- 1.4.9 The rest of the clarifying text is relevant to developments which are impacting air quality. First further clarification is provided as to what is considered to be 'existing poor air quality' and this is where the guidance specifies the World Health Organisation (WHO) targets for particulate matter as well as the existing legal limits and locations within 10% of these limits. The footnote reference at the end of the section refers to the Institute of Air Quality Management (IAQM) Guidance, which is provided in relation to development impacts. The IAQM guidance indicates that where existing air quality exceeds or is within 5% of the limits an increase of just 0.5 % of the limit is considered to be a slight impact. In essence, the clarification of what is meant by 'existing poor air quality' is to limit deterioration to no more than negligible in accordance with the IAQM definition which could be considered appropriate in terms of minimising future deterioration in areas of existing poor air quality.
- 1.4.10 With regards to site suitability and need for mitigation within a site comes within B1c) 'create unacceptable risk of high levels of exposure to poor air quality'. This policy does not include the word 'existing' and the requirement is to prevent unacceptable risk of high levels of exposure. In this case there is no definition of what is meant by 'poor air quality', but this is dealt with in Paragraph 9.1.3 which deals with exposure to poor air quality, and which only requires that legal standards be met: 'Where limit values are already met, or are predicted to be met at the time of completion, new developments must endeavour

¹⁶ Greater London Authority, 2021. The London Plan. March 2021. London.

to maintain the best ambient air quality compatible with sustainable development principles.’ The policy wording specifically allows for predictions to be made for the time of completion.

London Environmental Strategy, 2018

1.4.11 The London Environmental Strategy¹⁷, published in May 2018, evaluates the current condition of London’s environment at a city-wide level. This is the first strategy to bring together approaches to every aspect of London’s environment, integrating the following areas:

- air quality;
- green infrastructure;
- climate change mitigation and energy;
- waste;
- adapting to climate change;
- ambient noise; and
- low carbon circular economy.

1.4.12 The Strategy aims, among other objectives:

“for London to have the best air quality of any major world city by 2050, going beyond the legal requirements to protect human health and minimise inequalities”.

1.4.13 Policy 4.3.1.a states that *“The Mayor will set new concentration targets for PM_{2.5}, with the aim of meeting World Health Organization guidelines by 2030”*. The WHO guidelines relevant for this assessment are presented in Table 1.4.

Pollutant	Time Period	Objective
NO ₂	Annual Mean	40 µg/m ³
PM ₁₀		20 µg/m ³
PM _{2.5}		10 µg/m ³

Sustainable Design and Construction Supplementary Planning Guidance, 2014

1.4.14 The Sustainable Design and Construction SPG¹⁸ forms part of the Implementation Framework for the London Plan. The SPG aims to support developers, local planning authorities and neighbourhoods to achieve sustainable development. It provides guidance on to how to achieve the London Plan objectives effectively, supporting the Mayor’s aims for growth, including the delivery of housing and infrastructure. The SPG is intended to:

- provide detail on how to implement the sustainable design and construction and wider environmental sustainability policies in the London Plan;
- provide guidance on how to develop more detailed local policies on sustainable design and construction;
- provide best practice guidance on how to meet the sustainability targets set out in the London Plan; and
- provide examples of how to implement sustainability measures within developments.

1.4.15 The SPG on ‘Sustainable Design and Construction’ provides guidance on:

- Minimising air quality emissions from location, transport, construction and demolition, and design and occupation;
- Protecting internal air quality;
- What is meant by ‘air quality neutral’;
- Emissions standards for combustion plant; and
- Offsetting provisions.

1.4.16 ‘Air quality neutral’ applies across London as a whole and emission benchmarks have been proposed in terms of buildings’ operation and transport emissions in order to meet these criteria. It is understood that the benchmark should be capable of being met without the need for significant additional mitigation.

1.4.17 Where individual and/or communal gas fired boilers are installed in commercial and domestic buildings they should achieve a NOx rating of less than 40mgNOx/kWh. If the particular combustion equipment is not known at the time of the planning application, developers are required to provide a written statement of their commitment and ability to meet the emissions standards within their Air Quality Assessments. Emissions standards are provided for solid biomass boilers and CHP plants.

1.4.18 Where developments do not meet the air quality neutral benchmarks, it is suggested that appropriate on-site mitigation measures will be required to off-set any excess in emissions. Measures could include:

- Green planting/walls and screens;
- Upgrade or abatement work to combustion plant;
- Retro-fitting abatement technology for vehicles and flues; and
- Exposure reduction.

Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance, 2014

1.4.19 In addition, as part of the Implementation Framework for the London Plan, a SPG on the control of dust and emissions during construction and demolition¹⁹ was published in July 2014. The methodology proposed and mitigation outlined is broadly in line with that provided by the IAQM²⁰.

1.4.20 This SPG provides guidance for the preparation of an ‘Air Quality and Dust Risk Assessment’ and requires one to be submitted at the time of a planning application; with an Air Quality and Dust Management Plan submitted prior to the commencement of works.

1.4.21 Chapter 7 of the SPG states the following:

- From 1 September 2020 any Non-Road Mobile Machinery (NRMM) of net power between 27 kW and 560 kW used on any site in London will be required to meet Stage IIIB emission criteria of EU Directive 97/68/EC;
- Construction plant with a net power between 37 kW and 560 kW used within the London Low Emission Zone (LEZ) is required to be compliant with this standard, and registered on the NRMM register; and
- NRMM where the power output is less than 37 kW is required to be fitted with an after treatment device stated on the approved list managed by the Energy Saving Trust²¹.

London Local Air Quality Management Technical Guidance (LLAQM TG19), 2019

1.4.22 London Local Air Quality Management Technical Guidance (LLAQMA)²² provides the methodology by which key air pollutants such as NO₂, PM₁₀ and PM_{2.5} should be monitored, assessed and reported for the

¹⁷ Greater London Authority, 2018. London Environment Strategy. London.

¹⁸ Greater London Authority, 2014. Sustainable Design and Construction.

¹⁹ Greater London Authority, 2014. The Control of Dust and Emissions during Construction and Demolition.

²⁰ Holman et al, 2014. IAQM Guidance on the assessment of dust from demolition and construction V1.1. Institute of Air Quality Management, London.

²¹ Energy Saving Trust, 2019. Available online at: <https://energysavingtrust.org.uk/transport/freight-and-retrofit/non-road-mobile-machinery-nrmm-certification>.

²² Mayor of London, 2019. London Local Air Quality Management Technical Guidance (LLAQM.TG(19)).

purposes of local air quality management, and provides guidance on the actions to be taken by local authorities to improve local air quality.

London Councils Air Quality and Planning Guidance, 2017

- 1.4.23 London Councils Air Quality and Planning Guidance²³ is aimed at developers, their consultants and local authorities. It revises the previous guidance issued in 2001 and provides technical advice on how to deal with planning applications that could have an impact on air quality.

1.5 Local Policy

Westminster City Plan, 2016

- 1.5.1 The Westminster City Plan²⁴ was adopted in November 2016 and is used to help shape the future of the area and to determine individual planning applications and deliver development, in conjunction with the London Plan, and any (adopted) neighbourhood plans. Policies in relation to air quality are as follows:

- 1.5.2 Policy S31 Air quality states:

“The council will require a reduction of air pollution, with the aim of meeting the objectives for pollutants set out in the national strategy.

Developments will minimise emissions of air pollution from both static and traffic-generated sources.

Developments that include uses that are more vulnerable to air pollution (Air Quality Sensitive Receptors) will minimise the impact of poor air quality on occupants through the design of the building and appropriate technology.”

- 1.5.3 Policy S41 Pedestrian Movement and Sustainable Transport states:

“All developments will prioritise pedestrian movement and the creation of a convenient, attractive and safe pedestrian environment, with particular emphasis in areas with high pedestrian volumes or peaks.

Sustainable transport options will be supported and provided for, including the following priorities:

Providing for cycling facilities as part of all new development, including facilities for residents, workers and visitors as appropriate;

Reducing reliance on private motor vehicles and single person motor vehicle trips;

Prioritising parking provision for disabled, car sharing and alternative fuel vehicles; and

Encouraging use of alternative sustainable fuels and technology.”

- 1.5.4 Policy S39 Decentralised Energy Networks states:

“Infrastructure that is or has previously been in use as part of a heating network will be protected.

Major development should be designed to link to and extend existing heat and energy networks in the vicinity, except where the council considers that it is not practical or viable to do so.

Where it is not possible to link to an existing heat and energy network, major development will be required to provide site-wide decentralised energy generation that minimises greenhouse gas emissions and has the potential to be extended to serve other development sites in the vicinity, except where the council considers that it is not practical or viable to do so, including where all available technologies would have an unacceptable impact on local air quality.

Smaller developments will be encouraged to be enabled to connect into heat and energy networks.”

Westminster Unitary Development Plan, 2007 (Saved Policies 2010)

- 1.5.5 The Westminster Unitary Development Plan²⁵ was adopted in 2007 to set out planning policies for developing land, improving transport and protecting the environment. Some of these have now been replaced by the Westminster City Plan. Saved policies in relation to air quality are as follows:

- 1.5.6 Policy ENV 5 Air pollution states:

“(A) The City Council will encourage new development that does not lead to an increase in local air pollution.

(B) The City Council will promote measures to improve air quality, in particular encouraging developers to minimise global and local air pollution and emission of odours by:

1. minimising traffic generated by developments

2. using natural ventilation systems and lighting wherever possible

3. using the most energy efficient forms of heating, air conditioning and active ventilation systems

4. careful design and siting of central heating and ventilation exhausts

5. avoiding or reducing emissions from the burning of fossil fuels

6. following the Westminster Considerate Builders' code of practice to contain dust and fumes on building sites.

(C) For those developments that require air conditioning systems, the City Council will encourage use of dry rather than wet systems.

(D) The City Council will monitor air pollutants, including those from motor vehicles, and seek reductions in those pollutants.

(E) When considering applications for development involving the storage or use of hazardous substances, the City Council will seek the advice of the Health and Safety Executive concerning the nature and severity of the risks presented by potential major hazards to people in the surrounding area.”

- 1.5.7 Policy TRANS 14 Transport Assessment states:

“(A) All development proposals will be assessed for their individual and cumulative impact in contributing to traffic generation, and on congestion, parking, safety, public transport, cyclists and pedestrians. The City Council will use Transport Assessments to seek to promote development that supports more sustainable travel choices and reduces the need to travel.

(C) In cases where the existing road network and/or junctions and/or the public transport networks cannot cope with the increased volume of movement generated by a development, the City Council will refuse permission for the development unless it is possible to devise suitable transport improvements to permit the generated movements to gain safe access to the transport networks. Such improvements must be acceptable within the terms of the other policies in this Plan.)

(D) Where necessary, the City Council will impose conditions on a planning permission or will seek legal agreements to enable such improvements to be carried out in conjunction with the development. Where the need for a transport improvement arises from the movements generated by a new development, the City Council will normally require that the full cost of the improvement or an appropriate proportion of that cost be met by the developer.”

²³ The London Air Pollution Planning and the Local Environment (APPLE) working group, Revised version January 2007, London Councils Air Quality and Planning Guidance.

²⁴ City of Westminster, 2016. Westminster City Plan.

²⁵ City of Westminster, 2007. Unitary Development Plan.

Westminster City Plan 2019-2040, 2019

- 1.5.8 In respect of emerging policy, the WCC submitted the City Plan 2019-2040²⁶ to the Secretary of State on 19 November 2019. Following an independent examination by the Planning Inspectorate the WCC received the Inspectors' Report on the City Plan 2019-2040 on 19 March 2021. This concludes that with the recommended main modifications, the plan is sound and compliant with legal requirements.
- 1.5.9 The WCC will now proceed towards formal adoption of the City Plan 2019-2040: Intend to Adopt version (incorporating these main modifications) at the next meeting of Full Council. Given the advanced stage in the plan-making process, all policies in the City Plan 2019-2040 will carry significant weight as a material consideration in determining planning applications.
- 1.5.10 Once the City Plan 2019-2040 has been adopted, it will be the Local Plan for Westminster and will replace all current policies in Westminster's City Plan and UDP saved policies.
- 1.5.11 Following its adoption, it will replace all current policies in the current Westminster City Plan and saved policies in the Unitary Development Plan. Policies in relation to air quality are as follows:
- 1.5.12 Policy 33. Air Quality states:

"A. The council is committed to improving air quality in the city and expects development to reduce exposure to poor air quality and maximise opportunities to improve it locally without detriment of air quality in other areas.

AIR QUALITY NEUTRAL AND POSITIVE

B. Major developments in Opportunity Areas and Housing Renewal Areas and those subject to an Environmental Impact Assessment should achieve Air Quality Positive status.

C. All other major developments and developments incorporating solid biomass boilers or Combined Heat and Power (CHP) should be at least Air Quality Neutral.

AIR QUALITY ASSESSMENTS

D. Air Quality Assessments will be required for:

- 1. Major developments;*
- 2. Proposals that include potentially air pollution generating uses or combustion-based technologies;*
- 3. Proposals incorporating sensitive uses; and*
- 4. All residential developments within Air Quality Focus Areas."*

- 1.5.13 Policy 25. Sustainable transport states:

"A. The council will support a sustainable pattern of development which maximises trips made by sustainable modes, creates safer streets for all, reduces traffic, improves air quality and reflects the objectives in Westminster's Transport and Public Realm Programme and Local Implementation Plan 2019/20 to 2021/2022.

B. New development and the connected transport modes should contribute towards maintaining and enhancing Westminster's places and streets as one of the most attractive and liveable areas in London.

C. Development must:

- 1. Positively contribute towards the improvement of its public transport nodes in terms of accessibility and legibility and the improvement and delivery of walking and cycling routes that serve a site in order to create an environment where people actively choose to walk and cycle as part of everyday life.*

2. Support the reallocation of road and development space to promote walking, cycling and the use of public transport where appropriate.

3. Positively contribute to the reduction of the dominance of private motor vehicles both in terms of traffic and congestion, whilst not worsening the excessive levels of on street parking and tackling poor air quality.

4. Contribute to the London Plan's Healthy Streets approach to improve air quality, reduce congestion and make Westminster's diverse communities become greener, healthier and more attractive places in which to live, work or visit.

