334 Euston Road – Comment Tracker 001 – CGL Responses to Campbell Reith Comments
Comment Tracker – 24/01/2025
Revision 1

Comment Ref	Comments by Campbell Reith September 2024	CGL comments (09/12/2024) after receiving the structural pack on 29/11/2024	Comments by Campbell Reith January 2025	CGL Comments (24/01/2025)
GENERAL COMMENTS – on document reference: **Campbell Reith (CR) - Basement Impact Assessment Audit - BBkb14006-93-200924-335 Euston Road_D1**				
1	**Screening** – Justifications to be provided wherever a "no" response is recorded in the screening assessment flowchart. And the missing question for the subterranean flow and land stability screening should be added – **Reference to CR audit section 4.6 and 4.7**	Updated screening tables, including previously missing questions, provided in a folder attached to this comment tracker title 'Comment Ref #1 – Evidence' for CR to review.	Query closed.	N/A
2	**BIA** – Utility plans and confirmation of consultation with relevant asset owners are requested – **Reference to CR audit section 4.14**	CGL have provided a folder attached to this comment tracker titled 'Comment Ref #2 – Evidence' for CR to review. The Client should also add to this utility information, should they have additional plans. LSBUD-231031-3137 8304.PDF The Client should provide PDF/Email evidence of the CR request "confirmation of consultation with relevant asset owners are requested".	Utility information has been presented. It is noted that no Thames Water / TfL infrastructure data or evidence of consultation has been presented. As these will be Statutory Consultees, it would be advisable if evidence of consultation is presented with the BIA.	CGL have advised the Client that they should consult TW/TfL to obtain the relevant information and provide the evidence to CR. No further action required from CGL.

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3	**Scoping** – The impact to the identified adjacent tunnels should be included – **Reference to CR audit section 4.15**	Noted, CGL can provide a quote for a Tunnel Impact Assessment, as requested by CR the auditor. This quote will be presented under separate cover for the Client to review.	As above.	As above. No further action required from CGL.
4	**BIA** – Outline structural calculations and plans and sections showing the proposed underpinning sequence and temporary works are requested – **Reference to CR audit section 4.18**	Noted, CGL have provided a folder attached to this comment tracker titled 'Comment Ref #4 – Evidence' for CR to review, including the structural engineer's calculations, underpins, temporary works etc.	Closed – however, noted that the proposed suspended basement slab is inconsistent with the assumptions of the BIA (as Q5, below).	Model revised to remove patch load across internal basement footprint as the proposed slab is to be suspended. Report updated and reissued as Revision 1.
5	**GMA** – Higher resolution figures showing anticipated vertical ground movements clearly are requested. Soil parameters should be used consistently in all assessments. Clarification of the loadings used in the PDisp assessment are requested. **Reference to CR audit sections 4.17 and 4.19 to 4.21**	Noted, CGL have provided a folder attached to this comment tracker titled 'Comment Ref #5 – Evidence' for CR to review, including higher resolution figures showing anticipated vertical ground movements Assumed loadings detailed in Table 20 (Section 15.2) of the BIA: **Demolition Unloading:** Existing single storey building assumed to be founded on strip foundations around the site perimeter, 0.5m width and 1.0m depth. Assumed 15kPa loading on strip foundations for single storey	Updated figures have been received and soil parameters have been clarified. The heave assessment adopts a 15kPa load across the basement slab; however, the BIA text and CMS indicate a suspended slab. Clarity on the heave assessment and how it is used within the GMA is required. To note, it is not considered reasonably conservative to adopt net movements in the GMA (i.e. reducing magnitudes of movements by offsetting settlement against heave) since	15kPa load across the basement slab removed from the model, and analysis/assessment updated; with the results presented in the Revision 1 BIA report.

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		building, plus 5kPa across the site footprint to account for the existing slab. **Basement Excavation Unloading**: Assumed approximately 3.5m of soil to be excavated, assuming a conservative bulk unit weight of 18kN/m^3 for MG and 19kN/m^3 natural strata. Equating to ((18x2)+(1.5x19)), approximately 65kPa excavation unloading. **New Structural Loading**: - Underpinning of party walls modelled as 1.0m width around site boundary, at raft formation level (+23.50mOD). - Existing masonry east and west party walls modelled assuming a masonry unit weight of ~22kN/m^3 and a height of 3.5m, which equates to ~77kPa, which was conservatively rounded to 80kPa. This was halved for the shorted north and south walls as these are predominantly glass (i.e. openings) and would be	movements will occur at different stages over differing time scales.	

