

**SPECIFICATION
FOR MONITORING**

OF

**48 REDINGTON ROAD
AND
52 REDINGTON ROAD**

LONDON NW3

**DURING
DEMOLITION AND RECONSTRUCTION**

**OF
50 REDINGTON ROAD
LONDON NW3 7RS**

Project No. P2092

Issue Date: October 2014

Document Reference: P2497/MSPEC/Issue 1.0 – **ISSUE FOR PLANNING**

INTRODUCTION

1.00 Purpose of Report

It is proposed to demolish the existing property at 50 Redington Road and replace with a new house including a basement. This report sets out a specification for the proposed monitoring of adjoining structures during the works.

1.01 Document Status

A detailed proposal for monitoring of the adjoining properties will be agreed in due course with the adjoining owners through the Party Wall Agreements. This document is intended, at planning stage, to set out the broad scope and type of monitoring proposed, and to define responsibilities should trigger levels be reached.

MEASUREMENT MONITORING OF ADJOINING BUILDINGS AND STRUCTURES

2.01 48 Redington Road

The adjoining property, 48 Redington Road shall be monitored for line and level during the demolition, piling, excavation and construction of the basement, lower ground floor and ground floors at No.50 Redington Road. The monitoring shall be by means of reflective targets, fixed to the adjoining structures, the movements of which shall be measured to an accuracy of +/- 2mm.

2.02 52 Redington Road

In the same way the southern boundary garden wall to 52 Redington Road will be monitored during the works.

The main house to 52 Redington Road is remote from the proposed works and hence monitoring of this structure will not be required.



2.03 Monitoring Points

The Monitoring Points will therefore be positioned on:-

- The front, rear and side elevations to the garage to 48 Redington Road
- The front, rear and side elevations to the main house at 48 Redington Road
- Along the boundary garden wall to 52 Redington Road

The location of these structures relative to the existing building at 50 Redington Road is shown in **Figure 1** below.