5. Major development should provide or financially contribute towards creating well-connected, high-quality, convenient, safe cycle infrastructure and routes."

- 1.5.14 Policy 37. Energy states:

"A. The council will promote zero carbon development and expects all development to reduce on-site energy demand and maximise the use of low carbon energy sources to minimise the effects of climate change.

CARBON REDUCTION

B. All development proposals should follow the principles of the Mayor of London's energy hierarchy. Major development should demonstrate through an energy strategy how the carbon reduction targets set out in local policy or the London Plan, whichever is the greatest, can be achieved.

C. Where it is clearly demonstrated that it is not financially or technically viable to achieve zero-carbon on-site, any shortfall in carbon reduction targets should be addressed via off-site measures or through the provision of a carbon offset payment secured by legal agreement.

HEAT NETWORKS

D. Developments should be designed in accordance with the Mayor of London's heating hierarchy. Major developments must connect to existing or planned local heat networks, or establish a new network, wherever feasible.

- 1.5.15 Policy 38: Parking states:

D. When considering parking impacts, the council will prioritise alternative kerbside uses (such as car club spaces, cycle parking and electric vehicle charge points) ahead of parking for private vehicles.

E. For major developments contributions will also be required for on-street provision of electric vehicle and other low emission vehicle infrastructure.

City of Westminster Air Quality Action Plan 2019 - 2024

- 1.5.16 The City of Westminster Air Quality Action Plan²⁷ sets out the actions that will be undertaken to improve air quality in Westminster between 2020 and 2024. Actions are split into five broad categories:

- Monitoring of air quality, including introduction of a city-wide diffusion tube monitoring network and prioritising the provision of PM_{2.5} monitoring;
- Reducing emissions from buildings and new development through actions such as the adoption and implementation of City Plan air quality policies and updating of code of construction guidance;
- Reducing emissions from transport through initiatives such as provision of electric vehicle charging infrastructure;
- Raising awareness of air quality; and
- Lobbying and partnership working

²⁶ City of Westminster, 2019. City Plan 2019-2040, Local Development Scheme. Available at: <https://www.westminster.gov.uk/planning-building-and-environmental-regulations/city-plan-neighbourhood-planning-and-planning-policy/city-plan-2019-2040>

²⁷ City of Westminster,

1.6 Additional Guidance

Institute of Air Quality Management: Construction Dust Guidance, 2016

- 1.6.1 The IAQM produced guidance²⁸ to assist in the assessment of air quality impacts from demolition and construction activities. This guidance provides a consistent methodology for assessing the risks of dust impacts from demolition and construction activities and for identifying the correct level of mitigation which should be applied to avoid significant air quality effects.

Environmental Protection UK/Institute of Air Quality Management Guidance, Land-Use Planning Guidance, 2017

- 1.6.2 Environmental Protection UK (EPUK), together with the IAQM, produced updated guidance in 2017²⁹ on how air quality impacts should be assessed within the land-use planning and development control process. This guidance provides clear criteria to determine when a detailed air quality assessment is required and a methodology for assessing the significance of air quality effects.

Defra, Local Air Quality Management Technical Guidance (LAQM TG16), 2016

- 1.6.3 Defra, in association with devolved regional environmental protection agencies, has produced technical guidance³⁰ designed to support local authorities in pursuit of their duties under the Environment Act 1995. It provides the methodology by which key air pollutants such as NO₂, PM₁₀ and PM_{2.5} should be monitored, assessed and reported for the purposes of local air quality management, and provides guidance on the actions to be taken by local authorities to improve local air quality. Whilst London has its own system of LAQM with guidance prepared by the Mayor of London, it in turn refers to this Technical Guidance.

²⁸ Holman et al, 2016. IAQM Guidance on the assessment of dust from demolition and construction V1.1. Institute of Air Quality Management, London. Available: <http://www.iaqm.co.uk/text/guidance/construction-dust-2014>.

²⁹ Institute of Air Quality Management and Environmental Protection UK, 2017. Land-Use Planning & Development Control: Planning for Air Quality. Available: <http://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>.

³⁰ Department for Environment, Farming and Rural Affairs, 2016. Local Air Quality Management Technical Guidance (England) 2016 (TG16). HMSO.

2. DUST RISK ASSESSMENT METHODOLOGY

Large	Medium	Small
Demolition		
<ul style="list-style-type: none"> total building volume >50,000 m³ potentially dusty construction material (e.g. concrete) on-site crushing and screening demolition activities >20 m above ground level 	<ul style="list-style-type: none"> total building volume 20,000m³ – 50,000 m³ potentially dusty construction demolition activities 10-20 m above ground level 	<ul style="list-style-type: none"> total building volume <20,000 m³ construction material with low potential for dust release (e.g. metal cladding or timber) demolition activities <10 m above ground during wetter months
Earthworks		
<ul style="list-style-type: none"> total site area >10,000 m² potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) >10 heavy earth moving vehicles active at any one time formation of bunds >8 m in height total material moved >100,000 tonnes 	<ul style="list-style-type: none"> total site area 2,500 m² - 10,000 m² moderately dusty soil type (e.g. silt) 5-10 heavy earth moving vehicles active at any one time formation of bunds 4 m – 8 m in height total material moved 20,000 - 100,000 tonnes 	<ul style="list-style-type: none"> total site area <2,500 m² soil type with large grain size (e.g. sand) <5 heavy earth moving vehicles active at any one time formation of bunds <4 m in height total material moved <20,000 tonnes earthworks during wetter months
Construction		
<ul style="list-style-type: none"> total building volume >100,000 m³ piling on-site concrete batching sandblasting 	<ul style="list-style-type: none"> total building volume 25,000 m³ - 100,000 m³ potentially dusty construction material (e.g. concrete) piling on-site concrete batching 	<ul style="list-style-type: none"> total building volume <25,000 m³ construction material with low potential for dust release (e.g. metal cladding or timber)
Trackout		
<ul style="list-style-type: none"> >50 HGV (>3.5t) movements in any one day potentially dusty surface material (e.g. high clay content) unpaved road length >100 m 	<ul style="list-style-type: none"> 10-50 HGV (>3.5t) movements in any one day moderately dusty surface material (e.g. high clay content) unpaved road length 50 m – 100 m 	<ul style="list-style-type: none"> <10 HGV (>3.5t) movements in any one day surface material with low potential for dust release unpaved road length <50 m

High	Medium	Low
Sensitivities of People to Dust Soiling Effects		
<ul style="list-style-type: none"> users can reasonably expect enjoyment of a high level of amenity; or the appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land. indicative examples include dwellings, museums and other culturally important collections, medium and long term car parks and car showrooms. 	<ul style="list-style-type: none"> users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or the appearance, aesthetics or value of their property could be diminished by soiling; or the people or property would not reasonably be expected to be present continuously or regularly for extended periods as part of the normal pattern of use of the land. indicative examples include parks and places of work. 	<ul style="list-style-type: none"> the enjoyment of amenity would not reasonably be expected; or property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; or there is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land. indicative examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.
Sensitivities of People to the Health Effects of PM10		
<ul style="list-style-type: none"> locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day). indicative examples include residential properties, hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment. 	<ul style="list-style-type: none"> locations where the people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day). indicative examples include office and shop workers but will generally not include workers occupationally exposed to PM₁₀, as protection is covered by Health and Safety at Work legislation. 	<ul style="list-style-type: none"> locations where human exposure is transient. indicative examples include public footpaths, playing fields, parks and shopping streets.
Sensitivities of Receptors to Ecological Effects		
<ul style="list-style-type: none"> locations with an international or national designation <i>and</i> the designated features may be affected by dust soiling; or locations where there is a community of a particularly dust sensitive species such as vascular species included in 	<ul style="list-style-type: none"> locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or locations with a national designation where the features may be affected by dust deposition. 	<ul style="list-style-type: none"> locations with a local designation where the features may be affected by dust deposition. indicative example is a local Nature Reserve with dust sensitive features.

Table 2.2: Determining Receptor Sensitivity		
High	Medium	Low
<p>the Red Data List For Great Britain.</p> <ul style="list-style-type: none"> indicative examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings. 	<ul style="list-style-type: none"> indicative example is a Site of Special Scientific Interest (SSSI) with dust sensitive features. 	

Table 2.3: Determining Sensitivity of the Area - Dust Soiling Effects on People and Property					
Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table 2.4: Determining Sensitivity of the Area – Human Health Impacts							
Receptor Sensitivity	Annual Mean PM ₁₀ concentration	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<350
High	>32 µg/m ³	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	>28-32 µg/m ³	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	>24-28 µg/m ³	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 µg/m ³	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium		>1	High	Medium	Low	Low	Low
Low		>1	Medium	Low	Low	Low	Low

3. AIR QUALITY NEUTRAL EMISSIONS BENCHMARKS

3.1 Transport Emissions Benchmarks

3.1.1 Two Transport Emissions Benchmarks (TEBs) have been defined, one for NO₂ and one for PM₁₀, for Retail (A1 and A2), Commercial (B1) and living accommodation (C3). The TEBs are based on a limited range of land-use categories to match the London Travel Demand Surveys (LTDS) data as closely as possible. Table 3.1 below shows those land-use categories for which it has been possible to produce a specific TEB and those for which it has not been possible. Table 3.2 provides the Transport Emissions Benchmarks approach for each land use category.

Land Use	Subcategory	TEB	Notes
Retail	A1 Shops	Yes	TEB developed for LGVs. Requires further work on HGVs.
	A2 Financial /professional services A3 Restaurants/cafes A4 Drinking establishments A5 Hot food takeaways	Yes	Developments will often be under the size criteria for the AQN policy. If part of a mixed use development, the A1 TEB should apply.
Commercial	B1 Business	Yes	TEB developed, assuming office use.
	B2 General industrial	No	Noted that industry requiring an Environment Permit is excluded from the Air Quality Neutral policy.
	B8 Storage and distribution	No	Further work required to develop the TEB for HGVs and extracting LTDS trip lengths for cars.
Living Accommodation	C3 Dwelling houses C4 Houses in multiple occupation	Yes	Residential TEB developed
	C1 Hotels	No	There are no data on trip lengths, and therefore a TEB cannot be derived
	C2 Residential Institutions Excluding hospitals	No	Includes wide range of land uses - care homes, boarding schools, residential colleges, training centres, prisons, military barracks etc. C3/C4 TEB may be applied.
	C2 Hospitals	No	There are no data on trip lengths, and therefore a TEB cannot be derived.
Institutional	D1 Non-residential institutions	No	Includes clinics, health centres, crèches, schools, art galleries, museums, libraries, places of worship etc. Trip length data available for education, health services and places of work, Too diverse land use class to have a generic D1 TEB.
Leisure	D2 Assembly and Leisure	No	Trip length data only available for public buildings. No data for other buildings within this category

Land Use	Subcategory	TEB	Notes
			Therefore a generic D2 TEB cannot be derived.
Other	Sui Generis	No	

3.1.2 The following table provides the TEBs based on the gross floor area and the location of the development.

Land Use	CAZ	Inner	Outer
NO_x (g/m²/annum)			
Retail (A1)	169	219	249
Office (B1)	1.27	11.4	68.5
NO_x (g/dwelling/annum)			
Residential (C3)	234	558	1553
PM₁₀ (g/m²/annum)			
Retail (A1)	29.3	39.3	42.9
Office (B1)	0.22	2.05	11.8
PM₁₀ (g/dwelling/annum)			
Residential (C3,C4)	40.7	100	267

3.2 Trip Rate Assessment Valid for London Benchmark Trip Rates

3.2.1 Where a specific TEB has not been calculated, it will be possible to show that a development would meet the benchmark if the scheme-generated trip rate for a particular land-use class does not exceed the benchmark trip rate, derived from Trip Rate Assessment Valid for London (TRAVL). If the scheme-generated trip rate exceeds the benchmark trip rate, it is not possible at this stage to derive the excess emissions, and it will be for the developer to suggest an alternative approach.

3.2.2 Benchmark trip rates for those land-use classes where it was not possible to derive trip lengths are shown in Table 3.3.

Land Use	Number of Trips (trips/m ² /annum)		
	Caz	Inner	Outer
A3	153	137	170
A4	2.0	8.0	-
A5	-	32.4	590
B2	-	15.6	18.3
B8	-	5.5	6.5
C1	1.9	5.0	6.9
C2	-	3.8	19.5
D1	0.07	65.1	46.1
D2	5.0	22.5	49.0

Technical Appendix 7.2: Environmental Health Officer Consultation

1. EHO CONSULATION EMAILS

From: McIntosh, XXXXXX: WCC <XXXXXX>
Sent: 19 November 2020 12:47
To: XXXXXX Gomes < XXXXXX >
Cc: Parsons, XXXXXX: WCC < XXXXXX >
Subject: RE: Air Quality Paddington Green Police Station

Dear XXXXXX,

Thank you for your email. I have now received the consultation for the scoping report and will provide any comments via the consultation rather than discussing in detail outside this process.

Any questions please let me know

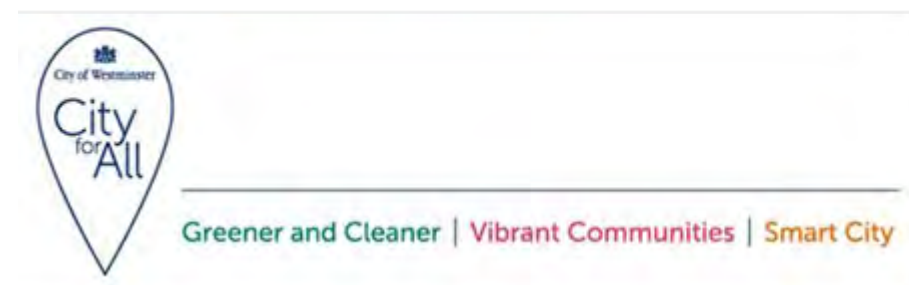
Kind regards
Gavin

XXXXXX **McIntosh**
Senior Practitioner
Environmental Sciences
Regulatory Support Team 1
City Management & Communities

Westminster City Council
15th Floor
Westminster City Hall
64 Victoria Street
London
SW1E 6QP

Tel: 07890380520
Email: environmentalsciences2@westminster.gov.uk
www.westminster.gov.uk

 Before printing, think about the environment



From: XXXXXX Gomes
Sent: 13 November 2020 12:58
To: Parsons, XXXXXX: WCC <c XXXXXX >
Cc: XXXXXX Vining < XXXXXX>; Barrett, XXXXXX: WCC < XXXXXX >; XXXXXX Seward < XXXXXX >
Subject: RE: Air Quality Paddington Green Police Station

Dear XXXXXX,

Hope this email finds you well.

