

16th August 2023

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PLANNING | DESIGN | ENVIRONMENT

Dear Brandon,

RE: Foxwood Garden Village (Halsnead Park), Whiston – Conflict Between Retained Trees and Boundary Treatment

I write to provide my advice on the proposed boundary treatment adjacent to Plot 26 in respect of arboriculture and effects on existing trees. The location of the boundary treatment is between points K and M as shown on the Boundary Treatment Plan (ref: *HALS BTP 02 Rev I, Sheet 2*). I understand that Knowsley Council have requested that a stone wall, matching that of the existing red sandstone wall along Fox's Bank Lane, is provided. Taylor Wimpey however, are currently proposing a 1.8m high close boarded fence due to the proximity of retained trees and hedgerow along the shared site boundary. The current proposed boundary treatment is shown on Inset 1 of the Boundary Treatment and Tree Conflict Plan (ref: *D7137.06.001*) enclosed at Appendix A.

Design and Construction Methods

Several different options for boundary treatments have been explored with Taylor Wimpey, primarily comprising different wall designs; including a low-level (0.9m) wall and a 2m high wall. However, concerns were raised with regard to the suitability of installing a new wall within the Root Protection Area (RPA) of two retained trees; G13.2 (southernmost tree of G13) and G14 (northernmost tree of this group), both categorised as being of moderate quality (Category B) in accordance with BS 5837: 2012; and immediately adjacent to retained hedgerow H1. The RPA is deemed to be the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. Disturbance within the RPA should ideally be avoided and in general terms, the greater the infringement into the RPA the less certainty can be given over the long-term health or survival of a tree.

The locations of these features, inclusive of RPA, is shown at Appendices A and B. Categorisation in accordance with BS 5837:2012 is shown at Appendix B. Photographs of this boundary and the relevant arboreal features can be seen in Appendix C. At present, the



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alignment of the boundary treatment cuts significantly into the RPA of G13.2 and across the entire width of the RPA of G14. This gives rise to concerns due to the potential impact that the construction of the proposed wall may have on these features, some of which are located on third party land or are under shared ownership, and the loss of which would increase the overall arboreal and ecological impacts of the proposed development.

A wall constructed on a standard strip foundation would necessitate an excavation of 1000mm wide and 850mm deep, inclusive of a 250mm deep poured concrete foundation. The majority of tree roots are found in the top 600mm of soil, with fine fibrous roots vital for gaseous exchange and water uptake typically found in the top 300mm. Therefore, due to the linear nature of walls and the proposed alignment along the site boundary, the severance of a significant proportion of roots would be unavoidable, particularly with regard to G14. Whilst any such root severance could be controlled via sensitive excavation, root pruning would affect approximately 27% of G14's RPA, and a much higher percentage of the northernmost tree's individual RPA, and approximately 22% of G13.2's RPA. This amount of root pruning would not be tolerable and would lead to deterioration of the trees. In addition, the trees within G13 are growing immediately adjacent to and within the existing stone wall and therefore their root growth is highly likely to be heavily biased to the west within the field, resulting in increased anticipated effects. The proposed alignment would also bring foundation excavation within 1.5m of the base of G13.2, where larger and much more significant structural roots are highly likely to be located, and therefore the impact will be significant. In both instances, the level of root pruning that would be required to accommodate the excavation of strip foundations would not be tolerable and would cause harm to both trees and potential instability due to severance of structural roots. At the current alignment, the required width of the foundation excavation would also cut significantly into hedge H1 and necessitate its removal in this location to accommodate the foundation excavation.

An alternative to strip-footings is piled foundations. It has been confirmed by the project engineer that the wall would require staggered piles, driven to a depth of approximately 3000mm (subject to ground conditions). These would cover a 1m wide plinth along the proposed alignment with a beam installed across the top. From an arboricultural perspective, due to the depth of the piles and their proximity to one another, the effect on the roots of G13.2 and G14 is unlikely to be substantially different to strip footings. As with the standard foundation method above, the required width of the current alignment would also significantly cut into H1 and necessitate removal in this location. There would also be a requirement for the piling rig to access beneath the canopy of G13.2 and G14, necessitating heavy pruning. There are also overhead lines located between points K and L which would further complicate the use of a piling rig in this area.