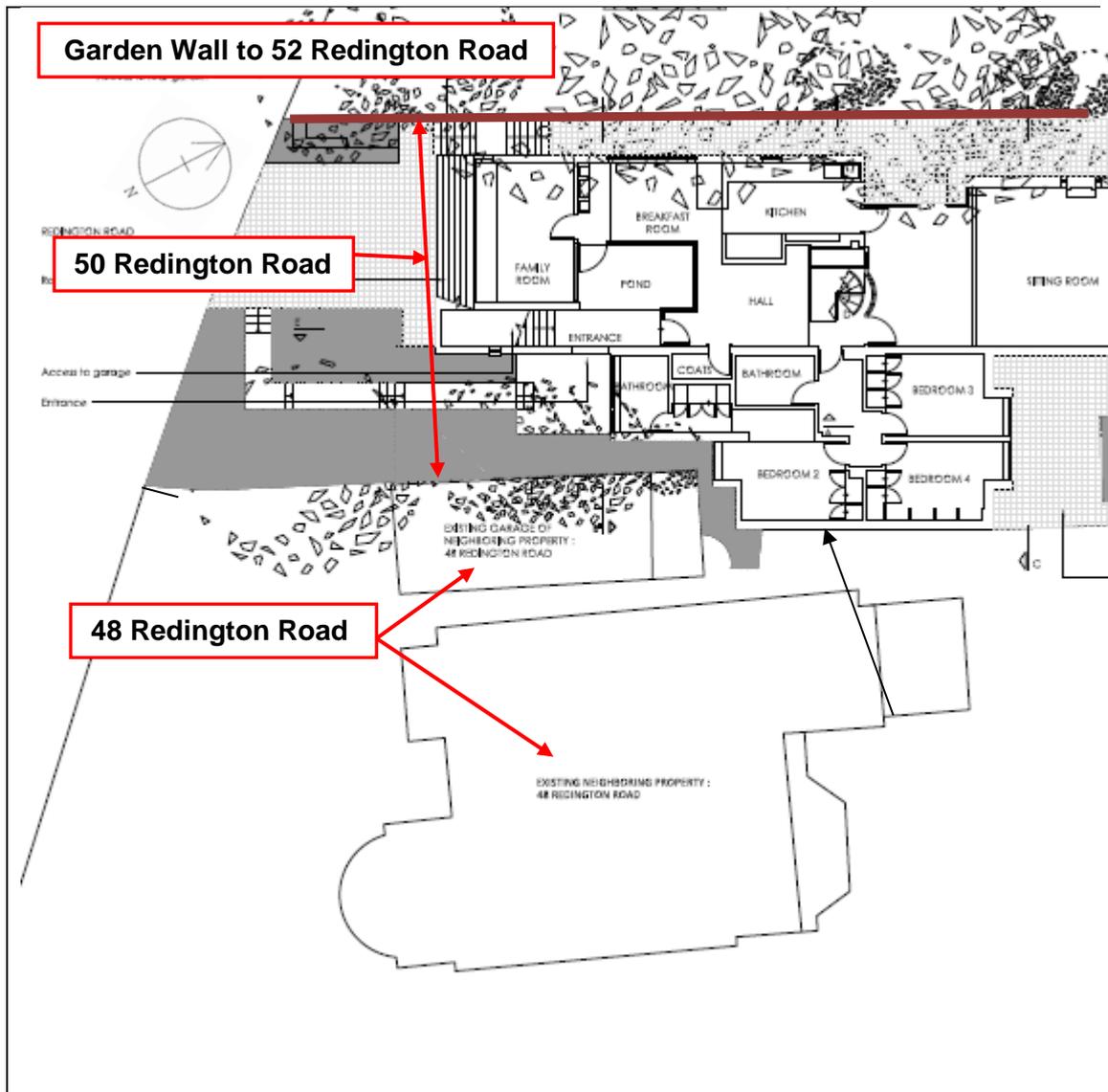


Figure 1
Annotated Existing Plan
 (Extract from Osel Architecture drawing E10-030/S02)

2.04 Monitoring Points to 48 Redington Road

The proposed locations of monitoring points are shown in **Figures 2, 3 & 4** below. These locations are to be agreed and confirmed as acceptable by the Monitoring Contractor, Michael Alexander and the Adjoining Owner. Position of targets shall take into consideration the monitoring information requirements and the access available to fix and 'sight' the targets.

