CampbellReith
consulting engineers

53-55 Chalton Street, 60 & 70 Churchway London NW1 1JB, NW1 1LT

Basement Impact Assessment Audit

For

London Borough of Camden

Project Number: 12985-71

Revision: F1

November 2019

Campbell Reith Hill LLP
15 Bermondsey Square
London
SE1 3UN

T:+44 (0)20 7340 1700
E:london@campbellreith.com
W:www.campbellreith.com

Document History and Status

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
D1	September 2019	Comment	GKemb12985-71-230919-53-55 Chalton St and 60 & 70 Churchway-F1.docx	GK	EMB	EMB
F1	November	For planning	GKemb12985-71-131119-53-55 Chalton St and 60 & 70 Churchway-F1.docx	GK	EMB	EMB

Document Details

Last saved	13/11/2019 10:28
Path	GKemb12985-71-131119-53-55 Chalton St and 60 & 70 Churchway-F1.docx
Author	G Kite, BSc MSc DIC FGS
Project Partner	E M Brown, BSc MSc CGeol FGS
Project Number	12985-61
Project Name	53-55 Chalton Street, 60 & 70 Churchway
Planning Reference	2016/5266/P, 2016/3174/P

Contents

Appendix

1.0 NON-TECHNICAL SUMMARY

1.1. CampbellReith was instructed by London Borough of Camden (LBC) to carry out an Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 53-55 Chalton Street, 60 & 70 Churchway, London, NW1 1JB and NW1 1LT, Camden Reference 2016/5266/P and 2016/3174/P. The basement is considered to fall within Category C as defined by the Terms of Reference.

1.2. The Audit reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development in accordance with LBC's policies and technical procedures.

1.3. CampbellReith was able to access LBC's Planning Portal and gain access to the latest revision of submitted documentation and reviewed it against an agreed audit check list.

1.4. The BIA has been prepared by Michael Chester & Partners with supporting documents prepared by Stephen Buss Environmental Consulting, A-Squared Studio and Waterco Consultants. The authors' qualifications are in accordance with LBC requirements.

1.5. The site currently comprises two- and three-storey terraced buildings with one storey of basement present across part. The proposed development involves the demolition of the existing structures, with the exception of the party walls, and construction of a new three- to five-storey hotel. The existing basement will be slightly deepened. A new basement will be created across part of the site.

1.6. The BIA includes a desk study, and screening and scoping Assessments, which are generally accepted.

1.7. A limited site investigation was undertaken indicating shallow Made Ground over the London Clay Formation. Perched groundwater within the Made Ground and seepage from the London Clay has been observed.

1.8. The London Clay is designated as Unproductive Strata and does not support groundwater flow. There will be no impact to the wider hydrogeological environment.

1.9. Interpretative geotechnical information complying with LBC guidance is provided, although the Contractor should confirm that the soil conditions at formation level meet the minimum design requirements prior to construction.

1.10. Structural engineering calculations do not all consistently adopt the recommended geotechnical design parameters. This should be checked during design development.

1.11. The basement is proposed to be formed by underpinning formed in a hit and miss sequence, propped in the temporary and permanent conditions.

1.12. A ground movement assessment (GMA) has been undertaken indicating a maximum of Category 1 damage (Very Slight) to neighbouring properties, in accordance with the Burland Scale, and negligible impacts to the highway, utilities and infrastructure (London Underground Tunnel). Asset protection agreements should be entered into, as required.

1.13. An outline movement monitoring strategy is proposed, to control construction and ensure damage to the adjacent properties is within the predicted limits.

1.14. The site is classified as being at low to medium risk of flooding. The flood risk assessment (FRA) includes appropriate flood risk mitigation measures that should be adopted.

1.15. The proposed scheme will slightly decrease the proportion of impermeable site area. A SUDS strategy in accordance with LBC guidance and best practice is presented. A final drainage design should be agreed with Thames Water and LBC. There will be no impact to the wider hydrological environment.

1.16. An outline construction programme has been provided.

1.17. Discussion is presented in Section 4. The BIA meets the criteria of CPG Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 1 August 2019 to carry out a Category C Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 53-55 Chalton Street, 60 & 70 Churchway, London, NW1 1JB and NW1 1LT, Camden Reference 2016/5266/P and 2016/3174/P.

2.2. The Audit was carried out in accordance with the Terms of Reference set by LBC. It reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development.

2.3. A BIA is required for all planning applications with basements in Camden in general accordance with policies and technical procedures contained within:

- Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
- Camden Planning Guidance (CPG): Basements.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water.
- The Local Plan (2017): Policy A5 (Basements).

2.4. The BIA should demonstrate that schemes:

a) maintain the structural stability of the building and neighbouring properties;

b) avoid adversely affecting drainage and run off or causing other damage to the water environment; and,

c) avoid cumulative impacts upon structural stability or the water environment in the local area;

and evaluate the impacts of the proposed basement considering the issues of hydrology, hydrogeology and land stability via the process described by the GSD and to make recommendations for the detailed design.

