

Appendix D

LUL Correspondence

Francesc Mirada

From: Howard Malcolm <Malcolm.Howard@tube.tfl.gov.uk>
Sent: 29 October 2020 10:03
To: Francesc Mirada
Cc: Paul Morrison
Subject: RE: [External] RE: 5-17 Haverstock Hill GI

Hi Francesc

Thank you for the update.

Moving the borehole to outside of the 15.0m exclusion zone is much more agreeable to Tfl. Thank you for this and no further comments or concerns regarding the BH.

In terms of the trial pits, this also sounds fine in principle but can I ask you to confirm the process and scope for the additional 3m probing including diameter of probe please?

Kind regards

Malcolm

From: Francesc Mirada <Francesc.Mirada@arup.com>
Sent: 27 October 2020 18:04
To: Howard Malcolm <Malcolm.Howard@tube.tfl.gov.uk>
Cc: Paul Morrison <Paul.Morrison@arup.com>
Subject: RE: [External] RE: 5-17 Haverstock Hill GI

Hi Malcolm,

I hope you are well.

I am writing you to give you a quick update on the proposed GI after attending site with the potential GI contractors. As per your request I have updated the sketch, showing the LUL ticket hall area and with the proposed BH location clearly outside of the 15m exclusion zone (see it attached). Also note that we have reduced the number of trial pits next to the LUL boundary from 3No. to 2No.

Further to this, for the trial pits located at the LUL boundary wall we may probe vertically (max 3m deep) below the base of the trial pit to check whether the wall foundations extends inside to the Haverstock Hill site.

Hope this is fine and aligns with LUL requirements.

Let me know if you have further comments.

Regards,
Francesc

Francesc Mirada
Senior Engineer | Geotechnics & Tunneling London
BSc (Hons) MSc CEng MICE

Arup
13 Fitzroy Street London W1T 4BQ United Kingdom
d: +44 20 7755 5529 IM: MSTeams
www.arup.com

From: Howard Malcolm <Malcolm.Howard@tube.tfl.gov.uk>
Sent: 20 October 2020 13:38
To: Paul Morrison <Paul.Morrison@arup.com>; Francesc Mirada <Francesc.Mirada@arup.com>
Cc: Nick Dewar <Nick.Dewar@arup.com>
Subject: RE: [External] RE: 5-17 Haverstock Hill Development Project

Hi Paul

Apologies I missed your call earlier today, I have been in meetings all morning.

Looking back over my previous email dated 23 September, I believe this fully clarifies (and hopefully clearly explains) my position regarding possibly locating a borehole closer than 15.0m to a Tfl asset whilst also making reference to both potential vibration and flush medium concerns.

I think the following statement below in particular captures this:-

*If for any reason is it **absolutely critical** that you locate the borehole 'slightly' closer than this then we can discuss this and I would need to see that the LU survey information has been used correctly and accurately within any RAMS / technical documentation and would also need to be satisfied that the use of any flush medium has been considered and is fully controlled.*

Ideally I would like 15.0m+ but it may be okay to tweak this slightly based on the above.

I am happy to review a proposal that fully demonstrates that the above has been taken into consideration and that there is a robust Safe System of Work (a clear 'thought process') regarding vibration, water ingress and the potential risk of both on Tfl.

But I do not believe the proposal sent through on 29 September (and thus my response on the 30th) had demonstrated this.

In terms of a distance of 6.0m, I think we would (all) agree that is not a 'slight tweak' to 15.0m and thus I would need to understand why the borehole could not be moved further away as part of your formal submission.

Finally, in terms of a site meeting, thank you for the invitation, however currently Tfl have restrictions on all site and one to one meetings and these require internal sign off. Only those activities that are safety critical to the operational railway or to sites that are in the construction phase are gaining approval.

Kind regards

Malcolm

From: Paul Morrison <Paul.Morrison@arup.com>
Sent: 20 October 2020 09:36
To: Howard Malcolm <Malcolm.Howard@tube.tfl.gov.uk>; Francesc Mirada <Francesc.Mirada@arup.com>
Cc: Nick Dewar <Nick.Dewar@arup.com>
Subject: RE: [External] RE: 5-17 Haverstock Hill Development Project

Dear Malcolm,

(Tried to call you to discuss.)

You are correct in the location of the passenger tunnels.

We would like to understand the potential of installing closer than 15m away from LU assets. The borehole will be a GI borehole, diameter around 8-10inch, the borehole will be bored by cable percussive methods but these are low energy compared to piling that G0023 refers to. There will be no pressure grouting, the borehole will be backfilled with a grout or high slump concrete mix to enable an assessment of LU induced vibration to be accessed (albeit the location will not be particularly close to the tunnels).

We are going to visit the site later this week with potential GI contractors, if you would like to also visit site to see the logistics we would be happy to meet you there (with appropriate distance).