Thank you for your email of 16 September. In response we wish to clarify as follows:

The proposed development will provide up to 3% disabled car parking as required by the WCC and will not have an energy centre as it will be connected to the West End Gate energy centre with combined heat and power (CHP) plant. The sizing of the existing approved WEG CHP will not require increase to accommodate the additional residential units at PGPS.

We maintain that significant operational air quality effects are unlikely at surrounding existing receptors and therefore should be scoped out of the PGPS EIA. We have provided responses to your comments below in blue text.

This approach does not take into account the possibility of residents owning cars and parking in surrounding streets.

Vehicle ownership cannot be controlled via planning. There is nothing that the planning system can do to force individuals to not own vehicles directly; however, proposals can, as PGPS has been, be designed to encourage low vehicle ownership. It is clear from the design of the proposal and its location (very good access to public transport) that for the vast majority of residents, vehicle ownership would be an unnecessary inconvenience. The balance of probability would therefore be that residents are unlikely to choose to own a vehicle. Furthermore, even if the residents were to own cars and park in surrounding streets, there would be no basis to undertake an assessment upon, for example, how do you determine the scale of ownership, the streets where they would park and when they would use their cars?

Notwithstanding, it is also unclear whether residents would have "right to park" access to the existing car park at WEG.

It may be possible, that should not all car parking spaces in the WEG basement be taken up by WEG residents, these could be offered to PGPS residents. However the impact of the WEG car parking has previously been comprehensively assessed in the WEG EIA, so the effects have already been accounted for.

If so, they may still own a car and if they can't get a space that day, be forced into parking on-street.

This would not be possible. In the eventuality that PGPS residents were to park in the basement of the WEG basement this would be on a permit basis/allocation basis. Therefore there would never be an instance in which a resident with a permit would not be able to park in the WEG basement and would subsequently be forced to seek a parking space in the surrounding area. A resident would either be entitled to park and therefore would have a space or they would not and they would therefore not expect a space.

Were we to grant permission, it is the City Council's policy that we do not restrict parking permits so this cannot be prevented by planning condition or obligation. Accordingly, we consider there is a need to scope in operational air impacts.

While the Applicant would take steps to encourage future residents not to own personal cars (e.g. implementation of residential travel plan), it is unavoidable that some will still elect to own vehicles. Where these residents choose to park these vehicles, would be beyond the control of the Applicant. It would not be possible for the Applicant to prevent future residents from owning an vehicle and attempting to park on nearby streets. However, it seems reasonable that were this to be the case, those who elect to purchase a local parking permit would only do so if it were possible for them to park in the immediate vicinity of their residence. If the surrounding streets are extremely busy, residents are likely to not opt for this inconvenient

and inconsistent approach and will seek more appropriate methods. For example a long stay private garage or not owning a car. The number of cars that can be parked on the surrounding roads is finite and therefore not subject to change if the proposal is approved. Furthermore, it would be beyond the scope of the transport consultants to predict the number and location of these additional vehicles. Therefore it would not be possible to take account of these operational traffic movements in the air quality assessment.

We have been made aware by the Applicant's planning consultant that WCC has accepted scoping out operational air quality at the 114-150 Queensway (WCC Ref. 20/04934/FULL), where the same percentage of disabled car parking spaces are to be provided. Therefore we would be grateful for your clarification in respect of adopting a consistent approach.

I can't access the link to this report
Please find the EFT v9 and EFT v10 performance reports attached.

I had thought the guidance advises against the use of kerbside sites? (as noted below, suggest considering RBKC Ladbroke Grove or possibly Cromwell Road instead)
Defra LAQM Technical Guidance TG(16) indeed advises against kerbside sites except '7.520 ...where kerbside sites are relevant for exposure, for example properties fronting directly onto the road. In that case, kerbside sites may be used in the model verification process'. Marylebone automatic site and Ramboll diffusion tube monitoring programme are considered representative of the site since the monitoring sites were located along the same road as the more exposed to road traffic emissions site façades.

Do you know what the commercial uses are?
The scheme proposals are currently subject to ongoing design, however, it is expected to comprise a range of commercial uses for flexibility. The commercial ground floor space will target the new Class E use class and this currently extends approx. 10,000sqft. We expect that likely tenants will be a mix of F & B and other uses to active the street frontage.

Will there be any sensitive non residential uses proposed? Will be there be any chimneys or kitchen extraction required?
We expect one unit may be utilised as a restaurant, for which appropriate extraction would be included however this is still ongoing as part of detailed design.

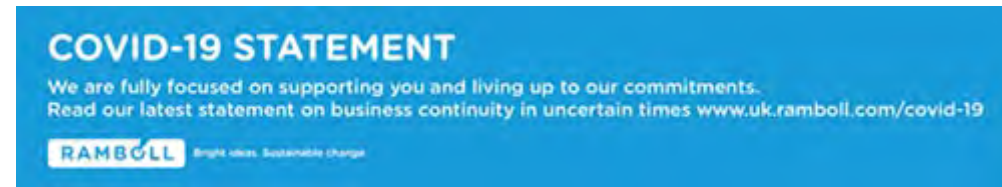
Will the spec of the CHP need to change to accommodate the new properties?
As above, the current MEP strategy is to utilise the spare capacity anticipated in the WEG Energy Centre. The sizing of the existing approved WEG CHP will not require increase to accommodate the additional residential units at PGPS.

Please, let me know if you agree with the proposed above or if you have any questions. Thank you for your time.

Kind regards
XXXXXX Gomes
Senior Air Quality Consultant

M 07583 102977
XXXXXX

Ramboll UK Limited Registered in England & Wales Company No: 03659970
Registered office: 240 Blackfriars Road, London SE1 8NW



From: Parsons, XXXX: WCC <XXXXXX >
Sent: 06 October 2020 13:03
To: XXXX Gomes <XXXXXX >
Cc: XXXX Vining <L XXXXXX >; Barrett, XXXXXX: WCC <XXXXXX >
Subject: RE: Air Quality Paddington Green Police Station

Hi XXXX,

Apologies for the delay, I am still catching up from having been on leave. Please see below comments in green.

Kind regards
XXXX

From: XXXX Gomes <XXXXXX >
Sent: 02 October 2020 10:17
To: Parsons, XXXX: WCC <XXXXXX >
Cc: Barrett, XXXXXX: WCC <XXXXXX >; XXXX Vining <XXXXXX >; Environmental Sciences: WCC <environmentalsciences2@westminster.gov.uk >
Subject: RE: Air Quality Paddington Green Police Station

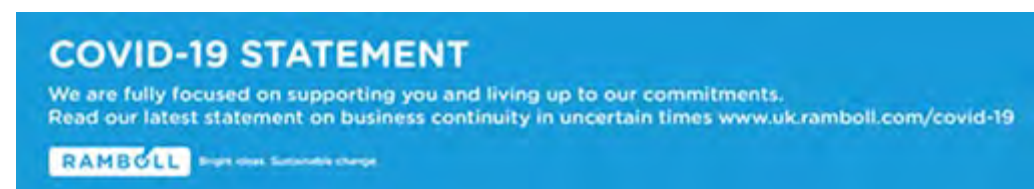
Dear XXXX,

I am wondering if you had the chance to review the below email. Please, could you let me know if you agree with the proposed below?
Thank you for your time.

Kind regards
XXXX Gomes
Senior Air Quality Consultant

M 07583 102977
XXXXXX

Ramboll UK Limited Registered in England & Wales Company No: 03659970
Registered office: 240 Blackfriars Road, London SE1 8NW



From: XXXX Gomes
Sent: 16 September 2020 10:58

To: Parsons, XXXX: WCC < XXXXXX >
Cc: Barrett, XXXXXX: WCC <n XXXXXX >; XXXX Vining < XXXXXX >
Subject: RE: Air Quality Paddington Green Police Station

Dear XXXX,

Thank you for your comments.

We now have the confirmation that the development will be car free and will not have an energy centre as it will be connected to the West End Gate energy centre with combined heat and power (CHP) plant. As such, the impacts of the development on local air quality are considered to be negligible and we are scoping out the Development operational impacts. The assessment will therefore focus on construction impacts and site suitability.

This approach does not take into account the possibility of residents owning cars and parking in surrounding streets. Notwithstanding, it is also unclear whether residents would have "right to park" access to the existing car park at WEG. If so, they may still own a car and if they can't get a space that day, be forced into parking on-street. Were we to grant permission, it is the City Council's policy that we do not restrict parking permits so this cannot be prevented by planning condition or obligation. Accordingly, we consider there is a need to scope in operational air impacts.

The applicant is keen on having residential use at lower levels, and taking into account the current concentrations levels exceeding the objectives, the development would employ mitigation in the form of mechanical ventilation with NOx (and PM if required) filters with air inlets located on the façade of the building. Please could you confirm if this would be acceptable? I am not able to confirm this at this stage unfortunately and would need to view the report as a whole first.

For background concentrations we will use Defra modelled concentrations calibrated with measured background concentrations from the closest background automatic stations, Bloomsbury (Camden) and Covent Garden. We will cross check the calibration factor with [Air Quality Consultants \(AQC\) calibration report](#) for consistency.

According to [Air Quality Consultants](#), (I can't access the link to this report) the EFT version 9 'now broadly match measured data at roadside monitors and CURED model is no longer required'. We expect the new EFT version 10 to follow the same pattern as version 9 and therefore do not consider necessary to use CURED.

Regarding potential verification sites, Marylebone is considered representative of the site since it is located along the same road as the one of the site facades (I had thought the guidance advises against the use of kerbside sites?) (as noted below, suggest considering RBKC Ladbroke Grove or possibly Cromwell Road instead) and, as an automatic site, is considered to be more accurate than diffusion tubes. As part of the West End Gate planning application, Ramboll carried a 6 months monitoring programme in 2018 with kerbside diffusion tubes located along Edgware Road (figure below) and collocated at Marylebone Station. We would therefore propose to verify the model with 2018 monitoring data from Ramboll diffusion tube at Edgware Road and Marylebone Station. The 2018 year would also represent a worst case as concentrations were significantly higher than 2019.

For meteorological data we prefer to use Heathrow Airport data since London Airport met data is limited by its location next to tall buildings.

Please, could you let me know if you agree with the proposed above? Also, do you have any further concerns regarding air quality? Do you know what the commercial uses are? Will there be any sensitive non residential uses proposed? Will there be any chimneys or kitchen extraction required? Will the spec of the CHP need to change to accommodate the new properties?



Kind regards

XXXX Gomes

Senior Air Quality Consultant

M 07583 102977

[XXXXXX](#)

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Registered office: 240 Blackfriars Road, London SE1 8NW

From: Parsons, XXXX: WCC < XXXXXX >

Sent: 11 September 2020 16:54

To: XXXX Gomes <XXXXXX>

Cc: Barrett, XXXXXX: WCC < XXXXXX >

Subject: FW: Air Quality Paddington Green Police Station

Dear XXXX,

Please find comments in green below. I am on leave next week but can discuss on my return w/c 21 September.

Kind regards,

XXXX

From: XXXX Gomes <XXXXXX >
Sent: 04 September 2020 15:20
To: Parsons, XXXX: WCC <c XXXXXX >
Subject: RE: Air Quality Paddington Green Police Station

Dear XXXX,

My apologies for the incomplete information.

The site is located at 4 Harrow Road, Paddington, London W2 1XJ to the immediate north of the A40 Westway as shown in the figure below, adjacent to West End Gate development (ref: 16/12162/FULL under construction).

The redevelopment proposals comprise a residential-led scheme, which are currently being refined through the on-going pre-application design and planning process, are envisaged to comprise the:

- demolition of the Paddington Green Police Station;
- excavation of a basement connection to the West End Gate development basement;
- erection of three blocks along, set back from, Harrow Road and Edgware Road;
- delivery of ground floor commercial uses and residential at upper floors, with associated landscaped residential gardens; and
- approximately 656 homes, including 263 affordable housing units, and flexible commercial space;
- servicing and disabled parking at basement level; and
- connection to the West End Gate energy centre with combined heat and power (CHP) plant.

Building heights would range from approximately Ground plus 14 to Ground plus 25 storeys with the taller element up to Ground plus 39 storeys. The proposed development will be car free with the exception of minimal disabled parking provision.



Kind regards
XXXX Gomes
Senior Air Quality Consultant

M 07583 102977

XXXXXX

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Registered office: 240 Blackfriars Road, London SE1 8NW

From: Parsons, XXXX: WCC <XXXXXX >
Sent: 04 September 2020 14:09
To: XXXX Gomes <XXXXXX >
Subject: RE: Air Quality Paddington Green Police Station

Dear XXXX,

Could you please advise what the planning application is for as I am not familiar with the development proposals.

Many thanks,
XXXX

From: XXXX Gomes <XXXXXX >
Sent: 03 September 2020 09:29
To: Walshe, XXXXXX: WCC <XXXXXX >
Cc: Webber, XXXXXX: WCC <XXXXXX >; Parsons, XXXX: WCC <XXXXXX >
Subject: Air Quality Paddington Green Police Station

Dear XXXXXX,

Ramboll has been commissioned to undertake an environmental impact assessment to support the planning application for the Paddington Green Police Station Development at W2, 1XJ. We are contacting you to present our proposed approach for the air quality assessment.

Existing local air quality, the likely future air quality in the absence of the new development, and the likely future air quality if the development goes ahead, will all be defined. The assessment will cover two potential air quality issues:

- The impact of the development on the surrounding area, during both the construction and operational phases; and
- The impact of existing local pollution sources, in particular local road traffic emissions, on the development site itself.

The assessment of construction impacts will focus on the anticipated duration of works. The potential impacts of dust during construction will be assessed, making reference to the London Mayor's Supplementary Planning Guidance (SPG) on The Control of Dust and Emissions during Construction and Demolition. Please also refer to WCC COCP - <https://www.westminster.gov.uk/code-construction-practice>. Air quality impacts arising from construction and operational stage road traffic will be assessed with reference to guidance issued by the IAQM and Environment Protection UK (EPUK) in their document: *Land-use Planning & Development Control: Planning for Air Quality*. Traffic uplift (including construction traffic) should be screened against the IAQM EPUK criteria and should be taken from the approved transport assessment and include servicing and delivery trips.

