

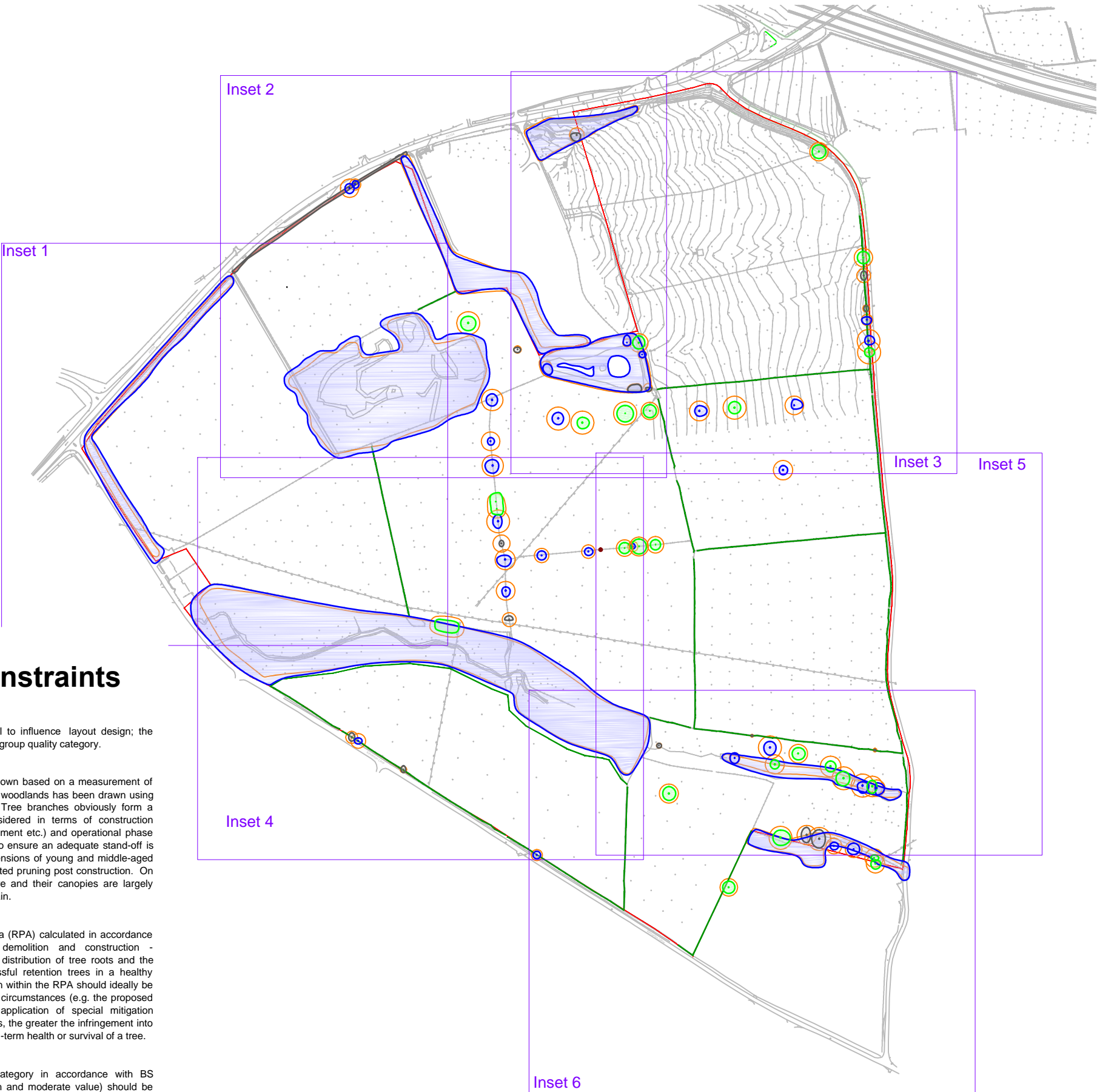
Warren Hall, Flint
Arboricultural Constraints

This drawing shows three things with the potential to influence layout design; the canopy spread; Root Protection Areas; and a tree or group quality category.