2.5. LBC's planning portal describes the proposal as: "*Erection of part 4 part 2 storey plus basement building, comprising 46 room hotel (C1 Use Class) fronting Chalton Street and Churchway (following demolition of existing building); in association with application 2016/3174/P [70 Churchway] erection of 3 storey building plus basement with rear garden and roof terrace at 1st floor level, comprising 4x Residential units (1x2 bed & 2x1bed unit) (C3 Use Class)to allow for*

offsetting of residential accommodation (following demolition of existing building); Erection of 3 storey building plus basement with rear garden and roof terrace at 1st floor level, comprising 4x Residential units (1x2 bed & 2x1bed unit) (C3 Use Class)to allow for offsetting of residential accommodation to allow for offsetting of residential accommodation in connection with application 2016/5266/P [53-55 Chalton Street] for erection of part 4 part 2 storey plus basement building, comprising 46 room hotel (C1 Use Class) fronting Chalton Street and Churchway (following demolition of existing building)".

The buildings on site are not listed and neither are the neighbouring buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 19th August 2019 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment (BIA) (ref 14073/BIA-01/rev0)) dated 12 July 2019 by Michael Chester & Partners
- Construction Methodology and Engineering Statements (Rev 0) dated July 2019 by Michael Chester & Partners
- Drawings & Sections, Rev G, September 2016 by Divine Ideas Architects
- Site Investigation Report Rev 0 (ref 0371/KOG) dated 18 June 2019 by Soil Consultants
- Land Stability BIA Rev 0 (ref 10371/KOG) dated 18 June 2019 by Soil Consultants
- Surface Water and Subsurface Flow BIA Screening Stage (ref 2019-003-025-005) dated 28 June 2019 by Stephen Buss Environmental Consulting Ltd
- Building Ground Movement Assessment Report (ref 0913-A2S-XX-XX-RP-Y-0001-00) dated June 2019 by A-Squared Studio
- Flood Risk Assessment & Drainage Strategy (ref w10253-190125) dated January 2019 by Waterco Consultants

2.7 CampbellReith issued informal comments to LBC and the Applicant on 20th August 2019 and undertook discussions with A-Squared Studio in August and September 2019. CampbellReith received the following relevant documents for audit purposes, included within Appendix 3 for reference:

- Email from Divine Ideas dated 27th August 2019.
- Email from Divine Ideas dated 30th August 2019, including outline construction programme.
- Email from A-Squared Studio dated 19th September 2019.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	
Is data required by Cl.233 of the GSD presented?	Yes	
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	
Are suitable plans/maps included?	Yes	
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	Yes	
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	
Is a conceptual model presented?	Yes	

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	N/A	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	
Is factual ground investigation data provided?	Yes	Contractor to confirm soil conditions at formation level prior to construction
Is monitoring data presented?	Yes	
Is the ground investigation informed by a desk study?	Yes	
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	Structural design should consistently adopt geotechnical parameters.
Are reports on other investigations required by screening and scoping presented?	Yes	SUDS, FRA, GMA, Construction Method Statement
Are baseline conditions described, based on the GSD?	Yes	
Do the base line conditions consider adjacent or nearby basements?	Yes	

Item	Yes/No/NA	Comment
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	Yes	Confirmed by discussions and emails (Appendix 3)
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	SUDS, FRA, GMA, Monitoring. Requirement for appropriate propping and sequencing to limit movements, to be controlled by monitoring.
Has the need for monitoring during construction been considered?	Yes	
Have the residual (after mitigation) impacts been clearly identified?	Yes	
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	Yes	
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Confirmed by discussions and emails (Appendix 3)
Are non-technical summaries provided?	Yes	

4.0 DISCUSSION

4.1. The BIA has been prepared by Michael Chester & Partners with supporting documents prepared by Stephen Buss Environmental Consulting, A-Squared Studio and Waterco Consultants. The authors' qualifications are in accordance with LBC requirements.

4.2. The site currently comprises two-storey to three-storey terraced buildings with one storey of basement present across part of the building footprints. The proposed development involves the demolition of the existing structures, with the exception of the Party Walls, and construction of a new three-storey to five-storey hotel, plus basement level. The existing basements at 53-55 Chalton Street and 60 Churchway will be slightly deepened by <0.5m, with new basement areas to be created under the front part of 60 Churchway. A new basement and a sunken garden will be created across the full plot of 70 Churchway.

4.3. A London Underground tunnel has been identified approximately 23.0m below the site. Thames Water assets and other utilities are identified to run below the surrounding highways. Consultation with London Underground is ongoing. Asset protection agreements may be required.

4.4. The closest structures with existing basements have been identified as 66 Churchway (southern end only); 57, 61, 63 and 65 Chalton Street.