What will you use for background concentrations – e.g. Defra background concentrations? The worst case scenario data should be utilised but alternatively if there are large discrepancies Defra background maps can be calibrated with the background monitoring station. Modelling future years scenarios should assume a worst case scenario and due to uncertainties in real world driving emissions and emissions associated with the Latest EFT then some correction should be discussed. I am not advocating the use of AQC CURED methodology but CURED V3A will predict higher

emissions than EFT V9, therefore suggest that some correction is used in the form of a sensitivity test when predicting future emissions. Street canyon modelling should be used where appropriate.

- Sensitive receptors to represent worst-case locations should be selected at the proposed development site and at surrounding buildings to assess operational effects;
- A site suitability assessment should be included and both assessment should be compared against the relevant objective. i.e. the annual mean for residential and the 1 hour mean for commercial uses as set out in LLAQM 2019. Should any ground floor outdoor seating areas be proposed associated with the commercial uses, then this should be assessed against the relevant objective;
- Impact of the development to existing receptors should be assessed using the EPUK IAQM methodology; and
- Impacts to future occupiers should be assessed against London Councils Air Quality and Planning Guidance.

The assessment of operational road traffic impacts will be undertaken using the ADMS Roads detailed dispersion model. The assessment of operational impacts will combine the emission factors and backgrounds of the earliest year that the development is likely to be operational with the completed development traffic data to provide a worst case assessment. The model will be used to predict concentrations within the development site to assess the suitability of the site for residential development, and also at off-site receptors to assess the impacts of additional traffic associated with the development. We propose to verify the model with 2019 monitoring data from Marylebone automatic station and monitoring undertaken by Breathe London pods at Edgware Road. Please, could you confirm if those monitoring locations would be considered acceptable to verify the model?

I don't consider the Breathe London pods are suitable as the data is not ratified. Marylebone Road is a kerbside site and should not be used for data verification unless it is applicable for the location area i.e. proposed property is on the kerbside. The best option would be to go for a site specific diffusion tube survey. Otherwise if there is not site specific diffusion tube data available, I recommend looking for a similar placed diffusion tube in a different borough, e.g. RBKC Ladbroke Grove or possibly Cromwell Road may be a bit more representative.

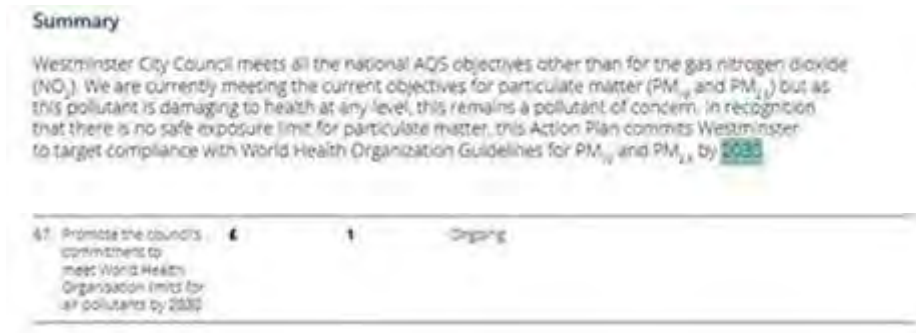
Also need to consider any site combustion sources? Combustion sources should include any back up generators that are proposed onsite. It is recommended that should combustion plant be proposed they are assumed operational 365 days a year at full capacity. Any plant should meet the requirements of the Mayor SPG Sustainable Design and Construction. Should any proposed on-site combustion plant be present, the impacts should be assessed using ADMS 5 dispersion modelling software or equivalent.

What are your proposals for meteorological data? 3 years data is recommended for any combustion modelling required.

An air quality neutral calculation will be required for both building and transport emissions. The calculation should use transport data taken from the approved transport assessment. For building emissions, this should assume works case scenario and assume all plant operating for 365 days a year at maximum capacity and should include a standard testing cycle for any emergency plant.

Air quality will be assessed in relation to the national air quality objectives, established by the Government to protect human health. However, the 2019 Intend to Publish Version of the London Plan states that the Mayor is committed to achieving both the current legal limits for air quality, but also achieving World Health Organisation (WHO) targets for other pollutants such as Particulate Matter (PM). This potentially reduces the PM_{2.5} (ultra fine particles with a diameter of 2.5 microns) limit from 25 down to 10 µg/m³. The London Environment Strategy indicates that a new target will be introduced to meet the lower WHO health-based guideline by 2030. Please, could you clarify the Council's position on the target PM_{2.5} objective?

I have noted below information from the draft AQAP https://www.westminster.gov.uk/sites/default/files/air_quality_consultation_policy.pdf on the target PM_{2.5} objective:



All practical and reasonable measures which can be implemented to mitigate any detrimental impacts associated with construction and operation of the proposed scheme will be considered, and highlighted within the Air Quality chapter.

Thank you for your time.

Kind regards
XXXX Gomes

Senior Air Quality Consultant

M 07583 102977
XXXXXX

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Technical Appendix 7.3: Model Inputs, Transport Data and Results Processing Tools

1. MODEL INPUTS AND RESULTS PROCESSING TOOLS

1.1 Proposed Development Traffic Flows

Links	AADT	HGVs	% HGV
1. A5 Edgware Road (between Newcastle Place and Church Street)	1	1	100%
2. Church Street (west of Edgware Road)	1	1	100%
3. Newcastle Place	0	0	0%
4. Paddington Green	1	1	100%
5. A404 Harrow Road eastbound (west of Paddington Green)	5	5	100%
6. A40 Westway	1	1	100%
7. A404 Harrow Road eastbound (east of Paddington Green)	5	5	100%
8. A5 Edgware Road (north of Church Street)	2	2	100%
9. A5 Edgware Road (south of Newcastle Place)	1	1	100%

Links	AADT	HGVs	% HGV
1. A5 Edgware Road (between Newcastle Place and Church Street)	44	2	5%
2. Church Street (west of Edgware Road)	63	4	6%
3. Newcastle Place	50	2	4%
4. Paddington Green	86	5	6%
5. A404 Harrow Road eastbound (west of Paddington Green)	22	2	9%
6. A40 Westway	0	0	0%
7. A404 Harrow Road eastbound (east of Paddington Green)	64	3	5%
8. A5 Edgware Road (north of Church Street)	2	2	100%
9. A5 Edgware Road (south of Newcastle Place)	1	1	100%

1.2 Modelled Traffic Flows

1.2.1 The model requires the user to provide various input data, including the Annual Average Daily Traffic (AADT) flow, the proportion of HGV, road characteristics (including road width and street canyon height,

where applicable), and the vehicle speed. AADT flows and the proportions of HGVs for roads within the study area and within 250 m of receptors, monitoring locations are presented below in Table 1.3 to 1.3, and Chapter 7: Transport and Accessibility.

Road Link	Data Source	2019 Baseline		Scenario 2: Future Baseline (2029) + Proposed Development + Cumulative Schemes	
		AADT	HGV	AADT	HGV
A40 Flyover East	DfT 70181 1/2	26,863	1,716	26,863	1,716
A40 Flyover West	DfT 70181 1/2	41,729	2,440	41,729	2,440
A404 Harrow Road eastbound (west of Paddington Green)	Arup	25,303	1,314	25,412	1,320
A404 Harrow Road eastbound (east of Paddington Green)	Arup	24,613	1,705	25,327	1,712
A404 East (East Edgware Road)	calculated	11,604	1,258	11,922	1,276
A404 West (West Edgware Road)	DfT 58173	21,198	840	21,198	840
A404 West (East Edgware Road)	calculated	11,604	1,258	11,922	1,258
Chapel Street	LAEI	7,616	556	7,616	556
Church Street	Arup	1,564	36	2,386	127
A5 Edgware Road (south of Newcastle Place)	Arup	26,725	3,667	27,424	3,734
A5 Edgware Road (north of Church Street)	Arup	27,695	3,861	28,131	3,880
Edgware Road (south Chapel Street)	DfT 26146	36,005	2,843	36,005	2,843
A5 Edgware Road (south A404)	DfT 74972	36,005	2,843	36,005	2,843
Newcastle Place	Arup	376	47	509	49
Paddington Green	Arup	1,228	39	1,417	37
Paddington Green (south Newcastle Place)	Arup	1,604	86	1,926	86
Praed St	DfT 37775	5,541	1,103	5,541	1,103
Sale Place	LAEI	1,614	60	1,614	60

Table 1.3: Modelled Traffic Flows					
Road Link	Data Source	2019 Baseline		Scenario 2: Future Baseline (2029) + Proposed Development + Cumulative Schemes	
		AADT	HGV	AADT	HGV
Verification Road Links					
Alsop Place (north York Terrace)	LAEI	7,866	195		
Alsop Place (south York Terrace)	LAEI	6,803	205		
Baker Street (north Marylebone Road)	DfT 26464	8,885	1,874		
Baker Street (south Marylebone Road)	DfT 74978	9,885	1,504		
Belsize Road	LAEI	3,517	539		
Brondesbury Road	LAEI	15,064	1,017		
Cambridge Avenue	LAEI	8,748	1,811		
Cromwell Road (East Earls Court Road)	DfT 6121	58,191	1,962		
Cromwell Road (East Queen's Gate)	DfT 58164	44,853	2,886		
Earls Court (north Pembroke Road)	LAEI	4,078	678		
Earls Court (south Pembroke Road)	DfT 48645	24,593	1,547		
Earls Court (south Cromwell Road)	DfT 8081	27,603	2,003		
Harrington Road	LAEI	13,088	1,551		
Kilburn High Road (North Brondebuty Villas)	DfT 75135	16,393	2,458		
Kilburn High Road (south Belsize Road)	LAEI	19,422	3,015		
Marloes Road	LAEI	955	39		
Marylebone High Street	LAEI	4,299	190		
Marylebone Road (west Baker Street)	DfT 57537	70,015	5,160		
Marylebone Road (east Baker Street)	DfT 27236	70,844	5,226		

Table 1.3: Modelled Traffic Flows					
Road Link	Data Source	2019 Baseline		Scenario 2: Future Baseline (2029) + Proposed Development + Cumulative Schemes	
		AADT	HGV	AADT	HGV
Outer Circle	LAEI	13,698	222		
Pembroke Road	DfT 48645	24,593	1,547		
Queen's Gate north and south bound (north Cromwell Road)	LAEI	9,153	418		
Queen's Gate south bound (south Cromwell Road)	LAEI	6,467	348		
Queen's Gate north bound (south Cromwell Road)	LAEI	6,640	521		
Queen's Gate north and south bound (south Harrington Road)	LAEI	5,346	210		
Stanhope Gardens	LAEI	13,991	857		
W Cromwell east bound	DfT 28505	33,813	1,394		
W Cromwell west bound	DfT 28505	31,014	1,498		
York Gate	LAEI	9,105	292		