Ideally we would like to make a 10m buffer between the borehole and the low level LU structures and 6m from at ground structures.

Regards

Paul

Paul Morrison

Arup

From: Howard Malcolm <Malcolm.Howard@tube.tfl.gov.uk>
Sent: 30 September 2020 07:56
To: Francesc Mirada <Francesc.Mirada@arup.com>
Cc: Nick Dewar <Nick.Dewar@arup.com>; Paul Morrison <Paul.Morrison@arup.com>
Subject: RE: [External] RE: 5-17 Haverstock Hill Development Project

Hi Francesc

Looking at the CAD survey data (previously provided) the edge of Chalk Farm station is closer than you have shown.

You have placed a 15.0m exclusion zone to the vertical shafts but you don't seem to have shown the edge of the station structure or it's distance.

This is **much** closer to the boundary of your site.

Please see below. I've marked up the 'Ticket Hall and Rooms' from the CAD data.





Can I ask you to consider the edge of the station and amend the location of the borehole accordingly please.

Kind regards

Malcolm

From: Francesc Mirada <Francesc.Mirada@arup.com>

Sent: 29 September 2020 15:47

To: Howard Malcolm <Malcolm.Howard@tube.tfl.gov.uk>

Cc: Nick Dewar <Nick.Dewar@arup.com>; Paul Morrison <Paul.Morrison@arup.com>

Subject: RE: [External] RE: 5-17 Haverstock Hill Development Project

Hi Malcom,

Thanks for your response.

We have marked up a drawing showing the existing basement footprint and the proposed BH and trial pits locations relative to the LUL infrastructure, see pdf attached. We don't have a GI contractor on board as yet but we are not going to be proposing the use of any flush or water as we would be proposing cable percussive methods.

Note that there will be some extra trial pits not shown in the marked up drawing, however, those are not proposed against the LUL boundary or within the LUL exclusion zone.

Let me know if you have any questions or comments on this proposal.

Thank you very much.

Regards,
Francesc

Francesc Mirada

Senior Engineer | Geotechnics & Tunneling London

BSc (Hons) MSc CEng MICE

Arup

13 Fitzroy Street London W1T 4BQ United Kingdom

d: +44 20 7755 5529 IM: [MSTeams](#)

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From: Howard Malcolm <Malcolm.Howard@tube.tfl.gov.uk>

Sent: 23 September 2020 08:52

To: Paul Morrison <Paul.Morrison@arup.com>

Cc: Francesc Mirada <Francesc.Mirada@arup.com>; Nick Dewar <Nick.Dewar@arup.com>

Subject: RE: [External] RE: 5-17 Haverstock Hill Development Project

Hi Paul

I had a very nice break and very relaxing thank you.

Yes I would definitely like to view your GI proposals and particularly for the borehole, it's location in proximity to Tfl assets and a RAMS which demonstrates a SSOW and how your site team propose to fully control and monitor the use of any flush medium.

For percussive operations we usually request a minimum lateral distance of 15.0m away from Tfl infrastructure although it is fully appreciated that a borehole (150mm dia) will have less ground borne vibration than a sheet pile for example.

However we have also had flooding / water ingress issues previously up to 15.0m+ away from our tunnels in the past where contractors have used water under pressure and have not fully controlled / recorded its use.

So we always have concerns with boreholes in close proximity to our structures.

If for any reason is it absolutely critical that you locate the borehole 'slightly' closer than this then we can discuss this and I would need to see that the LU survey information has been used correctly and accurately within any RAMS / technical documentation and would also need to be satisfied that the use of any flush medium has been considered and is fully controlled.

Ideally I would like 15.0m+ but it may be okay to tweak this slightly based on the above.

I hope this helps to clarify.

Kind regards

Malcolm

From: Paul Morrison <Paul.Morrison@arup.com>

Sent: 22 September 2020 14:56

To: Howard Malcolm <Malcolm.Howard@tube.tfl.gov.uk>

Cc: Francesc Mirada <Francesc.Mirada@arup.com>; Nick Dewar <Nick.Dewar@arup.com>

Subject: RE: [External] RE: 5-17 Haverstock Hill Development Project

Dear Howard, I hope have had a good break.

We are progressing with the impact reports and also with a proposed GI. Am I correct in understanding that LU would like to see proposals for GI works. Likely one deepish (30-35m) borehole in the footprint of the building and a number of trial pits from within the site looking at party wall geometry. The borehole will be cable percussive and will be grouted up once complete. Is there a specific distance that you would like the borehole to be clear of LU structures (train and passenger tunnels / shafts); the fact the borehole will be within the site precludes any chance of it entering into an exclusion zone (3m adjacent to the tunnel) taking event low verticality (e.g 1:25) into account.

Regards

Paul

Paul Morrison

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