Due to the potential impacts of the proposed wall construction on adjacent retained trees and hedgerow between points K and M, Taylor Wimpey removed the proposed wall in this section entirely and replaced it with the currently proposed 1.8m high close boarded fence. Fences are inherently more flexible and less impactful in terms of construction and installation, because the post holes are much smaller; less frequent in number; and can be microsituated to avoid significant roots. From an arboricultural perspective, the use of a fence is preferable between points K to M as it wouldn't necessitate any additional tree removal.

Conclusion

Inset 2, shown at Appendix A, indicates the feasibility of the wall construction based on the impact it would have on adjacent trees. Yellow sections indicate where a wall could potentially be constructed subject to modification and red sections indicate where modification and subsequent wall construction is not viable without felling trees. There are no sections where the wall could be constructed without trees or hedgerow posing some form of constraint.

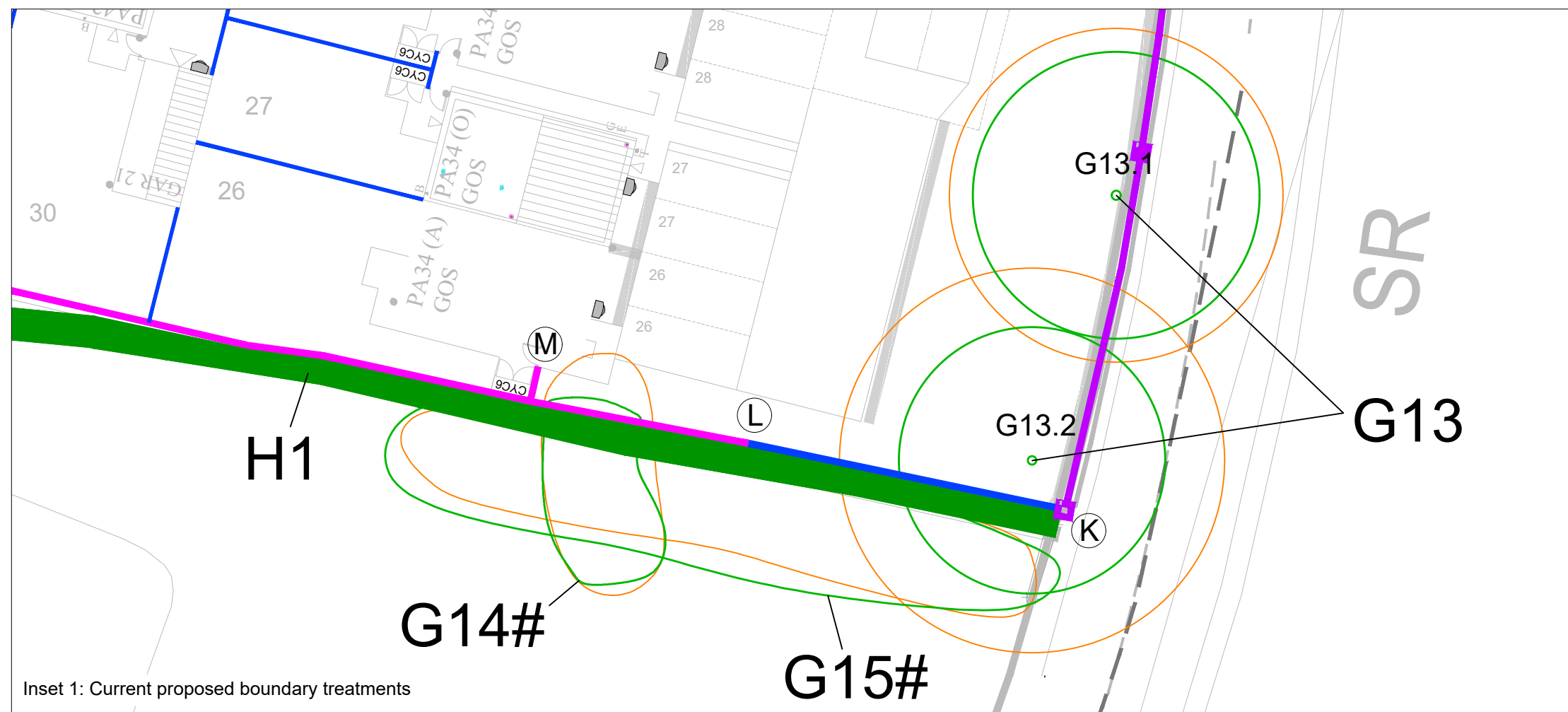
It may be possible to construct a wall in a conventional manner between the RPAs of G13.2 and G14, however the alignment would need to be adjusted to bring the required foundation excavation far enough away from the adjacent hedge H1 to ensure that it could be retained without deterioration. The southernmost edge of the excavation would need to be a minimum of 0.5m away from the canopy edge of H1, with the centreline of the wall a minimum of 1m away from the canopy edge. The sections of wall either side of this adjusted section would need to tie-in but there is insufficient space due the proposed property to accommodate sufficient movement to avoid the RPA of existing trees. Construction of a wall in this location is therefore prevented unless additional tree loss is accepted.