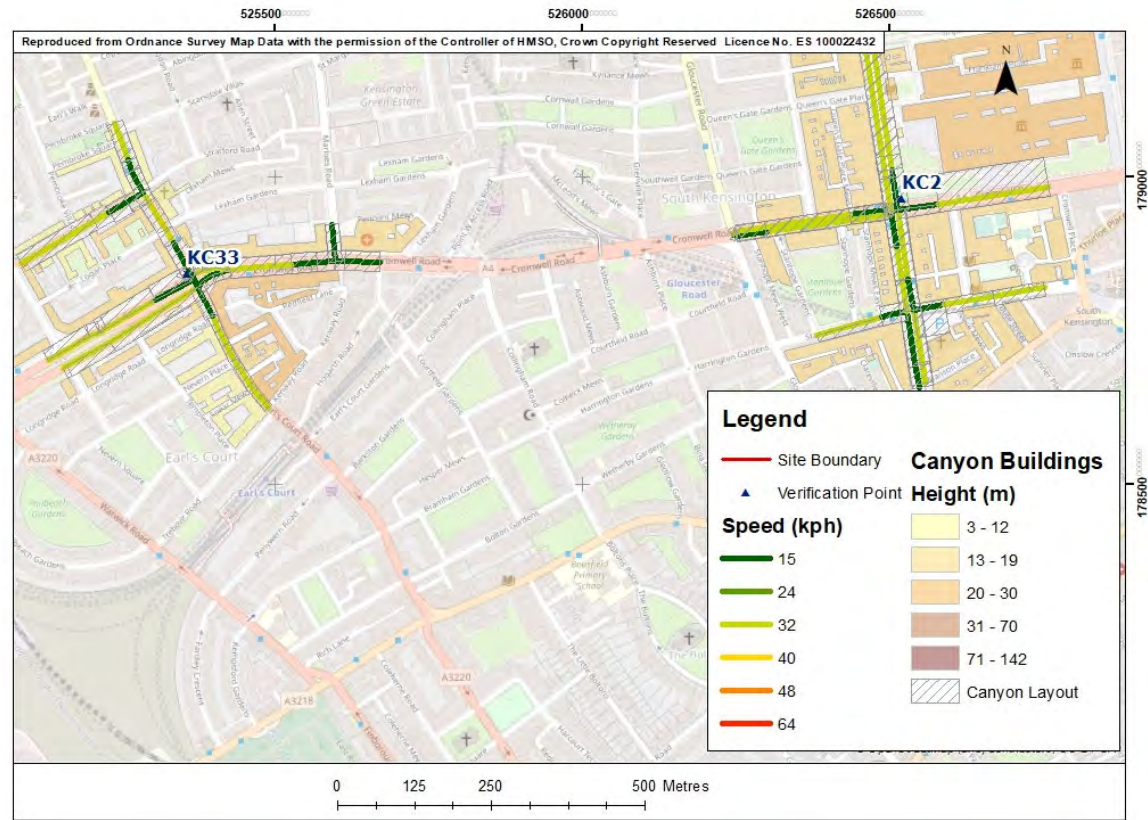


Figure 1.1a: Air Quality Verification Modelled Roads and Speed

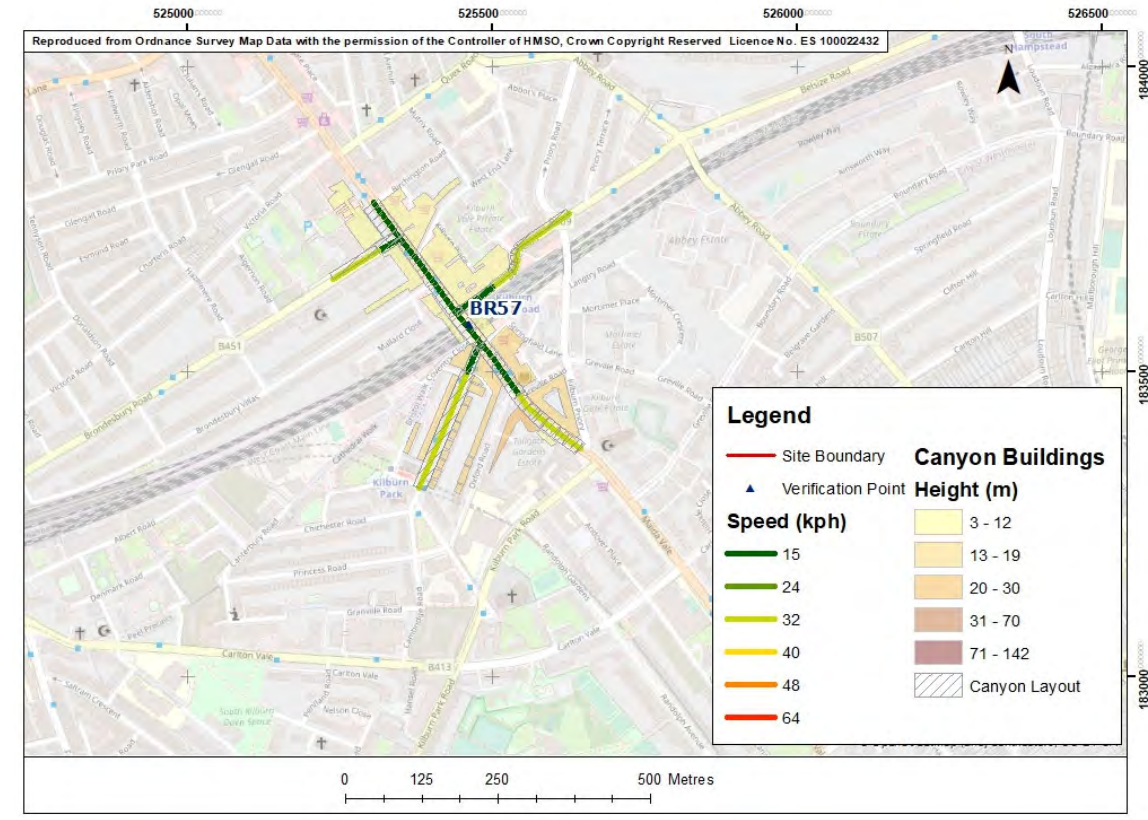


Figure 1.3c: Air Quality Verification Modelled Roads and Speed

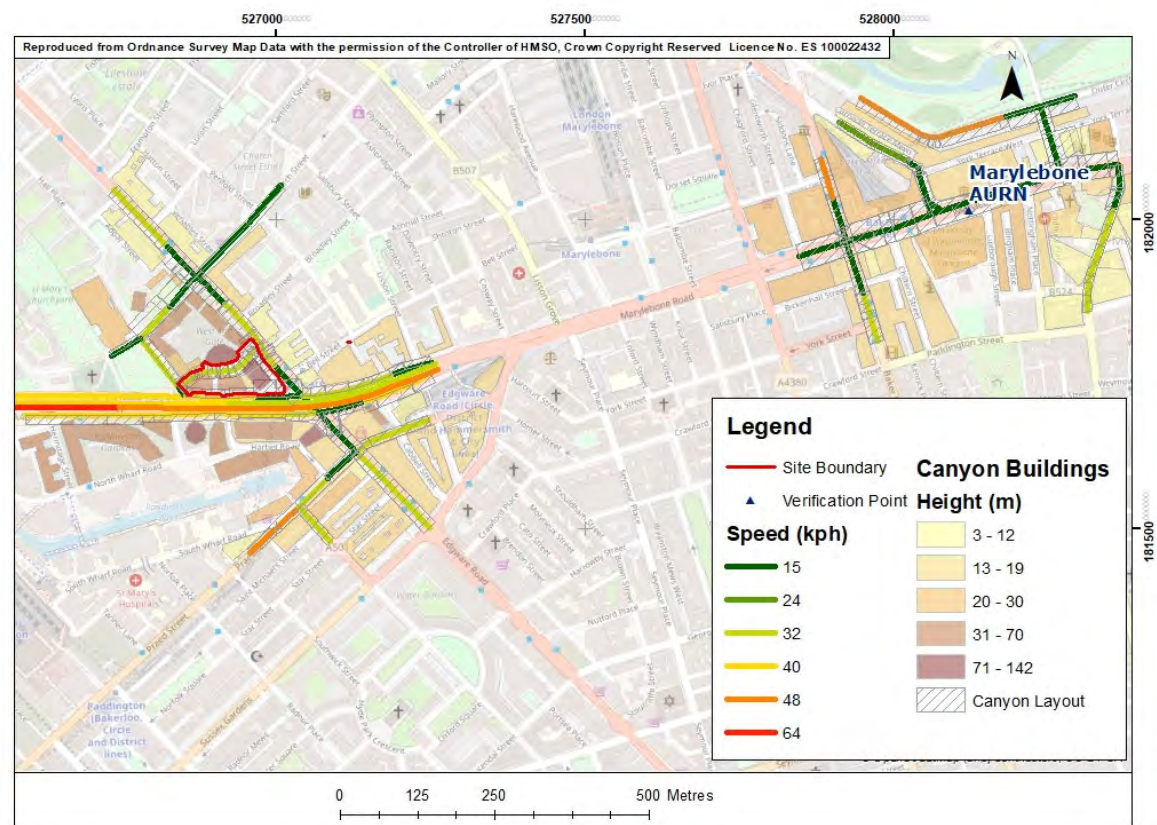


Figure 1.2b: Air Quality Site and Verification Modelled Roads and Speed

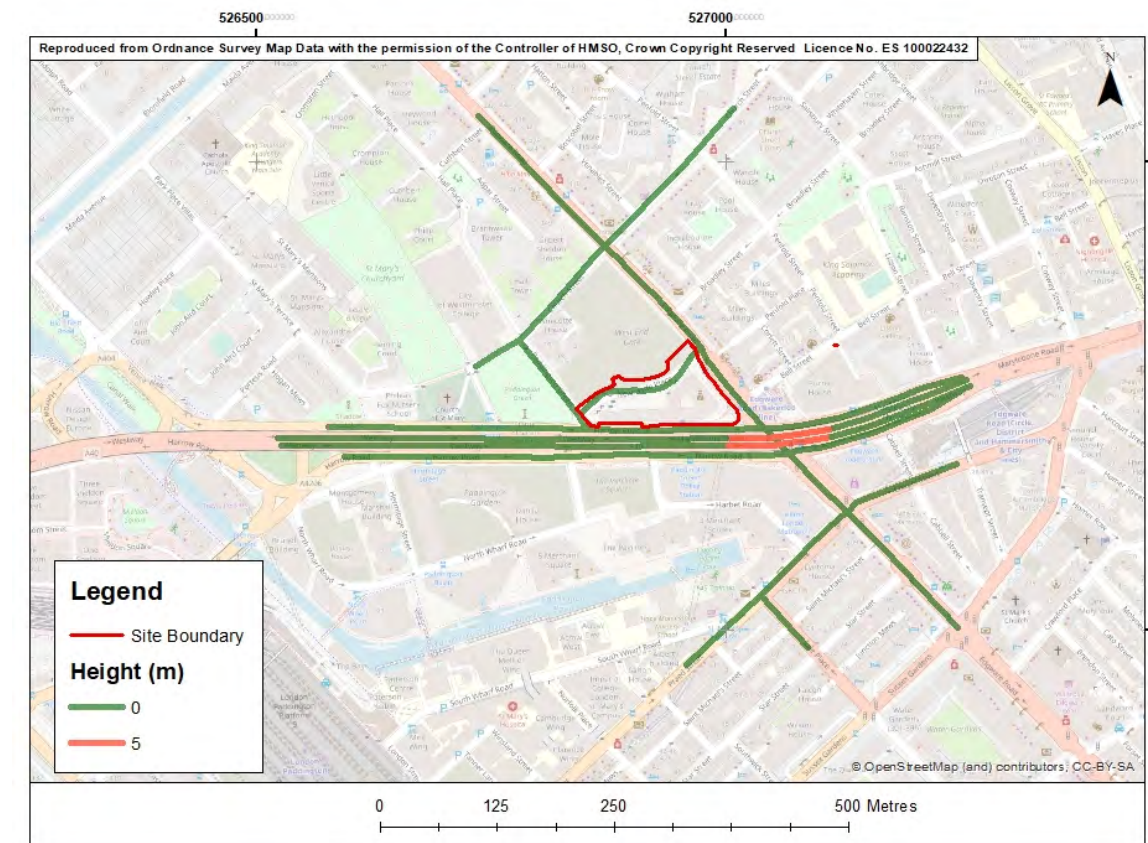


Figure 1.4d: Roads Height

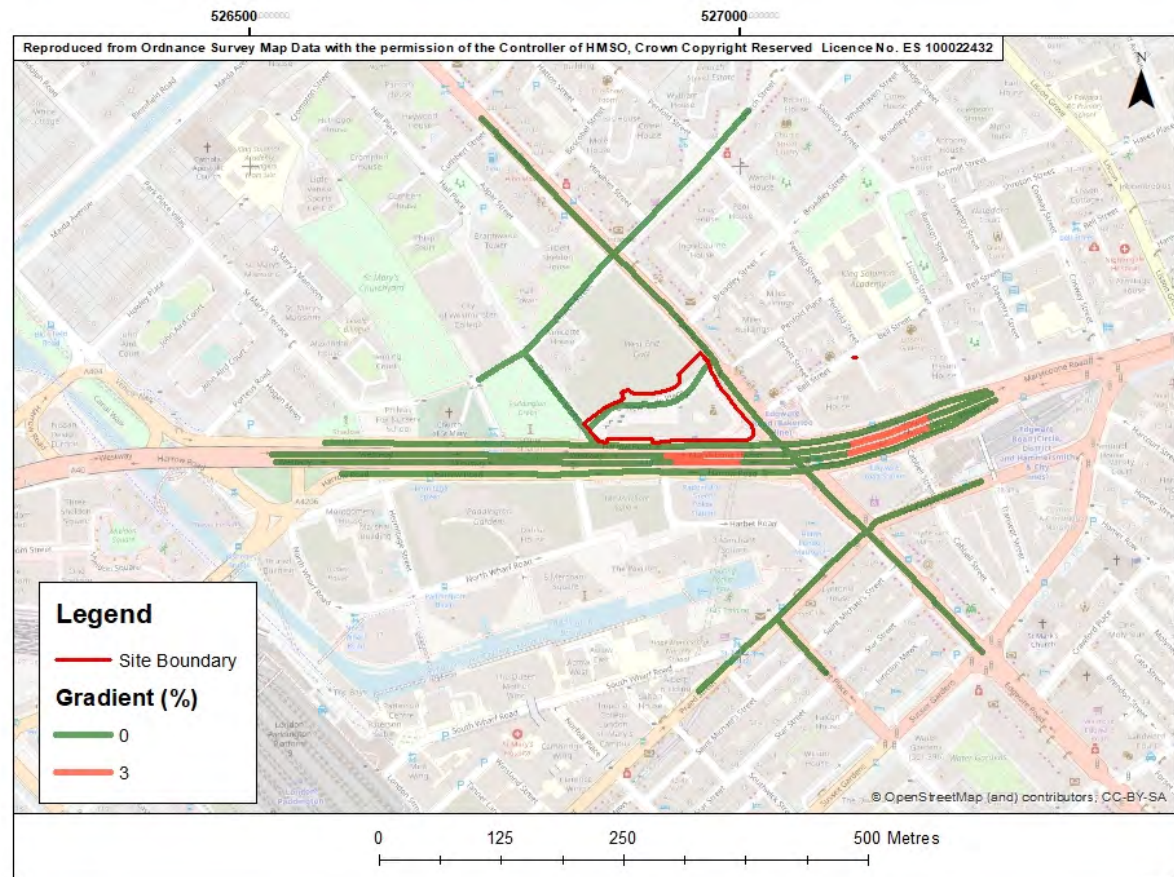


Figure 1.5e: Roads Gradient

1.3 Model Inputs

- 1.3.1 Traffic emissions were calculated using the Emission Factor Toolkit (EFT) v10.1 embedded in the ADMS model, which utilises nitrogen oxides (NO_x), PM₁₀ and PM_{2.5} emission factors from the European Environment Agency COPERT 5.3 emission tool¹. The traffic data were entered into the ADMS roads model, along with speed data to provide combined emission rates for each of the modelled road links. The model was run using 2019 meteorological data from Heathrow Airport meteorological station, which is considered to be the most representative meteorological monitoring station to the site.
- 1.3.2 The predicted concentrations of roadside NO_x were converted to roadside NO₂ using the LAQM conversion calculator available from the Defra air quality website².
- 1.3.3 Further information on the model set up is provided in Table 1. and provided in Figures 1.1a to 1.1e.

Table 1.4: ADMS Model Inputs	
Meteorological Data	2019 Hourly meteorological data from Heathrow Airport Station has been used in the model. The wind rose is shown below.
ADMS	ADMS Roads version 5.0.0.1, ADMS5 version 5.2
Latitude (°)	51.5
Surface Roughness	A value of 1.5 m for large urban areas was used to represent the modelled area and 0.2 Agricultural areas to represent the meteorological station site.
Minimum Monin-Obukhov length	A value of 100 for large conurbations was used to represent the modelled area and 30 mixed urban/industrial to represent the meteorological station site.
Elevation and gradients	Elevated roads sections modelled where flyovers or bridges with free air flow underneath where present. Embankments and slip roads modelled with gradient.
Emission Factor Toolkit (EFT)	V10.1. Road type inner London.
Diurnal Factor	2019 DfT national transport statistics ³ .
Street Canyon	ADMS Advance street canyon used. Assume 3 m per floor to estimate building heights. Proposed development height plans used to determine the development heights.
NO_x to NO₂ Conversion	NO _x to NO ₂ calculator version 8.1. Traffic Mix All London traffic.
Background Maps	2018 reference year background maps ⁴

¹ Department for Environment Food and Rural Affairs. Emissions Factors Toolkit. <https://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.htm>.
² Department for Environment Food and Rural Affairs. NO_x to NO₂ calculator. <https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html#NOxNO2calc>

³ Annual daily traffic flow and distribution (TRA03). <https://www.gov.uk/government/statistical-data-sets/road-traffic-statistics-tra>.
⁴ <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>

1.4 Terrain

1.4.1 The terrain in the vicinity of the site is flat with no slopes more than 10 %, and therefore terrain effects have not been included within the modelling.