Canopy Spread
The existing canopy spread of individual trees is shown based on a measurement of the four cardinal points. The canopy of groups and woodlands has been drawn using aerial photography and topographical information. Tree branches obviously form a physical constraint and one which must be considered in terms of construction (buildable space, scaffold erection, contractor movement etc.) and operational phase (shade casting, encroachment, fear of failure etc.) to ensure an adequate stand-off is provided. The projected increase in the crown dimensions of young and middle-aged trees should be factored in to avoid excess or repeated pruning post construction. On this site a large proportion of the trees are mature and their canopies are largely representative of the maximum size the trees will attain.

Root Protection Area
The orange circles represent a Root Protection Area (RPA) calculated in accordance with BS 5837 Trees in relation to design, demolition and construction - Recommendations. It is an estimation of the likely distribution of tree roots and the minimum area required in order to ensure successful retention trees in a healthy condition. This is a design tool, whereby construction within the RPA should ideally be avoided but may be acceptable based on individual circumstances (e.g. the proposed activity, tree species, condition etc.) or by the application of special mitigation construction that minimises impacts. 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.

Tree Quality Category
The colour of the trees denotes their quality category in accordance with BS 5837:2012. Green and blue trees and groups (high and moderate value) should be given greatest priority for retention, although this should be an aspiration and is rarely a strict requirement. The removal of such trees should be based on sound design rationale, the detail of which will be incorporated into the assessment of impact and the provision of appropriate mitigation. High and moderate value trees are often irreplaceable in the short to medium term due to their age or large stature. Grey and red trees are of lower value, due to either their young age or impaired condition, such that their removal should be prioritised over that of higher value trees. It is often much easier to mitigate the loss of these trees by either replanting a tree of similar stature or with tree of better quality and long-term prospects.



KEY
[This drawing must be reproduced in colour]

- Individual trees
- Groups of trees and woodland
- Hedgerow
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location
(Feature not shown on topo)

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)