Yours sincerely,



Heather Eilbeck BSc (Hons) MICFor
Arboricultural Consultant
TEP

Appendix A – Boundary Treatment and Tree Conflict Plan



KEY

[This drawing must be reproduced in colour]

-  G1 Retained Tree Groups
 H1 Retained Hedgerow
 Root Protection Area (RPA)
 # Approximate location
 (Feature not shown on supplied topographical survey)

Current proposed boundary treatment (Inset 1)

- | | |
|---|--------------------------------------|
|  | 1.8m high close boarded fence |
|  | 2.4m high acoustic fencing |
|  | 1.8m high brick wall |
|  | Red sandstone wall to match existing |
-
- | | |
|---|--|
|  | Boundary Treatment Plan Point Reference
(Plan ref: HALS BTP 02 Rev 1, Sheet 2) |
|---|--|

Construction viability of new stone wall (Inset 2)

- Viable with modification
 Not viable



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Rev	Description	Drawn	Approved	Date



**THE
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Project

Foxwood Garden Village (Halsnead Park), Whiston

Title

Boundary Treatment and Tree Conflict Plan

Drawing Number

D7137.06.001

Drawn HEE	Checked AAB	Approved JGS	Scale 1:250 @ A3	Date 18/07/2023
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Drawn
HEE