1.5 Energy Centre Parameters

ADMS 5 Parameters

1.5.1 Information on the model set up is provided in Table 1..

Buildings

1.5.2 Entrainment of the plume into the wake of the stack (the so-called building downwash effect) has been taken into account by including the proposed development buildings within the model. The nearby buildings may also have an impact on the dispersion, and thus these have also been included. The buildings set out is shown in **Error! Reference source not found.** have been included within the ADMS 5 model.

annual average the PC is added to the baseline concentrations (process environmental contribution- PEC) and for the short-term assessment, the baseline concentrations are assumed to be twice the annual mean determined from the roads modelling assessment.

1.5.4 The input data for the point sources are included in **Error! Reference source not found.** The location of the modelled point sources is shown in Figure 1.2.

Parameter	CHP	Boilers
Number	1	31
Capacity (kWth)	507	1750
Stack Height (m) to nearest m	104	104
Number of Stacks	1	1
Stack Location	X526921 Y181784	X526921 Y181785
Stack Diameter(m)	0.30	0.75
Stack Temperature (°C)	42	54
Volume Flow (Nm ³ /h)	1	-
Volume Flow (kg/h)	-	0.63
Discharge Velocity (m/s)	13	7.6
Hours of Operation per day	17	10
NOx Emission (mg/Nm ³)	95	-
NOx Emission (mg/kWh)	-	35
NOx Emission per Stack (g/s)	0.095	0.0258

Notes: ¹ Although the energy centre would contain 4 boilers, only 3 would operate at any one time with the fourth being used as a back-up.

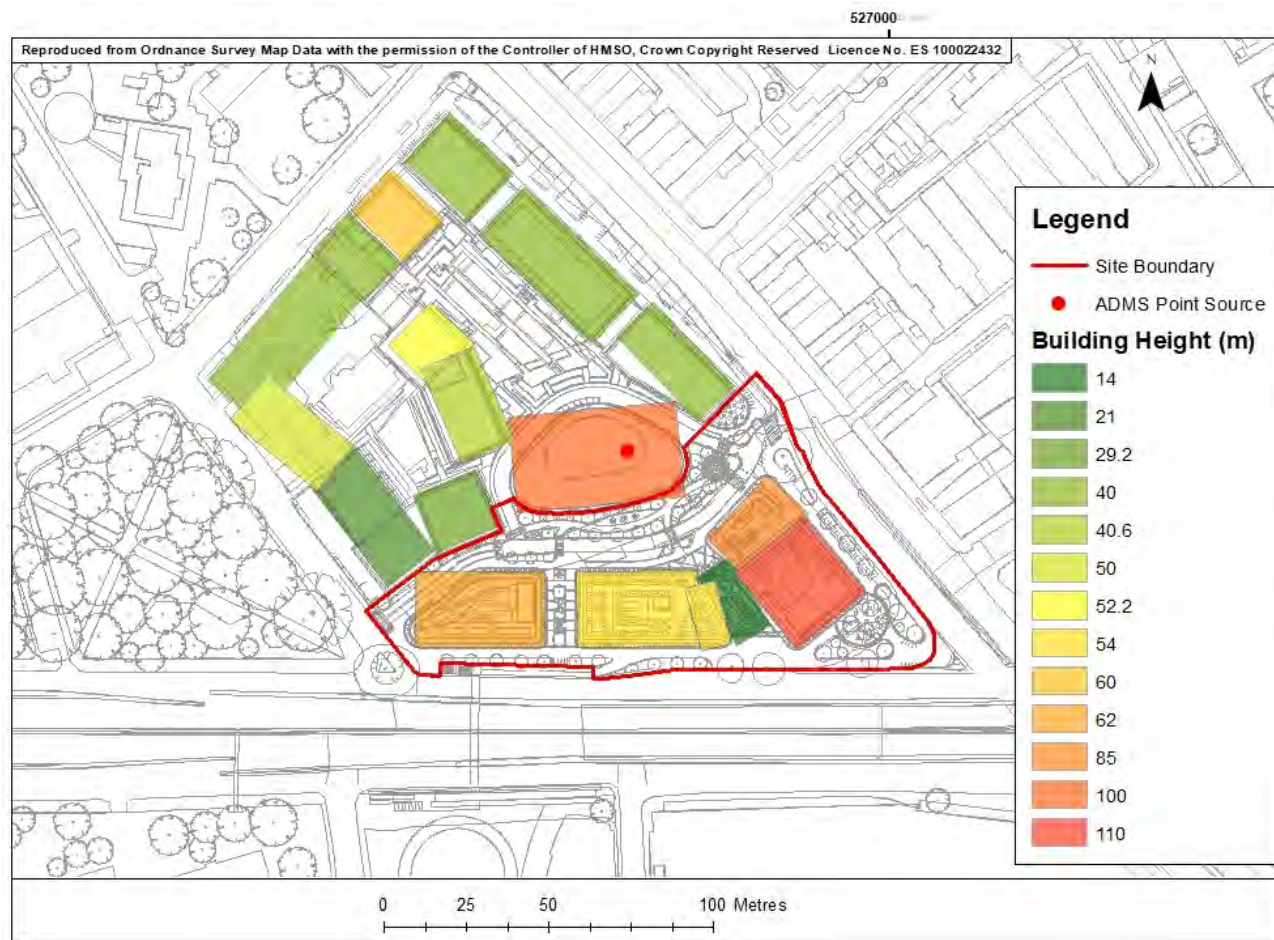


Figure 1.2: ADMS5 Modelled Buildings and Stack

Emissions and Parameters

1.5.3 The modelled process contribution (PC) has been derived assuming a conversion ratio of 35 % for short-term and 70 % for long-term of NOx to NO₂. This is in line with the EAs recommendation for a 'worst case scenario'⁵. The likelihood of exceeding the annual mean and the 1-hour mean objectives has taken into account the baseline roads modelled pollutant concentrations in the vicinity of the site. For the

⁵ <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>.

Technical Appendix 7.4: Air Quality Background Concentrations & Model Verification

1. BACKGROUND CONCENTRATIONS

1.0.1 In order to more accurately reflect background concentrations across the study area, Defra mapped background concentrations have been compared against concentrations measured at North Kensington and London Bloomsbury Automatic Urban and Rural Network (AURN)¹ automatic urban background stations in 2019 to produce a calibration factor, which then has been applied to background concentrations across the study area (Table 1.1 to table 1.3). The location of the automatic sites is shown in Figure 1.1.

Station	Distance to Application Site (km)	Data Capture (%)	Defra Modelled Background (µg/m ³)	Measured Concentration (µg/m ³)	Factor
KC1 Kensington AURN	3	99%	33.8	27.3	0.81
London Bloomsbury	3.1	98%	39.3	31.50	0.80
Average factor					0.81

Station	Distance to Application Site (km)	Data Capture (%)	Defra Modelled Background (µg/m ³)	Measured Concentration (µg/m ³)	Factor
KC1 Kensington AURN	3	100%	20.4	14.5	0.71
London Bloomsbury	3.1	92%	20.3	17.6	0.87
Average factor					0.79

Station	Distance to Application Site (km)	Data Capture (%)	Defra Modelled Background (µg/m ³)	Measured Concentration (µg/m ³)	Factor
KC1 Kensington AURN	3	100%	12.9	9.6	0.74
London Bloomsbury	3.1	98%	12.9	10.8	0.83
Average factor					0.79

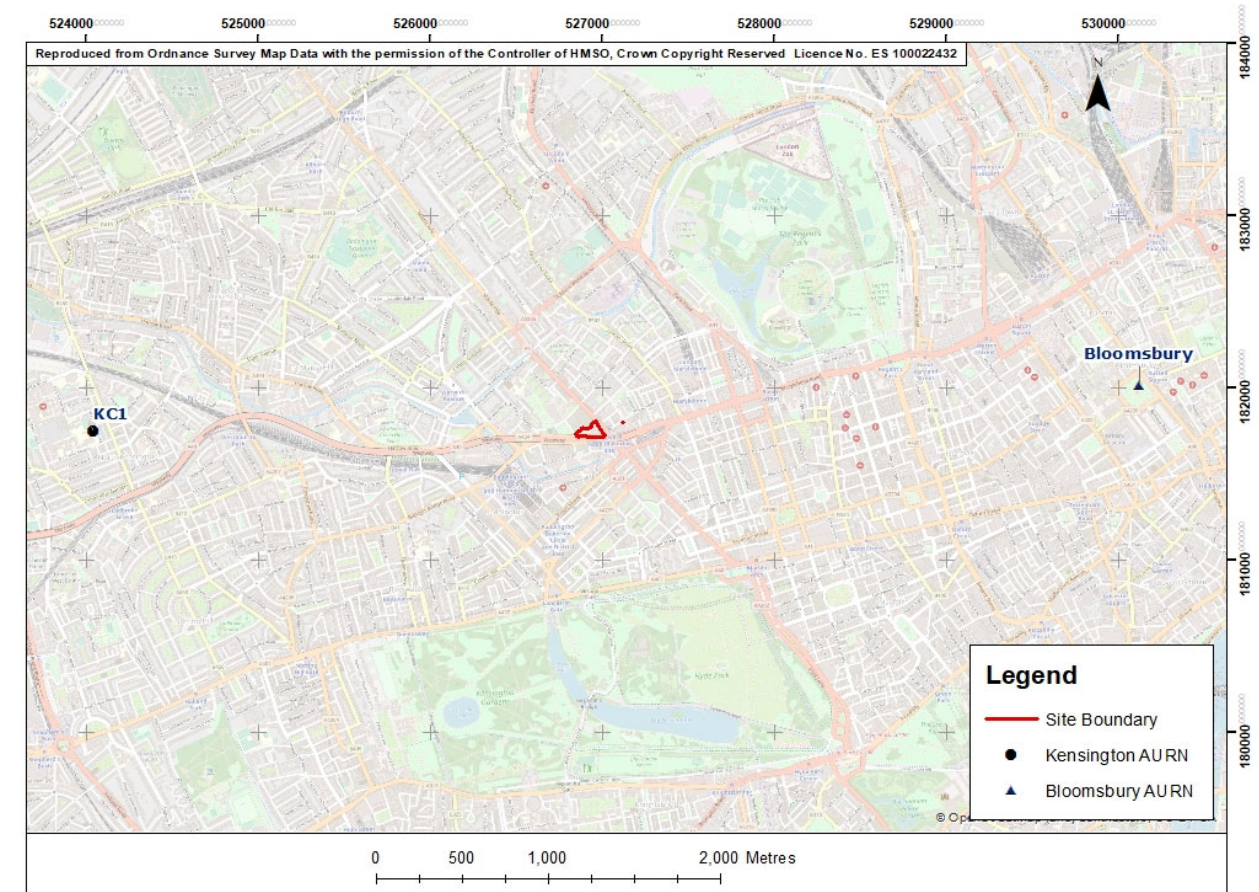


Figure 1.1: Air Quality Automatic Urban Background Site

¹ https://uk-air.defra.gov.uk/networks/site-info?uka_id=UKA00253

2. MODEL VERIFICATION

2.1 Nitrogen Dioxide

2.1.1 The model has been run to predict the 2019 annual mean road-NOx contribution at four monitoring locations (identified in Table 2.1).

2.1.2 The initial model output of road-NOx was converted to NO₂, within the NOx from NO₂ calculator, and compared with the measured road-NO₂ as presented in Table 2.1.

Table 2.1: Verification Process Initial Comparison

Monitor	Height (m)	Measured NO ₂ µg/m ³	Modelled Road NO _x µg/m ³	Unadjusted Modelled NO ₂	% Difference Modelled/Measured NO ₂
Marylebone AURN	4	62.7	86.3	60.3	-4%
KC2	1.4	42.6	33.3	41.8	-2%
KC33	2	70.1	71.8	55.7	-21%
BR57	2.5	48.7	30.0	36.2	-26%

2.1.3 As the model has been used to predict NOx road contribution, the model output of road-NOx has been compared with the 'measured' road-NOx as per LAQM TG(16) Box 7.15. The model output of road-NOx has been compared with the 'measured' road-NOx, which was calculated from the measured NO₂ concentrations and the adjusted background NO₂ concentrations within the NOx from NO₂ calculator.

2.1.4 A primary adjustment factor was determined as the slope of the best fit line between the 'measured' road contribution and the model derived road contribution (Table 2.2, Figure 2.1). This factor was then applied to the modelled road-NOx concentration for each monitoring site to provide adjusted modelled road-NOx concentrations. A secondary adjustment factor was finally calculated as the slope of the best fit line applied to the adjusted data and forced through zero (Table 2.2, Figure 2.2). The total nitrogen dioxide concentrations were then determined by combining the adjusted modelled road-NOx concentrations with the predicted background NO₂ concentration within the NOx from NO₂ calculator (Table 2.3).

2.1.5 The following primary and secondary adjustment factors have been applied to all modelled nitrogen dioxide data:

Table 2.2: Verification Factors

Primary Adjustment Factor	1.3443
Secondary adjustment factor	1.0109

Table 2.3: Verification Process Followed by Adjustment

Monitor	Measured NO ₂ µg/m ³	Measured Road NO _x µg/m ³	Modelled Roadside NO _x µg/m ³	Ratio Measured NO _x / Modelled road NO _x	Total NO ₂ after adjustment µg/m ³	% Difference in NO ₂ after adjustment
Marylebone AURN	62.7	94.1	86.3	1.09	70.0	12%
KC2	42.6	35.2	33.3	1.06	46.7	10%
KC33	70.1	118.6	71.8	1.65	64.2	-8%
BR57	48.7	60.9	30.0	2.03	40.7	-16%

2.1.6 The results imply that overall, the model was under-predicting the road-NOx contribution. This is a common experience with this and most other models. The final NO₂ adjustment is minor.