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

LDP-EBD-STR3B.4.L



| Rev | Description | Drawn | Approved | Date |
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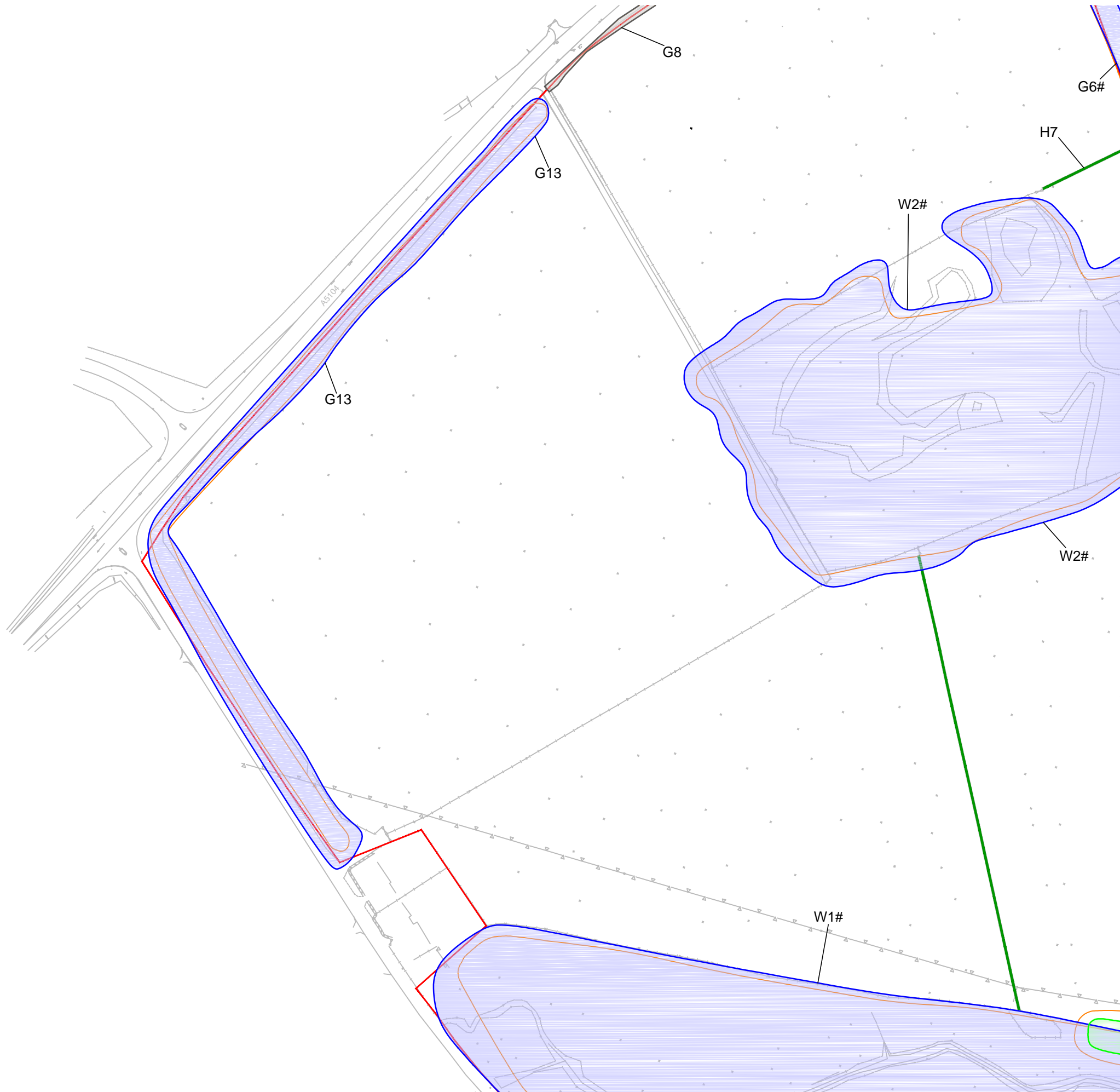


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Project
**Warren Hall, Flintshire
Tree Constraints Plans**

Title
Tree Constraints Plan Overview [EXISTING]

| | | | | |
|------------------------------------|-----------------------|------------------------|-----------------------------|---------------------------|
| Drawing Number D7016.001 | | | | |
| Drawn HEE | Checked RMG | Approved JGS | Scale 1:6000 @ A3 | Date 25/06/2018 |



KEY

[This drawing must be reproduced in colour]

- T1 Individual trees
- G1 Groups of trees
- W1 Woodland
- H1 Hedgerow
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location
(Feature not shown on topo)

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)