Checked
AAB

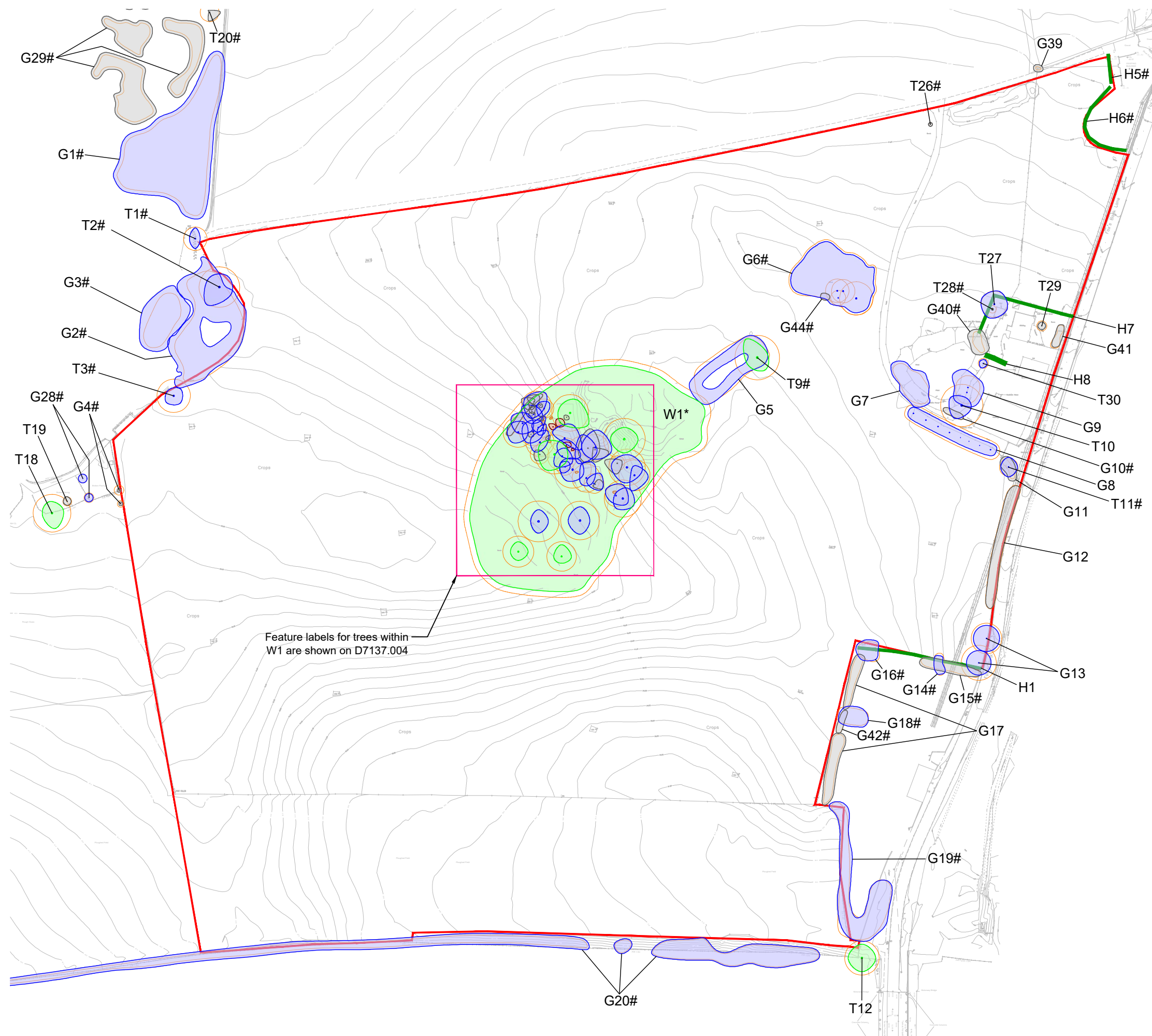
Approve
JGS

Scale
1:250 @ A3

Date	18/0
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18/07/2023

Appendix B – Tree Constraints Plan, produced as part of Arboricultural Impact Assessment



KEY

[This drawing must be reproduced in colour]

- T1/G1/W1 Trees
- H1 Hedgerow
- Root Protection Area (RPA)
- Small Trees (<70mm stem diameter at 1.5m)
- Application Boundary
- # Approximate location (Feature partially shown or not shown on topo)
- * Tree Preservation Order 64/00001/TPO (Halsnead Park, Lickers Lane Tree Preservation Order No. 1)

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

- Category A (High quality)
- Category B (Moderate quality)
- Category C (Low quality)
- Category U (Unsuitable for retention)
- Hedgerow (Not categorised)

NOTES:

This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

Coloured hatch not shown for W1 on drawing D7137.004 for clarity.

C	T12 and H1 aligned with topo survey	HEE	TDP	16.03.2022
B	Updated topo survey and additional survey data	HEE	TDP	14.03.2022
A	Updated development area survey data	HEE	JGS	22.12.2020
Rev	Description	Drawn	Approved	Date

THE ENVIRONMENT PARTNERSHIP

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Project

Halsnead Park, Whiston

Arboricultural Impact Assessment

Title

Drawing 1: Tree Constraints Plan [BASELINE] - Application Site

Drawing Number

D7137.001

Drawn	Checked	Approved	Scale	Date
HEE	AAB	JGS	1:2000 @ A3	14/05/2019

Appendix C – Site Photographs



Figure 1 G13.2 and H1 (left to right - approximately Sections K to L of Boundary Treatment Plan)



Figure 2 H1 and G14 (left to right - approximately Sections L to M of Boundary Treatment Plan)



Figure 3 H1 and G14 (left to right - approximately Sections L to M of Boundary Treatment Plan)