4.5. The BIA includes a desk study and screening and scoping assessments which are generally accepted.

4.6. A site investigation, limited due to access restrictions, was undertaken indicating shallow Made Ground over the London Clay Formation. Made Ground between 0.7m and 1.8m thick was identified. The London Clay was observed to a depth of approximately 5m below ground level (bgl). Foundation observation pits were undertaken, which indicate the neighbouring properties / Party Wall foundations comprise shallow foundations at a range of depths <2.0m bgl. Whilst some insitu testing of the London Clay has been undertaken, the Contractor should confirm that the soil conditions at formation level meet the minimum design requirements prior to construction

4.7. Perched groundwater within the Made Ground has been observed, as well as seepages from the London Clay. The London Clay is designated as Unproductive Strata and does not support groundwater flow. It is therefore accepted there will be no impact to the wider hydrogeological environment. Some provision for local groundwater control during construction is likely to be required, including to ensure stability is maintained during excavations and underpinning, although its noted that existing foundations are founded within the London Clay which therefore effectively reduces the likelihood of significant inflows.

4.8. Interpretative geotechnical information in accordance with LBC guidance is provided. The geotechnical design parameters presented are considered reasonably conservative, with reference to historic borehole records as well as the site specific investigation. It is noted that structural engineering calculations do not all consistently adopt the recommended geotechnical design parameters and this should be checked during design development. However, proposed structural loads are within the values adopted for the stability assessment and, as indicated in the additional correspondence, are likely to reduce further. Any future change in structural loads should be considered in an updated stability and ground movement assessment, as required.

4.9. The basement is proposed to be formed by underpinning of the Party Walls formed in a hit and miss sequence, propped in the temporary and permanent conditions. A structural design strategy, sequencing and outline calculations are presented to demonstrate feasibility.

4.10. A ground movement assessment (GMA) has been undertaken which considers both the vertical (settlement and heave) and horizontal movements likely to be generated by the proposed demolition, excavation and construction. The assessment considers the sequence of works, geotechnical parameters and proposed structural loads. Clarification of the assessment was sought through discussion with the GMA authors. A maximum of Category 1 damage (Very Slight) to neighbouring properties, in accordance with the Burland Scale, is predicted. It is accepted that the limiting movements proposed in the GMA are consistent with the depth, scale and methodology of construction, and can feasibly be achieved with good workmanship. Correspondence confirms the intention to appoint appropriately experienced contractors to undertake the work.

4.11. The GMA predicts negligible impacts to the highway, utilities and infrastructure (London Underground Tunnel; Thames Water assets; etc). Consultation with the asset owners is ongoing. Asset protection agreements should be entered into, as required.

4.12. An outline structural movement monitoring strategy is proposed, to control construction and ensure damage to the adjacent properties are within the predicted limits.Trigger values consistent with the GMA are presented with contingency actions. It is recommended the strategy is adopted and agreed under the Party Wall Act.

4.13. A flood risk assessment (FRA) has been undertaken. Whilst 53-55 Chalton Street and 60 Churchway are classified as being at low risk of flooding, 70 Churchway is classified as having a medium risk of flooding from surface waters. Flood risk mitigation should be adopted as recommended, to include: pumped positive devices to protect against sewer surcharge; raised thresholds; demountable floor guards; non-return valves; sealed cable entry points; etc.

4.14. The proposed scheme will slightly decrease the proportion of impermeable site area as a whole, with 70 Churchway adopting 42m^2 of permeable paving and garden areas. A SUDS strategy in

accordance with LBC guidance and best practice is presented, which includes attenuation via blue and green roofs to limit off-site discharge flows to 4l/s. A final drainage design should be agreed with Thames Water and LBC. There will be no impact to the wider hydrological environment.

4.15. An outline construction programme has been provided.

5.0 CONCLUSIONS

5.1. The authors' qualifications are in accordance with LBC requirements.

5.2. The BIA includes a desk study and screening and scoping assessments which are generally accepted.

5.3. A site investigation indicates shallow Made Ground over the London Clay Formation. Perched groundwater has been observed.

5.4. The London Clay is designated as Unproductive and does not support groundwater flow. It is accepted there will be no impact to the wider hydrogeological environment.

5.5. Interpretative geotechnical information which complies with LBC guidance is provided. It is recognised that conservative parameters have been adopted although the Contractor should confirm that the soil conditions at formation level meet the minimum design requirements prior to construction.

5.6. The basement is proposed to be formed by underpinning formed in a hit and miss sequence, propped in the temporary and permanent conditions.

5.7. A maximum of Category 1 damage (Very Slight) to neighbouring properties is predicted, in accordance with the Burland Scale, with negligible impacts to the highway, utilities and infrastructure. Asset protection agreements should be entered into, as required.

5.8. An outline structural movement monitoring strategy is proposed, which should be adopted.

5.9. The site is classified as being at low to medium risk of flooding. The flood risk assessment (FRA) includes appropriate flood risk mitigation measures that should be adopted.

5.10. A SUDS strategy is presented. A final drainage design should be agreed with Thames Water and LBC. There will be no impact to the wider hydrological environment.