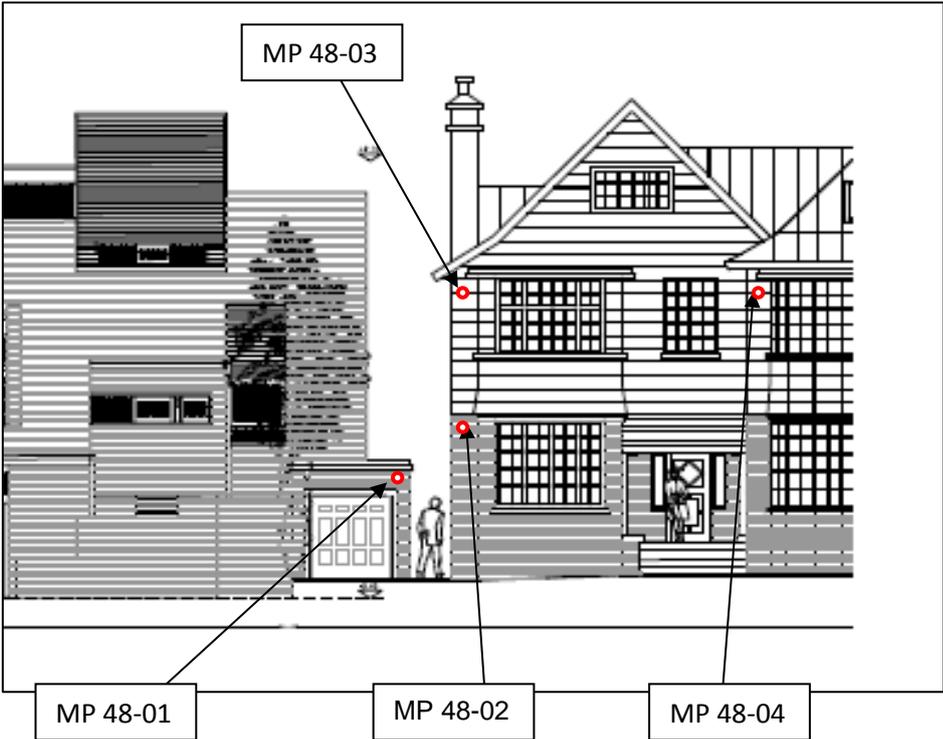


Figure 2
Monitoring Point Locations on 48 Redington Road
Front Elevation



Figure 3
Monitoring Point Locations on 48 Redington Road
Rear Elevation

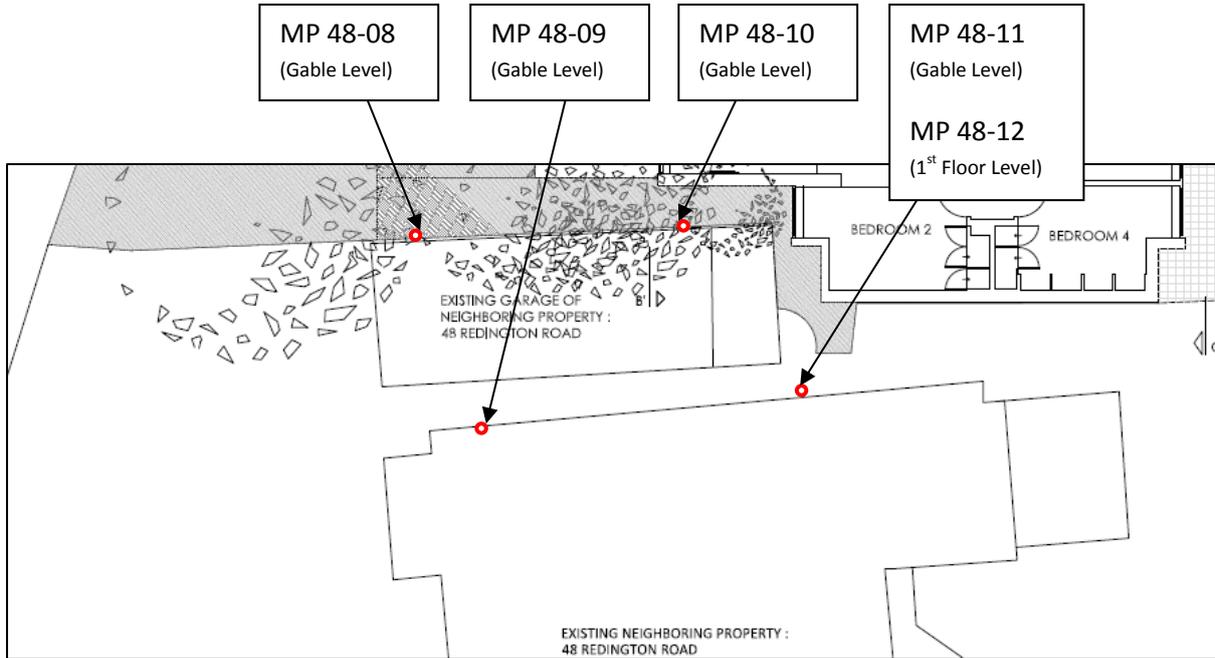


Figure 4
Monitoring Point Locations on 48 Redington Road
Side Elevation of Main House & Side Elevation of Garage

2.05 Monitoring Points for 52 Redington Road

The proposed locations of monitoring points are shown in **Figures 5** below. These locations are to be agreed and confirmed as acceptable by the Monitoring Contractor, Michael Alexander and the Adjoining Owner. Position of targets shall take into consideration the monitoring information requirements and the access available to fix and ‘sight’ the targets.