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



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Project

**Warren Hall, Flint
Tree Constraints Plans**

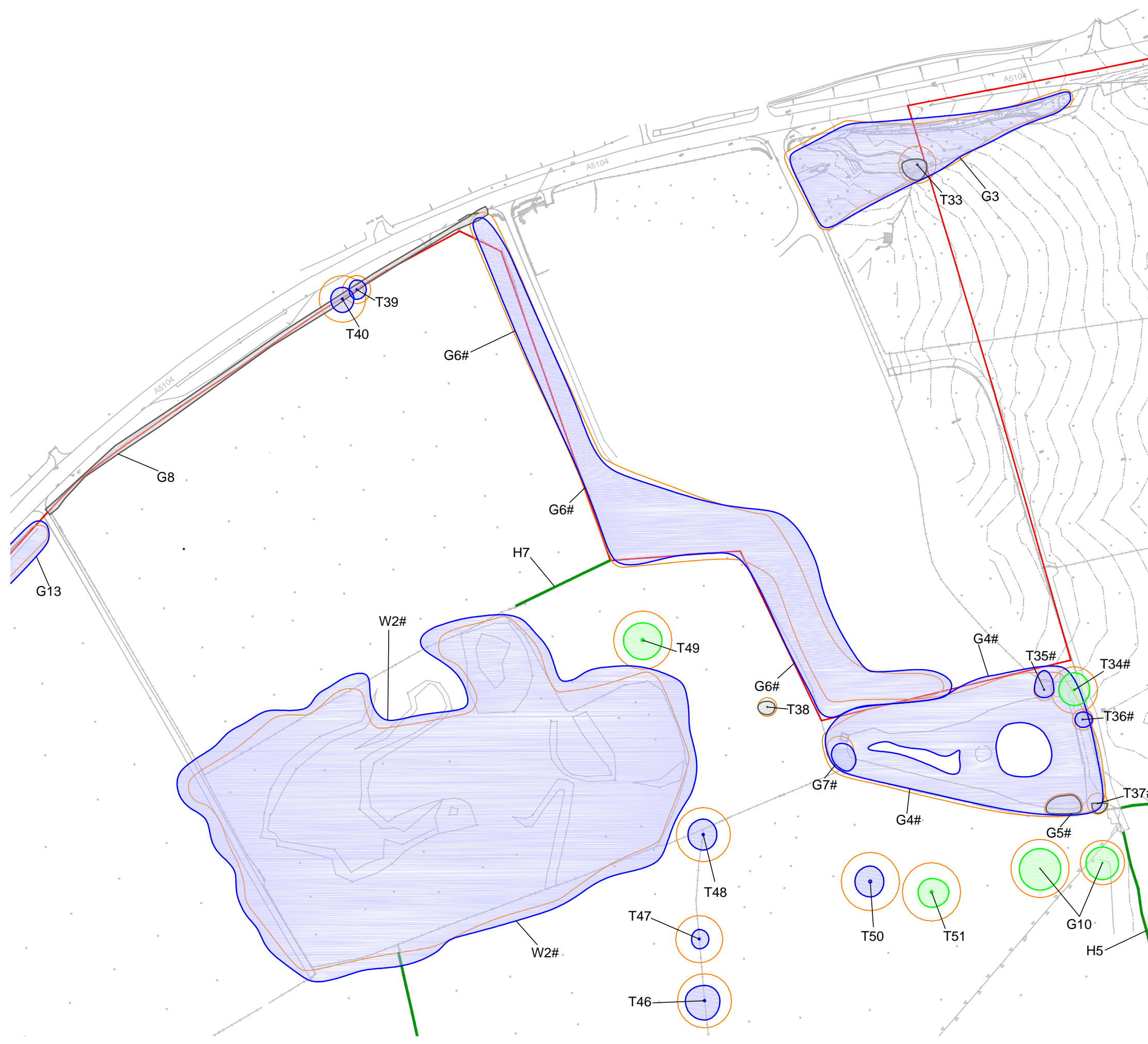
Title

Tree Constraints Plan Inset 1 [EXISTING]

Drawing Number

D7016.002

| Drawn | Checked | Approved | Scale | Date |
|-------|---------|----------|-------------|------------|
| HEE | RMG | JGS | 1:2000 @ A3 | 25/06/2018 |



KEY

[This drawing must be reproduced in colour]

- T1 Individual trees
- G1 Groups of trees
- W1 Woodland
- H1 Hedgerow
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location
(Feature not shown on topo)