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		incorrect to assume a solid brick wall similar to the boundary walls. - In the absence of structural loads, an additional structural loading of +100kPa was conservatively applied across the underpins to account for the proposed three-storey building and medical equipment. 4 storeys proposed total w/ roof, basement and 3nr storeys above ground. Medical use and thus potentially (relatively) heavy loadings such as MRI scanners etc. - A +15kPa live load was applied across the overall basement slab of the building. In PDISP, therefore in the net construction phase (phase 4) the net loading applied at basement formation level was +65kPa -15kPa = 50kPa. The structural engineer should confirm if these assumed structural loadings align with those anticipated.		

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6	**GMA** – Further consideration should be given to the calculation of horizontal ground movements, including the appropriateness of using CIRIA C760 in granular soil, the additional movement caused by the construction of the underpin. Clarifications regarding the ground movement predicted at the basement wall and the ground movement presented in Plate 8, 11 and 14 are requested. **Reference to CR audit sections 4.22 to 4.25**	Additional vertical and horizontal movements resulting from underpinning installation can be added based on CIRIA C760. Industry experience indicates minimum ground movements on the order of 5mm both horizontally and vertically should be anticipated per single lift of underpinning at ground level. However considering that the closed building foundation is at approximatively 1m below GL and 0.5m away form the underpinning external phase a maximum underpinning installation movements of approximatively 2.6mm has been computed. Decreasing to zero at a distance of approx.. The same depth of the excavation (3.5m). New plots has been presented in Evidence 6 folder showing that at neighbouring building formation level (1mbgl) the total angular distortion , including the horizontal and vertical movements form underpinning installation, is 1/1000, with maximum deflection od approximatively 1.9mm and	As Q5 above, methodology adopted to predict movements should be transparent and reasonably conservative. In addition to Q5, it should be clearly stated which C760 curves have been adopted in the assessment and whether they have been modified. It is noted that the stated movements in the text responses previously submitted do not appear to be consistent with the graphs / figures presented.	Addressed in Section 15.8.1 of the revised report. Building damage plots based on Figure 6.27 of C760, assuming the masonry structures would be most susceptible to hogging. Damage curves modified based on the length and height of each building through the critical section. Graphs / figures updated as appropriate in revised report.

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		horizontal strain of 0.056% corresponding to building damage category 1. (see appended plots) Further consideration should be given to the vertical ground movements caused by underpin construction and basement bulk excavation. These would be 5mm decreasing exponentially to 0mm across the a length akin to the excavation depth (3.5m), as follows: 0m: -5mm **0.5m: -3.7mm (start of adjacent property)** 1m: -2.6mm 1.5m: -1.6mm 2m: -0.9mm 2.5m: -0.4mm 3m: -0.1mm 3.5m: ~0mm This would have a negligible effect on the distortion ratio but increases horizontal strain. CGL have provided a folder attached to this comment tracker titled 'Comment Ref #6 – Evidence' for CR to review, which		

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		provides the updated BDA plots of 337 Euston Road (tallest neighbouring building, thus worst-case of the two critical sections). The resulting building damage category remains Category 1 (very slight).		
7	**GMA / BDA** Clarification of how the damage category boundaries have been derived and their L/H values are requested. The Damage Category for neighbouring structures should be updated following revisions to the GMA. **Reference to CR audit sections 4.26 to 4.27**	The height of 333 Euston Road and 337 Euston Road have been calculated assumed 3m per storey, with each building being two-storeys and three-storeys, respectively. The length of each building perpendicular to the site has been measured as approximately 5-6m using scale maps / satellite imagery. And height of a 3-storey building of 3m per story (9m). Thus L/H = 6m / 9m.	The damage category information has been received. The GMA requires updating / clarifying as Q5 and Q6 and resubmitting.	Revised GMA/BIA report issued (Revision 1). Damage categories now as follows: CS1 (333 Euston Rd) – Cat. 1 CS2 (337 Euston Rd) – Cat. 1 CS3 (54 Warren St) – Cat. 0 / Cat. 1
8	**Further consideration of underpinning in granular soil is required**	CGL comment.: The underpinning contractor should consider and allow for the following.: - To ensure stable excavation conditions, the 'back face' of the underpin, ie far side excavation face parallel with the boundary wall, should have a sacrificial back	No further comment received.	N/A.

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		shutter/trench sheet to mitigate soil ground loss and spawling - Likewise the underpin shaft should be suitable shored/sheeted/framed, to ensure constant ground stability, and mitigate loss of fines. Underpinning contractor to provide a suitable risk assessment and method statement.		