

Metrolink Safety & Clearance Statement

Project: Detached Home Office at 91 Buckingham Road, Manchester, M21 0QT **Planning**

Reference: 144097/FH/2025 **Date:** December 2025

1. Executive Summary

This statement provides technical verification regarding the proximity of the proposed Garden Office to the adjacent Metrolink infrastructure. It demonstrates that the development fully complies with safety requirements regarding structural stability and electrical clearance zones.

Conclusion: The proposed office is located **11.20 meters** horizontally from the nearest overhead electric wire and sits vertically **lower** than the wire height, presenting zero risk of conflict.

2. Site Context & Topography

The site is characterized by a significant change in ground level between the residential garden and the Metrolink track bed.

- **Garden Level:** 0.00m (Datum).
- **Boundary Treatment:** A timber fence marks the boundary at 1.2m from the rear wall of the proposed office.
- **Earth Bund (Mound):** Immediately behind the fence, an earth mound rises to a height of **+0.76m** (approx. 2.5ft). This acts as a physical safety barrier.
- **Embankment Drop:** Beyond the mound crest (approx. 2.44m from the fence), the ground slopes down significantly to the track bed.
 - **Track Level:** **-1.83m** below Garden Level.
 - **Slope Stability:** The slope runs horizontally for approx. 4.92m with a vertical drop of 2.59m, resulting in a stable gradient of **1:1.9**, consistent with engineered railway embankments.

3. Infrastructure Locations

Precise measurements have been taken to locate the Metrolink assets relative to the proposed building:

- **Proposed Office (Rear Wall):** 1.20m from Boundary Fence.
- **Metrolink Support Pole (Mast):** Located **7.36m** from Boundary Fence.
- **Overhead Electric Wire (Live OLE):** Located **10.00m** from Boundary Fence.

4. Safety Clearance Analysis

4.1 Horizontal Separation

The "Primary Safety Zone" is defined as the distance from the face of the building to the live electrical equipment.

- **Distance:** 1.20m (Setback) + 10.00m (Wire Distance) = **11.20 meters**.
- **Compliance:** This significant separation ensures that even in the event of a catastrophic structural failure, the building debris would not reach the electrical lines or the track area.

4.2 Vertical Clearance

Due to the -1.83m drop in ground level at the track bed, the relative height of the Metrolink infrastructure is lower than typical street-level tramways.

- **Office Roof Height:** +2.55m (relative to Garden Level).
- **Tram Vehicle Height (M5000):** +1.84m (relative to Garden Level).
 - *Note: The roof of a passing tram is 0.71m LOWER than the office roof.*
- **Overhead Wire Height:** +3.97m (relative to Garden Level).
 - *Calculation: -1.83m (Track Level) + 5.80m (Standard OLE Height).*
- **Result:** The live wires are located **1.42 meters HIGHER** than the highest point of the office roof.

5. Structural Foundation Strategy

To ensure absolute stability of the embankment and root protection for adjacent trees, the office will utilize a **Specialist No-Dig Raft Foundation**.

- **Methodology:** The foundation slab will be constructed entirely **above existing ground level**.
- **No Excavation:** There will be **zero excavation** (no trenches or strip footings) permitted within the root protection area or near the embankment slope.
- **Load Distribution:** The raft spreads the load of the lightweight timber/brick structure evenly, exerting negligible surcharge pressure on the embankment slope.

6. Conclusion

The proposed development has been designed with full cognizance of the adjacent transport infrastructure. The combination of:

1. **High Horizontal Separation (11.2m)**
2. **Favorable Topography (1.83m Drop)**
3. **Non-Invasive Foundations (No-Dig)**

...ensures that the proposal poses no risk to the safe operation of the Metrolink line.

Refer to Appendices for detailed Section Diagrams and Foundation Specifications.