5.11. An outline construction programme has been provided.

5.12. Discussion is presented in Section 4. The BIA meets the criteria of CPG Basements.

Appendix 1: Residents' Consultation Comments

None

CampbellReith
consulting engineers

Appendix 2: Audit Query Tracker

None

Appendix 3: Supplementary Supporting Documents

Email from Divine Ideas dated 27th August 2019

Email from Divine Ideas dated 30th August 2019, including outline construction programme

Email from A-Squared Studio dated 19th September 2019

Re: 12985-71: BIA Audit 53-55 Chalton St etc 2016/5266/P and 2016/3174/P
Divine Ideas to: GrahamKite 27/08/2019 17:30
Cc: "Sild, Thomas", camdenaudit, "Bob Moore", tony.suckling, "Duncan Mercer"

Dear Graham,

Further to your email and conversations, we have spoken with the team regarding your questions and offer the following response.

As a general overview response to your comments, the proposal is for a single level basement and we have support from Camden planning on this. We are making a firm commitment to limiting the horizontal deflections to achieve cat 1. The team have prepared specifications for the contractor that will limit underpinning and excavation movements to achieve the cat 1 damage category. Measures proposed will include but not limited to underpinning in short panel lengths and propping will be available to the underpins to be able to keep to the Cat 1s as originally predicted.

The first draft list of contractors is being prepared now and we are only selecting established, competent contractors who have a proven track record of similar works.

In response to the detailed requirements we offer the following….

The ground parameters used by A-squared are applicable only for the GMA and for the SLS whereas the recommendations made by others are more general and for use in more general design.

The building loading used in the GMA has been conservatively idealised as 10kPa per storey. The actual building loading is expected to be less than this. Vertical loading is not the key issue for this development with regards to the GMA with horizontal movement associated with underpin construction and bulk excavation more influential.

The suggestion to allow 5mm horizontal and vertical movement during the installation of the underpins seems excessive based on the Design Team's experience and is not a requirement of which they were previously aware. Recent projects show that maximum movements of 2mm as set out in the original BIA are achievable provided that the underpinning is carried out by a competent contractor in shorts lengths (a maximum of 1m) and that excavations are properly shored, all as shown in Appendix 5 of the BIA (Construction Methodology and Engineering Statements).

I will issue an outline construction programme in the next few days.

We trust this is sufficient to answer your questions.

Kind regards,

Steven Davies
Architect

For and on behalf of Divine Ideas (UK) Ltd
Legacy Business Centre, Suite 126, 2A Ruckholt Road, London E10 5NP
T: 02085567404
www.divineideas.co.uk
divineideas@me.com

On 20 Aug 2019, at 07:26, GrahamKite@campbellreith.com wrote:

> Hi Steven
>
> I know you have requested for us to expedite review / comment on the BIA submitted as part of the above development. The review is ongoing but please find below some initial comments.
>
> The following documents have been considered so far:
>
> - Construction Methodology and Engineering Statements (Rev 0) dated July 2019 by Michael Chester & Partners
> - BIA (ref 14073/BIA-01/rev0)) dated 12 July 2019 by Michael Chester & Partners
> - Drawings & Sections, Rev G, September 2016 by Divine Ideas Architects
> - Site Investigation Report Rev 0 (ref `0371/KOG) dated 18 June 2019 by Soil Consultants
> - Land Stability BIA Rev 0 (ref 10371/KOG) dated 18 June 2019 by Soil Consultants
> - Surface Water and Subsurface Flow BIA Screening Stage (ref 2019-003-025-005) dated 28 June 2019 by Stephen Buss Environmental Consulting Ltd
> - Building Ground Movement Assessment Report (ref 0913-A2S-XX-XX-RP-Y-0001-00) dated June 2019 by A-Squared Studio
> - Flood Risk Assessment& Drainage Strategy (ref w10253-190125) dated January 2019 by Watercolour's Consultants
>
> Generally the BIA is comprehensive. However, the following is noted:
>
> - Insufficient site investigation has been undertaken to confirm design parameters. What has been presented provides outline information consistent with historical borehole records sufficient to base conservative parameters on, which should be confirmed prior to construction (which may require a condition / BCP - I'll discuss with LBC and confirm).
>
> - Conservative geotech parameters are adopted for GMA. A range of parameters are presented in engineering methodology statement. The bearing capacity adopted between the GMA / SI / Engineering Statement appears to be inconsistent. However

its noted that structural loads presented are below the most conservative bearing capacity estimate.

- GMA assumes to limit movements during underpinning to lower values than typically accepted (GMA 4.2.3). We would need to have a discussion with A-Squared Studio to understand this - we have worked with them before and we'll call them this week to discuss. I have cc'd Alex from A-Squared.

- Trigger values / monitoring strategy provided. The GMA limiting values are so low that damage will have occurred before action levels are reached in the monitoring strategy, as it stands. As above, we'll discuss with A-Squared.

- An outline construction programme should be provided.

Once I have discussed with A-Squared I'll confirm what, if anything else, is required.