Tree Quality Categorisation

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

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

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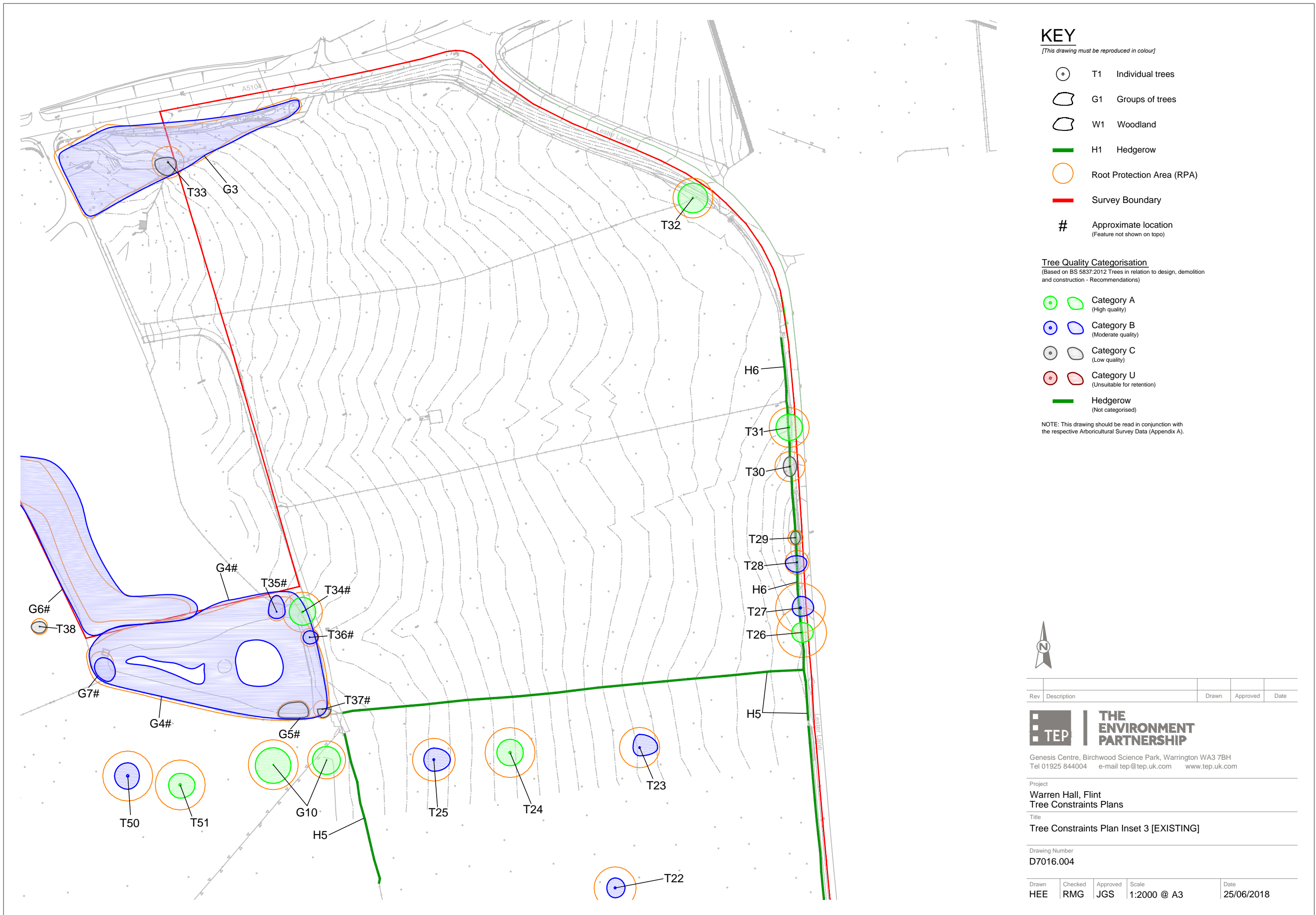