2.1.7 Figure 2.3 compares final adjusted modelled total NO₂ at each of the monitoring sites, to measured total NO₂, and shows the 1:1 relationship, as well as ±10% and ±25% of the 1:1 line.

2.1.8 Table 2.4 presents the Model uncertainty, which has been estimated by calculating the root mean square error (RMSE). The calculated RMSE is within the suggested value (25 % of the objective being assessed) in LAQM.TG(16). The model has therefore performed sufficiently well for use within this assessment.

Table 2.4: Model Uncertainty

RMSE	6.5 µg/m ³
% NAQO	16%

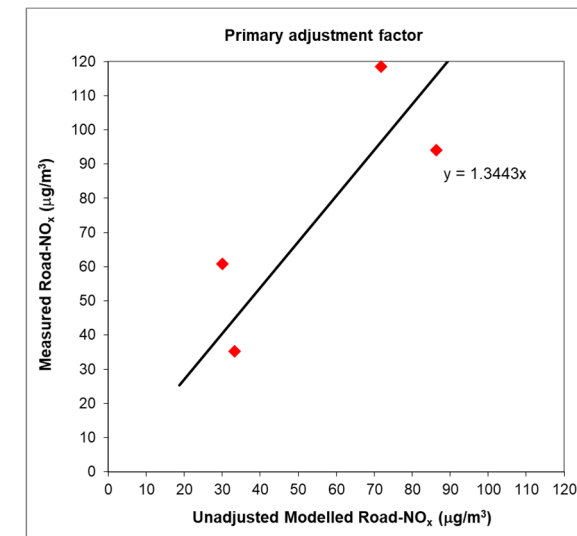


Figure 2.1: Comparison of Measured NO₂ with Primary Adjusted Modelled NO₂

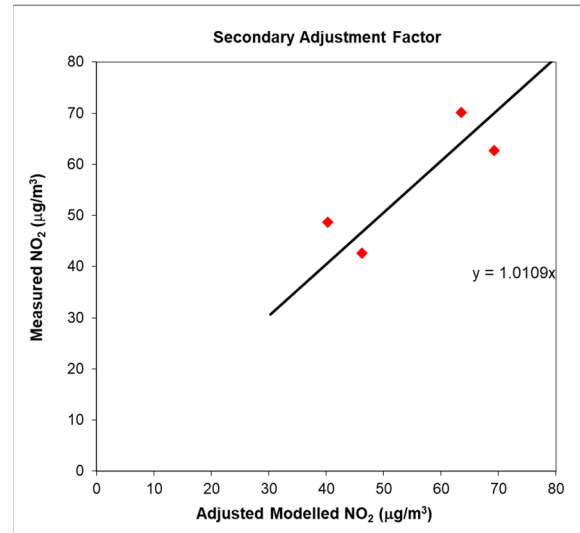


Figure 2.2: Comparison of Measured NO₂ with Primary Adjusted Modelled NO₂ Concentrations

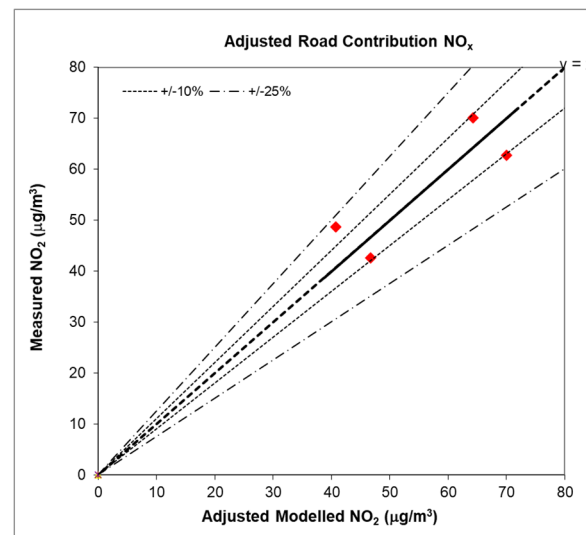


Figure 2.3: Comparison of Measured NO₂ with Fully Adjusted Modelled NO₂ Concentrations

2.2 Particulates

2.2.1 PM₁₀ and PM_{2.5} monitoring is undertaken at Marylebone AURN automatic site. Table 2.5 presents the particulates adjustment factor.

Table 2.5: Particulates Verification					
Particulates	Measured Concentration (µg/m ³)	Defra Modelled Background (µg/m ³)	Measured Road (Measured – Background) (µg/m ³)	Modelled Cocentration (µg/m ³)	Factor
PM ₁₀	22.2	15.5	6.8	5.5	1.23
PM _{2.5}	14.3	9.9	4.5	3.4	1.30

Technical Appendix 8.1: Noise and Vibration Legislation and Policy

TECHNICAL APPENDIX 8.1: NOISE AND VIBRATION LEGISLATION AND GUIDANCE

1. National Legislation

1.1 Control of Pollution Act, 1974, Part III - Noise

The Control of Pollution Act, 1974¹ (CPA) is a combination and refinement of earlier Acts including: The Public Health Act, 1936² (replaced by the Public Health Act 1990, Part III) and the Noise Abatement Act 1960³.

Section 60 enables a Local Authority to serve a notice on a person (this includes a company) who is carrying out, or who is planning to carry out, works of construction, demolition, road-works, railway maintenance etc. in order to control the noise from those operations.

Section 61 also enables such a person to apply to the Local Authority for consent in respect of such works. The Act introduces the concept of using 'Best Practicable Means' (BPM) to control the impact of noise, where significant impacts are likely to occur. BPM refers to the selection of plant, techniques and equipment to reduce noise whilst considering local conditions, current state of technical knowledge and the financial implications. Factors such as timing, duration, location and opportunities for acoustic screening or separation are employed; in order to ensure that impacts are controlled in so far as is reasonably practicable. The demonstrable use of BPM can also be used as a defence to enforcement action under nuisance legislation.

1.2 The Environmental Protection Act, 1990 (as amended)

Section 79 of the Environmental Protection Act 1990⁴ (EPA) declares that a number of matters, including noise, are to be statutory nuisances. Under the provisions of the Environmental Protection Act, the Local Authority is required to inspect its area periodically to detect any nuisance and, where a complaint of a statutory nuisance is made by a person living within its area, to take such steps as are reasonably practicable to investigate the complaint.

1.3 National Planning Policy Framework, 2019

The National Planning Policy Framework (NPPF)⁵ adopted in 2019 in England outlines the Government's planning policies and requirements for the planning system. The NPPF forms a material consideration in planning decisions and hence must be complied with for planning permission to be granted.

Paragraph 180 of the NPPF states that the planning system should seek to:

- *"Mitigation and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;*
- *Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason".*

¹ Secretary of State, 1974, Control of Pollution Act, HMSO. Available: <http://www.legislation.gov.uk/ukpga/1974/40/contents>

² Secretary of State, 1960, Noise Abatement Act, HMSO.

³ Secretary of State, 1960, Noise Abatement Act, HMSO. Available: <http://www.legislation.gov.uk/ukpga/1960/68/section/1/enacted>

⁴ Secretary of State, 1990. Environmental Protection Act 1990, The Stationary Office. Available: <http://www.legislation.gov.uk/ukpga/1990/43/contents>

⁵ Ministry of Housing, Communities & Local Government, 2019. The National Planning Policy Framework. HMSO.

To achieve these aims the NPPF refers to the Noise Policy Statement for England 2010.

1.4 Noise Policy Statement for England, 2010

The Noise Policy Statement⁶ for England sets out the long-term vision of Government noise policy: to promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.

The NPSE outlines the following three aims for the effective management and control of environmental, neighbour and neighbourhood noise:

- *"Avoid significant adverse impacts on health and quality of life;*
- *Mitigate and minimise adverse impacts on health and quality of life; and*
- *Where possible, contribute to the improvement of health and quality of life."*

The guidance defines three concepts applied to noise impacts. These are:

- NOEL is defined as: *"This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise."*
- LOAEL which is defined as: *"This is the level above which adverse effects on health and quality of life can be detected."*; and
- SOAEL which is defined as the level above which significant adverse effects on health and quality of life occur.

The three aims can therefore be interpreted as follows:

- The first aim is to avoid noise levels above the SOAEL;
- The second aim considers situations where noise levels are between the LOAEL and SOAEL. In such circumstances, all reasonable steps should be taken to mitigate and minimise the effects. However, this does not mean that such adverse effects cannot occur; and
- The third aim considers situations where noise levels are between the LOAEL and NOEL. In these circumstances, where possible, reductions in noise levels should be sought through the pro-active management of noise.

The NPSE recognises that it is not possible to have single objective noise-based measures that define the SOAEL, LOAEL and NOEL that are applicable to all sources of noise in all situations. The levels are likely to be different for different noise sources, receptors and at different times of the day.

1.5 Planning Practice Guidance

In March 2014 (and updated in 2019), the Department for Communities and Local Government (DCLG) (now the Ministry for Housing, Communities and Local Government) released its PPG web-based resource to support the NPPF. The guidance advises that local planning authorities should consider:

- *"Whether or not a significant adverse effect is occurring or likely to occur;*
- *Whether or not an adverse effect is occurring or likely to occur; and*
- *Whether or not a good standard of amenity can be achieved."*

The PPG qualifies the effect of noise based on whether a source is noticeable and/or intrusive and/or causes a change in behaviour or attitude.

⁶ Ministry of Housing, Communities and Local Government, 2017. Planning practice guidance. HMSO. London.

The Lowest Observed Adverse Effect Level (LOAEL) is described as noise that can be heard and can cause small changes to behaviour and/or attitudes, for example turning up the volume on the television. The LOAEL affects the acoustic character of the area such that there is a perceived change in the quality of life.

The Significant Observed Adverse Effect Level (SOAEL) is defined as the level at which noise causes a change in behaviour and/or attitude, such as avoiding certain activities during periods of intrusion or, where there is no alternative to ventilation, having to keep windows closed most of the time because of the noise.

The latest version of PPG introduced the concepts of NOEL (No Observed Effect Level), and UAEL (Unacceptable Adverse Effect Level). Full details of the PPG on effects are provided in Table 1.

Table 1: PPG Guidance			
Perception	Examples of Outcomes	Increasing Effect Level	Action
Not noticeable	No Effect	No Observed Effect	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level (LOAEL)			
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level (SOAEL)			
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and	Extensive and regular changes in behaviour and/or an inability to mitigate	Unacceptable Adverse Effect	Prevent

Table 1: PPG Guidance			
Perception	Examples of Outcomes	Increasing Effect Level	Action
very disruptive	effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.		

Factors to be considered in determining if noise is a concern are identified including the absolute noise level of the source, the existing ambient noise climate, time of day, frequency of occurrence, duration, character of the noise and cumulative impacts.

2. Regional Policy

2.1 London Plan, 2021

The London Plan⁷ provides strategic planning guidance for Greater London. Boroughs' local development documents have to be 'in general conformity' with the London Plan, which is also legally part of the development plan that has to be taken into account when planning decisions are taken in any part of London unless there are planning reasons why it should not.

The following policies applicable to the proposed development refer to noise:

'D8 – Public Realm': *"Development proposals should...include[s] design that reduces the impact of traffic noise"*

'D9 – Tall Buildings': *"noise created by air movements around the building(s), servicing machinery or building uses, should not detract from the comfort and enjoyment of open spaces"*.

'D12 – Agent of Change': *"Development should be designed to ensure that established noise-generating venues... remain viable and can continue or grow without unreasonable restrictions being placed on them."*

'D13 – Noise': *"Residential and other non-aviation proposals should manage noise by:*

- *Avoiding significant adverse noise impacts on health and quality of life*
- *Reflecting the Agent of Change principle as set out in Policy D13 Agent of Change*
- *Mitigation and minimising the existing and potential adverse impact of noise on, form, within, as a result of, or in the vicinity of new development without placing unreasonable restrictions on existing noise-generating uses*
- *improving and enhancing the acoustic environment and promoting appropriate soundscapes (including Quiet Areas and spaces of relative tranquility)*
- *separating new noise-sensitive development from major noise sources (such as road, rail, air transport and some types of industrial use) through the use of distance, screening, layout, orientation, uses and materials – in preference to sole reliance on sound insulation*
- *where it is not possible to achieve separation of noise-sensitive development and noise sources without undue impact on other sustainable development objectives, then any*

⁷ Greater London Authority, 2021. The London Plan. The Spatial Development Strategy for Greater London. London. GLA.

potential adverse effects should be controlled and mitigated through applying good acoustic design principles

- *promoting new technologies and improved practices to reduce noise at source, and on the transmission path from source to receiver*"

Policy T7: Development plans should consider noise from deliveries, servicing and construction. Other key themes are the consideration of traffic / transport noise, suitable façade design to limit internal noise levels and the use of emerging technologies e.g. electric vehicles to reduce noise.

2.2 London Environment Strategy, 2018

The London Environmental Strategy⁸, published in May 2018, evaluates the current condition of London's environment at a city-wide level. The following policy is relevant to the proposed development:

- Policy '9.3.3 - Reduce the impacts of noise through good design'.

2.3 Souder City, The Mayor's Ambient Noise Strategy, 2004

The London Ambient Noise Strategy⁹ aims to minimise the adverse effects of noise on people living, working in and visiting London by using the best available practices and technologies within a sustainable development framework.

The Strategy states:

"This strategy sets out the main steps that need to be taken, including quieter road surfaces, smoother traffic flow, rail infrastructure improvements, aircraft noise measures, and improved design for new developments."

"The aim of the Mayor's ambient noise strategy is a practical one – to minimise the adverse impacts of noise on people living and working in, and visiting London using the best available practices and technology within a sustainable development framework."

2.4 Sustainable Design and Construction Supplementary Planning Guidance, 2014

This SPG¹⁰ aims to support developers, local planning authorities and neighbourhoods to achieve sustainable development.

Regarding noise, this SPG provides information for the following key areas:

- Sources of noise;
- Ways to mitigate noise emitted by developments;
- Ways to mitigate the impact of noise on developments; and
- Some detailed design considerations.