Regards

Graham Kite

<Mail Attachment.jpeg>

Friars Bridge Court,
41-45 Blackfriars Road,
London
SE1 8NZ

Tel +44 (0)20 7340 1700
www.campbellreith.com

Re: 12985-71: BIA Audit 53-55 Chalton St etc 2016/5266/P and 2016/3174/P

Divine Ideas to: GrahamKite 30/08/2019 17:14

Cc: "Sild, Thomas", camdenaudit, "Bob Moore", tony.suckling, "Duncan Mercer"

Dear Graham,

Further to my email on Tuesday, please see attached our outline construction programme.

Please note that the substructure element of the works including demolitions, propping and excavations are supported but a series of sequencing drawings included in the BIA submission Appendix 5 construction methodology and engineering statements, drawing 14073/01(page 32) to 14073/20 (page 42).

I trust this now deals with all of the outstanding matters.

Please can you confirm receipt of this email and the email I sent on the 27th.

Kind regards,

Steven Davies

Architect

For and on behalf of Divine Ideas (UK) Ltd
Legacy Business Centre, Suite 126, 2A Ruckholt Road, London E10 5NP
T: 02085567404
www.divineideas.co.uk
divineideas@me.com

190816-P19-030 Charlton Street Hotel High Level Construction Programme Draft v1.pdf

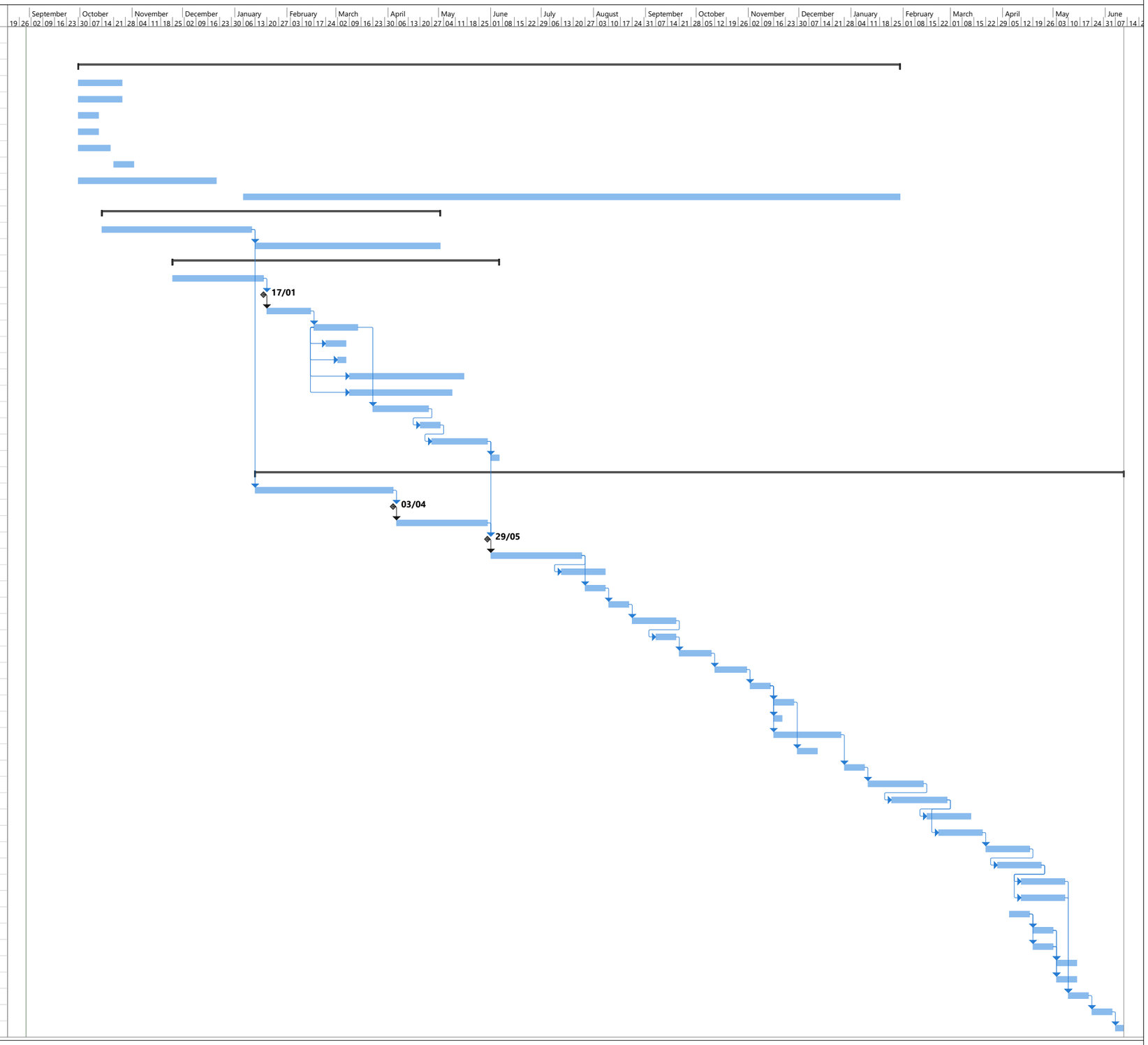
On 27 Aug 2019, at 17:30, Divine Ideas <divineideas@me.com> wrote:

> Dear Graham,
>
> Further to your email and conversations, we have spoken with the team regarding your questions and offer the following response.
>
> As a general overview response to your comments, the proposal is for a single level basement and we have support from Camden planning on this. We are making a firm commitment to limiting the horizontal deflections to achieve cat 1. The team have prepared specifications for the contractor that will limit underpinning and excavation movements to achieve the cat 1 damage category. Measures proposed will include but not limited to underpinning in short panel lengths and propping will be available to the underpins to be able to keep to the Cat 1s as originally predicted.
>
> The first draft list of contractors is being prepared now and we are only selecting established, competent contractors who have a proven track record of similar works.
>
> In response to the detailed requirements we offer the following….
>
> The ground parameters used by A-squared are applicable only for the GMA and for

CHALTON STREET HOTEL - HIGH LEVEL CONSTRUCTION PROGRAMME

QUARTZ

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1						
2						
3		**Surveys**	**350 days**	**Mon 30/09/19**	**Fri 29/01/21**	
4		Rights of Light Survey	20 days	Mon 30/09/19	Fri 25/10/19	
5		Party Wall Survey	20 days	Mon 30/09/19	Fri 25/10/19	
6		Condition Survey	10 days	Mon 30/09/19	Fri 11/10/19	
7		Drainage CCTV	10 days	Mon 30/09/19	Fri 11/10/19	
8		Trial pit surveys	15 days	Mon 30/09/19	Fri 18/10/19	
9		Demolition Survey	10 days	Mon 21/10/19	Fri 01/11/19	
10		Ecology Survey	3 mons	Mon 30/09/19	Fri 20/12/19	
11		London Underground Asset Monitoring	14 mons	Mon 06/01/20	Fri 29/01/21	
12		**Design**	**145 days**	**Mon 14/10/19**	**Fri 01/05/20**	
13		Stage 3 Design	65 days	Mon 14/10/19	Fri 10/01/20	
14		Stage 4 Design	80 days	Mon 13/01/20	Fri 01/05/20	13
15		**Enabling Works Including Demolition**	**140 days**	**Mon 25/11/19**	**Fri 05/06/20**	
16		Tender Process	8 wks	Mon 25/11/19	Fri 17/01/20	
17		Execution of Contract	0 days	Fri 17/01/20	Fri 17/01/20	16
18		Lead-in Period	4 wks	Mon 20/01/20	Fri 14/02/20	17
19		Site-set up including erection of hoarding	4 wks	Mon 17/02/20	Fri 13/03/20	18
20		Soft strip	2 wks	Mon 24/02/20	Fri 06/03/20	19SS+1 wk
21		Services isolations	1 wk	Mon 02/03/20	Fri 06/03/20	19SS+2 wks
22		Installation of temporary works to prop party wall	10 wks	Mon 09/03/20	Fri 15/05/20	19SS+3 wks
23		Installation of demolition scaffold incl alterations	9 wks	Mon 09/03/20	Fri 08/05/20	19SS+3 wks
24		Careful dismantling of above ground structures	5 wks	Mon 23/03/20	Fri 24/04/20	19FS+1 wk
25		Temporary wateproofing to retained exposed stru	2 wks	Mon 20/04/20	Fri 01/05/20	24FS-1 wk
26		Grubbing up of below ground structures	5 wks	Mon 27/04/20	Fri 29/05/20	25FS-1 wk
27		De-mobilize	1 wk	Mon 01/06/20	Fri 05/06/20	26
28		**Main Works Contract incl Fit Out**	**370 days**	**Mon 13/01/20**	**Fri 11/06/21**	
29		Tender process	12 wks	Mon 13/01/20	Fri 03/04/20	13
30		Appoint Contractor	0 days	Fri 03/04/20	Fri 03/04/20	29
31		Contractor Lead in	8 wks	Mon 06/04/20	Fri 29/05/20	30
32		Start on Site	0 days	Fri 29/05/20	Fri 29/05/20	26,31
33		Underpin walls	2 mons	Mon 01/06/20	Fri 24/07/20	32
34		Excavate and install insulation	1 mon	Mon 13/07/20	Fri 07/08/20	33FS-2 wks
35		Excavate drain runs	2 wks	Mon 27/07/20	Fri 07/08/20	33
36		Lay drains, test, inspect, backfill	2 wks	Mon 10/08/20	Fri 21/08/20	35
37		Excavate and cast central slab area	4 wks	Mon 24/08/20	Fri 18/09/20	36
38		Cast ground floor slab and commence superstruct	2 wks	Mon 07/09/20	Fri 18/09/20	37FS-2 wks
39		Block & brick to DPC	3 wks	Mon 21/09/20	Fri 09/10/20	38
40		Erect steel frame	3 wks	Mon 12/10/20	Fri 30/10/20	39
41		Insert pre-cast floors & stairs	2 wks	Mon 02/11/20	Fri 13/11/20	40
42		Form roof	2 wks	Mon 16/11/20	Fri 27/11/20	41
43		Remove temporary works	1 wk	Mon 16/11/20	Fri 20/11/20	41
44		Brick and blockwork to eaves	6 wks	Mon 16/11/20	Fri 25/12/20	41
45		Roof drainage	2 wks	Mon 30/11/20	Fri 11/12/20	42
46		Windows and external doors	2 wks	Mon 28/12/20	Fri 08/01/21	44
47		Internal walls and ceilings	5 wks	Mon 11/01/21	Fri 12/02/21	46
48		1st fix services	5 wks	Mon 25/01/21	Fri 26/02/21	47FS-3 wks
49		Lift installation	4 wks	Mon 15/02/21	Fri 12/03/21	48FS-2 wks
50		Close up walls	4 wks	Mon 22/02/21	Fri 19/03/21	48FS-1 wk
51		1st fix carpentry	4 wks	Mon 22/03/21	Fri 16/04/21	50
52		Internal finishes & fittings	4 wks	Mon 29/03/21	Fri 23/04/21	51FS-3 wks
53		2nd fix carpentry	4 wks	Mon 12/04/21	Fri 07/05/21	52FS-2 wks
54		2nd fix services	4 wks	Mon 12/04/21	Fri 07/05/21	52FS-2 wks
55		Green roof installation	2 wks	Mon 05/04/21	Fri 16/04/21	
56		Balconies	2 wks	Mon 19/04/21	Fri 30/04/21	55
57		Refuse & bike store	2 wks	Mon 19/04/21	Fri 30/04/21	55
58		External seating area & fencing	2 wks	Mon 03/05/21	Fri 14/05/21	56,57
59		Reinstate pavement & complete external works	2 wks	Mon 03/05/21	Fri 14/05/21	56,57
60		Inspect, test and commission	2 wks	Mon 10/05/21	Fri 21/05/21	53,54
61		Sparkle clean & de-snag	2 wks	Mon 24/05/21	Fri 04/06/21	60
62		Final building regs inspection	1 wk	Mon 07/06/21	Fri 11/06/21	61