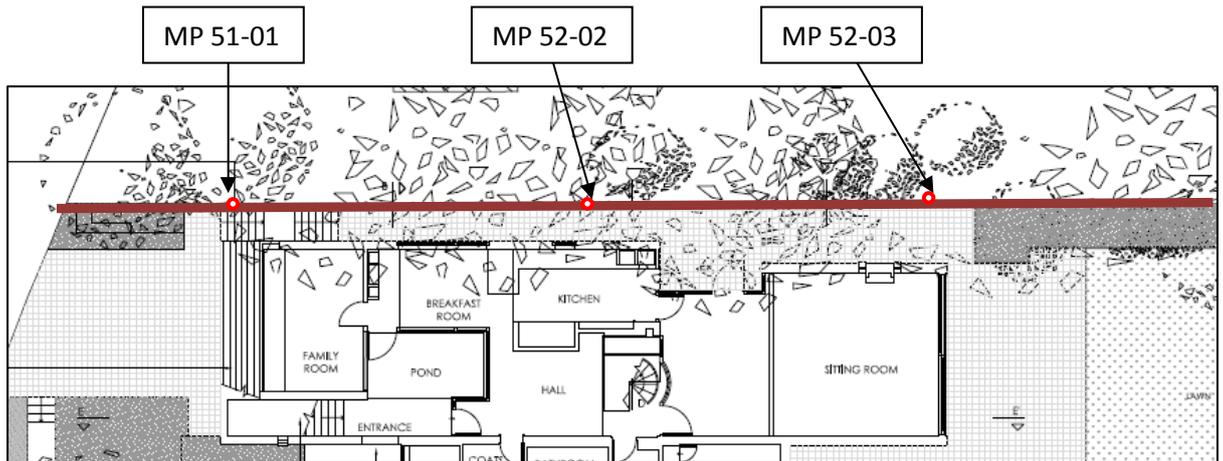


Figure 5
Monitoring Point Locations on 50 Redington Road
Garden Wall

3.00 RECORDING OF RESULTS

- 3.01 All readings shall be presented in an electronic format on drawings and schedules and emailed to all interested parties, within 24 hours of taking the reading. The presentation shall provide an absolute value, as well as the relative movement to the previous reading and cumulative movement to the initial reading. Refer to **Table 1** for a suggested format for illustrating monitoring results.

The monitoring results shall also be clearly presented on relevant graphs with axes clearly identified and units displayed. These graphs will illustrate the trigger value limits, to enable quick reading of the monitoring results.

All monitored displacements will be displayed in millimetres.

Monitoring Point	Original Coordinate Readings (m)	Current Coordinate Readings (m)	Difference Between Current and Original Readings (mm)	Difference Between Current and Previous Readings (mm)	Axes
	Date: DD/MM/YY	Date: DD/MM/YY			
MP 48-01					X
					Y
					Z
MP 48-02					X
					Y
					Z
MP xx-xx					X
					Y
					Z

Table 1
Suggested Format for Monitoring Records

- 3.02 If a cumulative movement of any of the monitoring points reaches the “Trigger Value”, Works shall be stopped and appropriate Action shall be taken. The Action will be dependent on the direction of movement and the activity being carried out at the time.
- 3.03 An initial set of monitoring readings shall be taken following installation of all target points.

A second set of monitoring readings shall be taken prior to commencement of excavation. The second set of readings will establish the differences which can be attributed to the accuracy of readings, seasonal variation in the ground conditions, and thermal/moisture movement in the buildings, when no significant works have been carried out.

Subsequent monitoring readings shall be taken at intervals stated in Clause 4.03, which correspond to the relevant construction works occurring at that period of time.