⁸ Greater London Authority, 2018. London Environment Strategy. London. GLA.

⁹ Greater London Authority, 2004. Souder City, The Mayor's Ambient Noise Strategy, London. GLA.

¹⁰ Greater London Authority, 2014. Sustainable Design and Construction Supplementary Planning Guidance. London. GLA.

3. Local Policy

3.1 Westminster City Plan 2019-2040

In respect of emerging policy, the WCC submitted the City Plan 2019-2040 to the Secretary of State on 19 November 2019. Following an independent examination by the Planning Inspectorate the WCC received the Inspectors' Report on the City Plan 2019-2040 on 19 March 2021. This concludes that with the recommended main modifications, the plan is sound and compliant with legal requirements.

The WCC will now proceed towards formal adoption of the City Plan 2019-2040: Intend to Adopt version (incorporating these main modifications) at the next meeting of Full Council. Given the advanced stage in the plan-making process, all policies in the City Plan 2019-2040 will carry significant weight as a material consideration in determining planning applications.

Once the City Plan 2019-2040¹¹ has been adopted, it will be the Local Plan for Westminster and will replace all current policies in Westminster's City Plan and UDP saved policies.

Objective 7 in the City Plan is to *"improve air quality, minimise noise and other polluting impacts"*. It requires that development must prevent unacceptable environmental impacts on existing and new users of buildings or its neighbours. This includes utilising Agent of Change principle, which requires the applicant to safeguard future local amenity and prevent the existing nearby users from having to curtail their activity.

In particular, it states:

"Development should prevent adverse effects of noise and vibration and improve the noise environment in compliance with the council's Noise Thresholds, with particular attention to:

- 1. minimising noise impacts and preventing noise intrusion to residential developments and sensitive uses;*
- 2. minimising noise from plant machinery and internal activities;*
- 3. minimising noise from servicing and deliveries; and*
- 4. protecting the relative tranquillity in and around open spaces"*

It acknowledges that people go to the city for work, culture and entertainment and that noise is a by-product of these activities, making ambient noise levels in Westminster higher than regional and national averages. It requires that developments should be constructed and operated to minimise noise (particularly if noise-generating uses are proposed) including cumulative effects. It references the Noise Technical Guidance Note (outlined in section 3.4).

Other reference to noise applicable to the proposed development are that:

- single-aspect dwellings / homes where noise levels need to remain closed owing to external noise will require design measures to mitigate against overheating and provide adequate ventilation
- noise from servicing should be considered, including spreading of movements across the day
- development should be predominantly car free so as to minimise noise
- construction noise should be considered.

¹¹ Westminster City Council, 2020. Westminster City Plan 2019-2040. London. WCC.

3.2 Westminster City Plan, 2016

The Westminster City Plan 2016¹² acknowledges that the 24-hour nature of some parts of the city strongly affects noise levels; and references the A40 as a particular source of noise. The City Plan also recognises that new development will impact residents and businesses, both during construction and post-construction.

It requires that new homes should be designed to ensure a high-quality residential environment with attention paid to noise pollution. It also states that the amenity impact should be minimised by careful siting of plant to reduced noise nuisance.

The 'Noise Pollution' section outlines that reducing average noise level in the city continues to be an important objective. However, it recognises that *"it is not necessarily the loudest or continuous noise that causes the most annoyance; some individual noise incidences are a problem because they are intermittent and unpredictable; other noises have tonal characteristics that most people find unpleasant."* It advocates a holistic approach to managing noise and improving the overall quality of the sound environment.

Policy 32 states: "The council will work to reduce noise pollution and its impacts and protect Noise Sensitive Receptors from noise by:

- Requiring development to minimise and contain noise and vibration;
- Ensuring development provides an acceptable noise and vibration climate for occupants and is designed to minimise exposure to vibration and external noise sources; and
- Securing improvements to Westminster's sound environment, including protecting open spaces of particular value for their relative tranquillity."

3.3 Westminster Unitary Development Plan, 2010 (Saved Policies): Chapter 9 Environment

The UDP¹³ Noise Pollution section references the aforementioned planning policy, as well as the Institute of Acoustics and the Institute of Environmental Management and Assessment draft 'Guidelines for Noise impact Assessment'. It aims to reduce noise levels throughout the City to below the maximum levels set out in the world Health Organisation guidance; to limit noise from development and to protect noise sensitive properties from noise disturbance/

Policy Env 6 states that council will require:

- design to contain noise from developments and protect noise sensitive properties including adjoining properties
- a noise and vibration assessment report where development or change of use could affect noise sensitive properties
- residential developments to provide adequate protection from existing background noise
- conditions restricting noise
- mechanical, ventilation and ducting equipment must be contained within the building envelope of new developments

¹² Westminster City Council, 2016. Available online: <https://www.westminster.gov.uk/planning-building-and-environmental-regulations/city-plan-neighbourhood-planning-and-planning-policy/westminsters-city-plan-and-unitary-development-policies-udp/unitary-development-plan-udp>

¹³ Westminster City Council, 2010. Available online: <https://www.westminster.gov.uk/planning-building-and-environmental-regulations/city-plan-neighbourhood-planning-and-planning-policy/westminsters-city-plan-and-unitary-development-policies-udp/unitary-development-plan-udp>

- construction should be kept to minimum disturbance and hours of work must be agreed with the City Council prior to commencement onsite. T
- traffic noise to be minimised.

It also lists out how to achieve these measures. It requires that <30dB LAeq, <45dB LAmax is achieved at night (<35dB LAeq in the day) internally in residential developments. With regard to externally noise, it states that

"Where proposed residential development would be subject to a noise exposure category from mixed sources exceeding:

- 72 dB (LAeq,T) between 07.00 and 23.00 hours
- 66 dB (LAeq,T) between 23.00 and 07.00 hours,

conditions will be imposed to ensure that the development incorporates highly effective protection against these very high levels of noise for a residential area."

Policy Env 7 requires that where the external noise level exceed WHO guidelines of LAeq,12hr 55dB (day); LAeq,4hr 50dB (evening); LAeq,8hr 45dB (night) plant noise should not exceed 10dB (or 15dB if tonal / intermittent) below the minimum external background noise at the nearest noise-sensitive properties. Noise from emergency plant should increase the minimum background noise levels by no more than 10dB for the purposes of testing. This can be for up to 1 hour per month 0900-1700 Monday to Friday excluding bank holidays.

3.4 Westminster Draft Noise Technical Guidance Note, 2019

This document¹⁴ replaces much of the guidance that was previously set out in the UDP Saved Policies Chapter 9. The guidance relevant to the proposed development has been outlined; references to gym facilities / music and entertainment are not applicable to the proposed development.

Internal noise levels

It sets out the internal guideline noise values: <30dB LAeq and <45dB LAmax at night; and <35dB LAeq in the day in residential developments.

External noise levels

It outlines external guideline noise values of <55dB LAeq as having risk of serious annoyance and <50dB LAeq as having moderate annoyance.

Vibration levels

It states that the design and structure of the development should protect future occupiers from vibration; limiting the levels to <0.4m/s^{-1.75} in the day and <0.2 m/s^{-1.75} at night.

Plant noise

Where external noise levels are in excess of 55dB LAeq in the day and 45dB LAeq at night, plant noise should be 10dB below the minimum external background noise levels and 15dB if the plant contains tones / intermittent characteristics.

3.5 Westminster Code of Construction Practice, 2016

The following general points form the Code of Construction Practice¹⁵ are relevant to noise:

¹⁴ City of Westminster, 2019. Draft Noise Technical Guidance Note.

¹⁵ City of Westminster, 2016. Available online:

https://www.westminster.gov.uk/sites/default/files/code_of_construction_practice_2016_v1.1_4.pdf

- Core working hours will be 0800 to 1800 on weekdays and 0800 to 1300 on Saturday – operations anticipated to cause disturbance would be limited to these hours, except in case of emergency. Any additional working hours must have prior agreement with the City Council and 14 days notification is required as a minimum.
- Standard hoarding is 2.44m minimum height, plywood faced, timber framed boundary hoarding, of a surface density $\geq 7\text{kg/m}^2$
- “The developer / contractor must take all reasonable precautions to ensure that equipment is operated in a manner so as not to cause nuisance to surrounding residents and occupiers.”

The Noise and Vibration Policy outlines how the contractor must monitor and control levels of noise and vibration from the site. Best Practical Means (BPM) as defined in the Control of Pollution Act applies to all activities and prior permission may be sought from the planning authority relating to noisy construction activities.

Prior to commencement

The City Council may require the developer to establish baseline noise sources to formulate acceptable noise levels for each site audible at the site boundary. The City Council may also undertake noise level monitoring prior to commencement to cross-check developers’ assumptions. Prior to commencement, the contractor will be required by the City Council to demonstrate their proposals to reduce noise and vibration. Formal consents may be required in line with relevant standards.

During construction

Sound levels should be monitored in accordance with BS5228: Part 1, to achieve noise levels at or below the specified limits. To achieve this, the following items must be considered:

- Worksite gates should be controlled so as to minimise time open;
- Fixed items of plant should be electrically driven rather than diesel- or petrol-driven; where this is not possible, suitable attenuation measures should be provided;
- Exhaust silencers should be fitted to vehicle and mechanical plant;
- Compressors must be “sound reduced” i.e. fitted with properly lined and sealed acoustic covers;
- Pneumatic percussive tools must be fitted with the most effect muffler or silencer;
- Machines in intermittent use should be shut down in the intervening periods / throttled down to a minimum;
- Continuously running plant may have to be housed in a suitable acoustic enclosure;
- Equipment that breaks concrete by bending rather than by percussion should be used as far as possible;
- Sheet piling with diesel / air driven impact / drop hammer may not be acceptable on some sites. Use of hydraulically operated or vibratory hammers may be necessary in these instances;
- Rotary drills and bursters using hydraulic or electrical power should be used for excavating hard material;
- Noise plant should be sited as far away as possible from noise-sensitive buildings. The use of barriers including bunds should also be employed;
- Care should be taken when loading or unloading vehicles / dismantling scaffolding; and
- A method statement stating the plant to be used including sound power levels of plant from the manufacturer, including control methods and programme of work should be

supplied to the Environmental Inspectorate. Alterations should be submitted to City Council for prior consent.

With regard to vibration, the contractor will be obliged to comply with vibration levels agreed with the City Council. Both human exposure (in accordance with BS6472:2992) and protection of structures (no significant damage to adjacent structures) must be considered.

4. Guidance

4.1 BS5228:2009+A1:2014 - ‘Code of Practice for Noise and Vibration Control on Construction and Open Sites’

BS5228:2009+A1:2014 (British Standards Institute (a), 2009) gives recommendations for basic methods of noise and vibration control relating to construction work. It also provides guidance concerning methods of predicting and measuring noise and vibration and assessing its impact on those exposed to it. The prediction method considers the noise emissions level of proposed plant, the separation distance between the source and the receiver and the effect of the intervening topography and structures.

4.2 BS4142:2014 - ‘Methods for Rating and Assessing Industrial and Commercial Sound’

BS4142:2014 – Method for rating and assessing industrial and commercial sound provides a method for assessing the significance of noise emissions from industrial and/or commercial sound source.

The significance of industrial and commercial sound is assessed based on the difference between the rating level resulting from plant operation measured or predicted at the nearest noise sensitive premises, and the existing background noise level in the area, as determined by a noise survey. BS 4142 states:

- a) Typically, the greater this difference, the greater the magnitude of the impact.*
- b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.*
- c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.*
- d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.’*
- e) A representative level ought to account for the range of background sound levels and ought not automatically to be assumed to be either the minimum or modal value.’*

BS4142 also sets out the following rating penalties based on the characteristics of the noise source:

- **Tonality:** up to 6 dB rating penalty applicable depending on its perception;
- **Impulsivity:** up to 9 dB rating penalty applicable depending on its perception;
- **Other sound characteristics:** a 3 dB penalty applicable for readily distinctive sound feature characteristics that are neither tonal or impulsive;
- **Intermittency:** a 3 dB penalty applicable for specific sound that has identifiable on/off conditions.

4.3 BS8233:2014– ‘Guidance on sound insulation and noise reduction for buildings’

Guidance on the acceptable noise levels within residential buildings is given in British Standard BS8233:2014. The internal noise levels depend on the use of each room and the sensitivity to noise of the activities expected to be conducted in the rooms. An extract of the indoor ambient noise levels for dwellings is reproduced in Table 2.

Table 2: BS8233 indoor ambient noise levels for dwellings

Activity	Location	Daytime	Night-time
Resting	Living room	35 dB LAeq,16hour	-
Dining	Dining room / area	40 dB LAeq,16hour	-
Sleeping (daytime resting)	Bedroom	35 dB LAeq,16hour	30 dB LAeq,8hour

Note 7 referring to Table 5 in BS8233 states that where development is considered necessary or desirable, despite external noise levels above World Health Organisation guidelines (detailed in section 3.8), the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved.

For external amenity areas such as gardens, courtyards and terraces, BS8233 specifies that it is desirable that the external noise level does not exceed 50 dB LAeq,T, with an upper guideline value of 55 dB LAeq,T acceptable in noisier environments. However, it is also recognised that these guidelines values are sometimes not achievable in all circumstances where the development might be desirable.

4.4 World Health Organisation Guidelines

The World Health Organisation (WHO) published their ‘Guidelines for Community Noise’ in 1999. The ‘Guidelines for Community Noise’ set out guidance on appropriate noise levels for different scenarios to ensure that communities are not subjected to unacceptable levels of noise. These are presented in Table 3. It should be noted that the WHO guidelines, although widely referenced in UK, have no legal status.

Table 3: World Health Organisation Guidelines for Noise

Specific Environment	Critical Health Effect(s)	LAeq /dB	Time Base [hours]	LAFmax / dB
Outdoor living area	Serious annoyance, daytime and evening	55	16	-
	Moderate annoyance, daytime and evening	50	16	-
Dwelling, Indoors	Speech intelligibility and moderate annoyance, daytime and evening	35	16	-
Inside bedrooms	Sleep disturbance, night-time	30	8	45

It is acknowledged that updated WHO guidelines were issued in 2018; however the 1999 guidelines are considered more appropriate and relevant for assessment purposes.