Project: 190816-P19-030 Charlt
Date: Fri 30/08/19

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Manual Progress
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Progress

To: "'Divine Ideas'" <divineideas@me.com>, "'Bob Moore'" <bm@michaelchester.co.uk>, "'Duncan Mercer'" <dm@michaelchester.co.uk>, "'David cunningham'" <landwardmail@yahoo.co.uk>, <GrahamKite@campbellreith.com>,
Cc: <raquel.neri@a2-studio.com>, <alex.nikolic@a2-studio.com>,
Bcc:
Subject: RE: 12985-71: BIA Audit 53-55 Chalton St etc 2016/5266/P and 2016/3174/P
From: <tony.suckling@a2-studio.com> - Thursday 19/09/2019 08:53

I clarify the basis of the cat 1 damage predictions in our GMA;

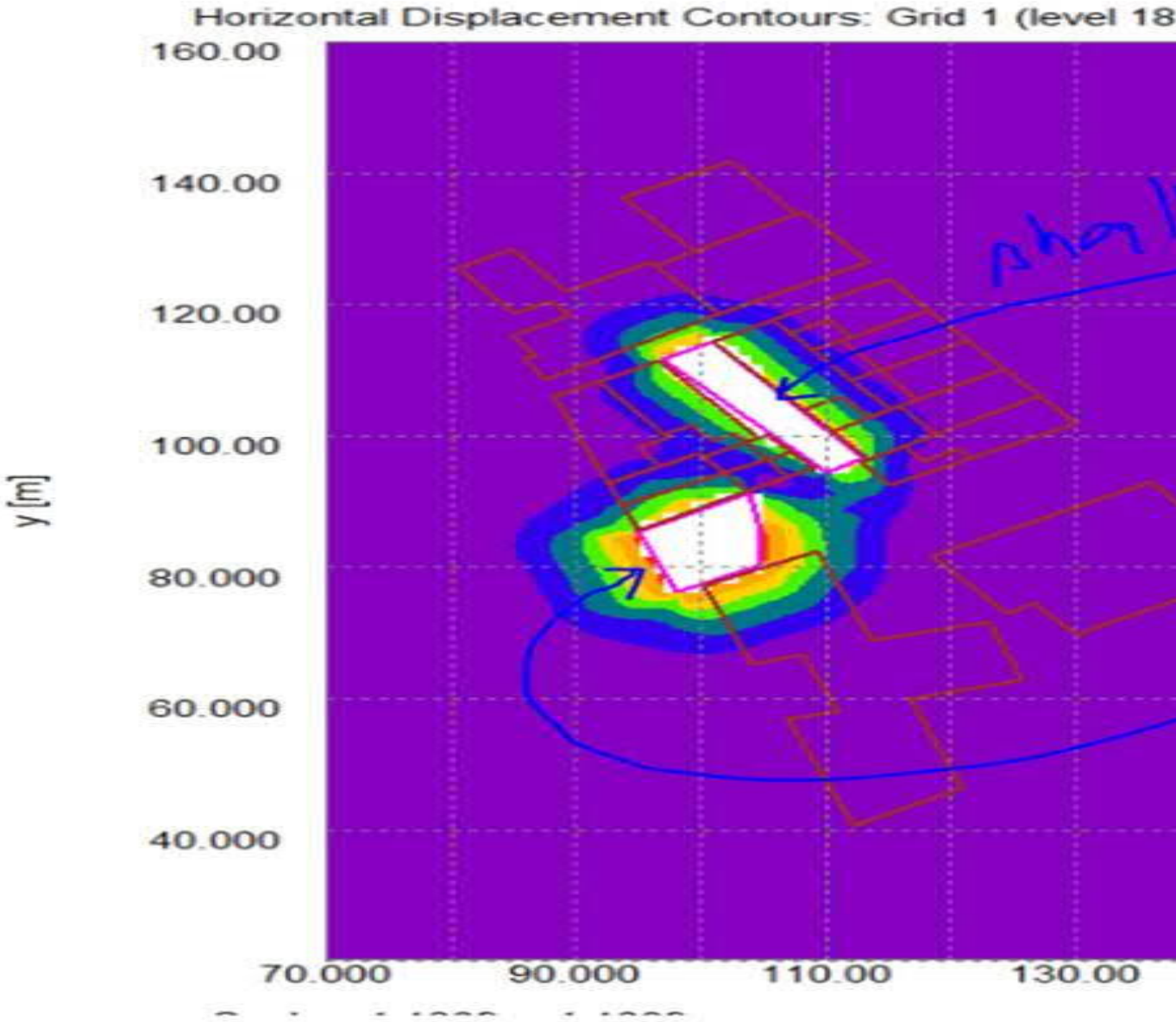
Underpinning installation horizontal movement has been considered as being 2mm