- 3.04 The monitoring results shall be forwarded by Michael Alexander to the Building Owner's Surveyor, Adjoining Owner's Surveyor and his Advising Structural Engineer, within 48 hours of recording.

4.00 CONSTRUCTION PROGRAMME & MONITORING FREQUENCY

4.01 Construction Programme

The main Programme items are summarised in the Table below. The dates will be added when the Construction Programme is received from the Contractor.

ACTIVITY	START DATE	END DATE
1) Demolition and preparation of Piling Platform	TBC	TBC
2) Piling	TBC	TBC
3) Capping Beam and Installation of Props to Capping Beam	TBC	TBC
4) Excavation	TBC	TBC
5) Basement Level 2 Slab	TBC	TBC
6) Basement Level 1 Slab	TBC	TBC
7) Lower Ground Floor Slab	TBC	TBC
8) Ground Floor Slab	TBC	TBC

Construction Programme

4.02 Interim Review of Results

Following completion of stage 2) above – Piling Works – the monitoring results will be reviewed by the Structural Engineer in conjunction with their geotechnical advisors. The response of the ground to the piling works will be compared against predictions. On the basis of these results the arrangement of propping or the construction sequence may be modified to ensure ground movements are effectively limited. If ground movements during the pile installation are less than expected then the trigger levels may be reduced accordingly for the excavation phase.

4.03 Proposed Frequency of Readings of Monitoring Points on Adjoining Properties

During Construction (commencement of Piling to completion of Ground Floor Slab)

- The readings shall be taken at weekly intervals.

Post Construction:

- A final set of readings shall be taken 4 weeks after completion of construction of ground floor slab.

Monitoring of the proposed capping beam will be carried out twice daily by the contractor's site engineers at beginning and end of shift, when any significant item of excavation is being carried out.

5.00 INTERPRETATION & ACTION

5.01 Trigger Levels

The following system of control shall be employed. The Trigger value, at which the appropriate action shall be taken, for each section, is given in Clause 5.03

AMBER: Increase monitoring frequency and undertake a detailed review of construction methods. Prepare a revised method of working.

RED: Stop any further excavation. Make safe the excavation. Review monitoring regime and implement revised plan of works.

5.02 Contingency Planning

On appointment of the Contractor, contingency plans will be developed so they can be enacted should trigger levels be exceeded. This might include the provision of additional props, changes to construction sequence, or applying additional force to the props.

5.03 The Trigger Levels shall be as follows:

X-axis (along the plane of the wall)	Amber:	+/- 10 mm
	Red:	+/- 15 mm
Y-axis (perpendicular to the wall)	Amber:	+/- 12 mm
	Red:	+/- 18 mm
Z-axis (level vertically)	Amber:	+/- 10 mm
	Red:	+/- 15 mm

Capping Beam

X-axis (along the plane of the capping beam)	Amber:	+/- 8 mm
	Red:	+/- 12 mm
Y-axis (perpendicular to the capping beam)	Amber:	+/- 12 mm
	Red:	+/- 18 mm
Z-axis (level vertically to the capping beam)	Amber:	+/- 10 mm
	Red:	+/- 15 mm

5.04 Action

Any movements which exceed the **Amber** Trigger Levels shall be immediately reported to Michael Alexander.

In the event of movements exceeding the **Amber** Trigger Levels, the proposed frequency of readings of Monitoring Points on the Adjoining Property shall be increased.

Representatives from Michael Alexander and the Adjoining Owner Representatives' shall then meet on site, as soon as practicable, to review the works being carried out, to inspect the property and to decide and agree on the appropriate Action to be taken.

Any movements which exceed the **Red** Trigger Levels shall be immediately reported to Michael Alexander and appropriate action will be agreed and a meeting will be convened with the Adjoining Owners' Representatives.

5.05 Cessation of Works due to Unforeseen Circumstances

If the programme is revised significantly, the Monitoring Regime will be re-evaluated in conjunction with Michael Alexander and the Adjoining Owners' Representatives.