Bulk excavation horizontal movement has been considered as being 4mm

4.2.3. Basement Excavation Criteria

As part of the assessment presented herein, the empirical CIRIA 760 excavation was scaled to 80% which equates to a maximum movement at surface levels of 4mm during the excavation phase. The assessment assumes that the maximum horizontal movements due to the underpinning works in isolation are 2mm towards the site. Adhering to these limits would ensure the robustness of the solution and help to limit the possible damage of the neighbouring properties to Category 1 (Very slight).

The horizontal movement at ground level considered in the damage classification by XDISP is thus 2mm + 4mm + 6mm. The result of this can be seen in the plot below;



Regards

Tony

Tony Suckling
Eur Ing BEng (Hons) MSc CEng FICE FGS MIEAust CPEng
UK Registered Ground Engineering Adviser
Registered Professional Engineer of Queensland
Co-founder and Director

A-squared Studio

T: 020 7620 2868 | **M:** 07919 408 955
One Westminster Bridge Rd
London, SE1 7XW
www.a2-studio.com

From: GrahamKite@campbellreith.com

Subject: RE: 12985-71: BIA Audit 53-55 Chalton St etc 2016/5266/P and 2016/3174/P
Date: 18 September 2019 09:18:13 BST
To: "Sild, Thomas" <Thomas.Sild@camden.gov.uk>
Cc: "camdenaudit@campbellreith.com" <camdenaudit@campbellreith.com>, Divine Ideas <divineideas@me.com>, Alex Nikolic <alex.nikolic@a2-studio.com>, raquel.neri@a2-studio.com

Hi Thomas (CC Divine Ideas, A2 Studio)

I think there has been some crossover in message. I spoke to the GMA authors (A2 Studio) several weeks ago and explained that we would not accept a limiting horizontal movement of 2mm. This is not a reasonably conservative approach as required by the Terms of Reference. We discussed movements in the of 5mm+ being acceptable as the basis of assessment, assuming this is supported by the proposed temporary /permanent works scheme. We have been expecting a revised submission on that basis.

I will speak to A2 Studio again today to clarify any questions they have.

Regards

Graham Kite

<image010.jpg>
Friars Bridge Court,
41-45 Blackfriars Road,
London
SE1 8NZ

Tel +44 (0)20 7340 1700
www.campbellreith.com

London

15 Bermondsey Square
London, SE1 3UN

T: +44 (0)20 7340 1700
E: london@campbellreith.com

Birmingham

Chantry House
High Street, Coleshill
Birmingham B46 3BP

T: +44 (0)1675 467 484
E: birmingham@campbellreith.com

Surrey

Raven House
29 Linkfield Lane, Redhill
Surrey RH1 1SS

T: +44 (0)1737 784 500
E: surrey@campbellreith.com

Manchester

No. 1 Marsden Street
Manchester
M2 1HW

T: +44 (0)161 819 3060
E: manchester@campbellreith.com

Bristol

Wessex House
Pixash Lane, Keynsham
Bristol BS31 1TP

T: +44 (0)117 916 1066
E: bristol@campbellreith.com