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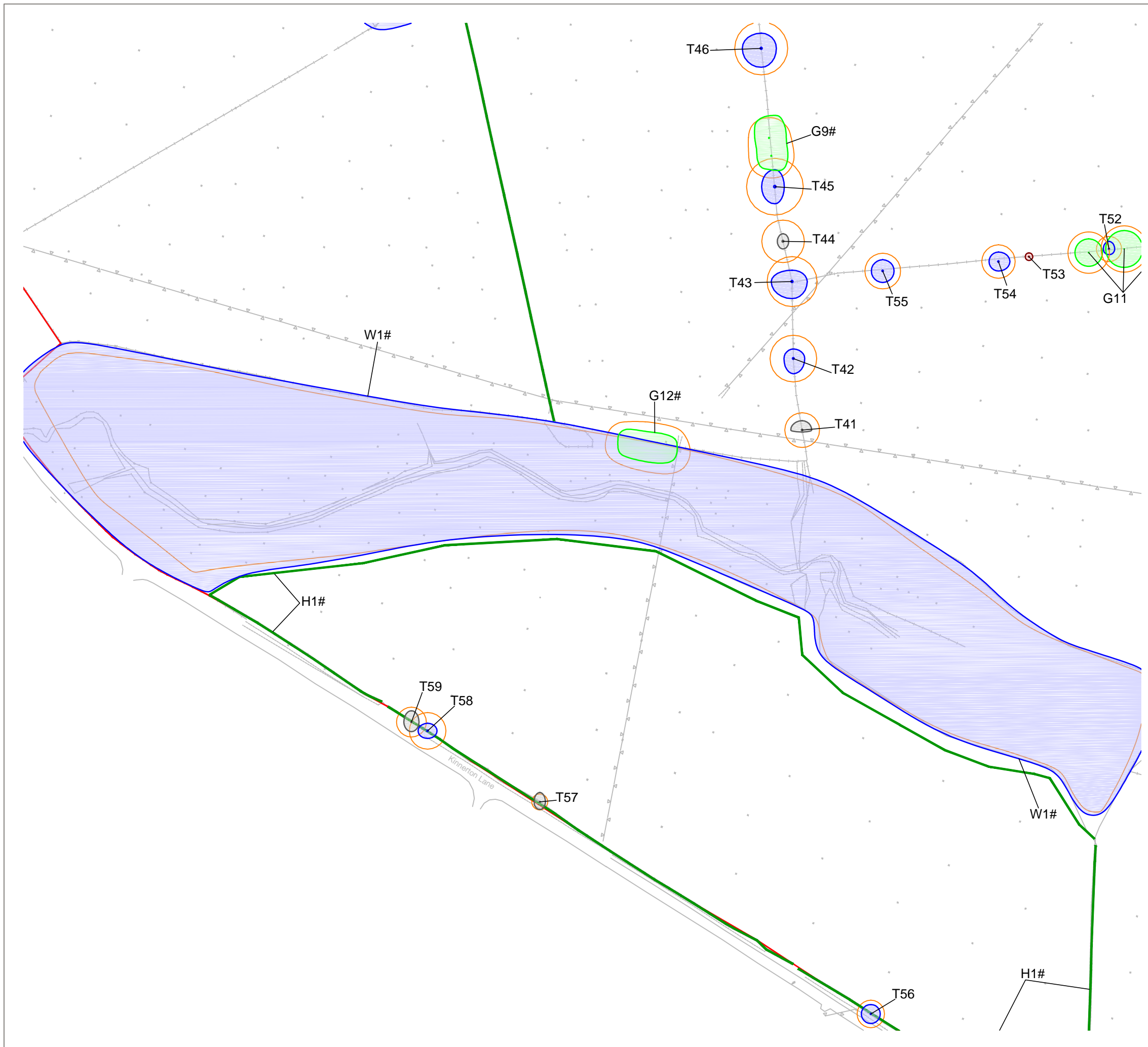
Project
**Warren Hall, Flint
Tree Constraints Plans**

Title
Tree Constraints Plan Inset 2 [EXISTING]

Drawing Number
D7016.003

| Drawn | Checked | Approved | Scale | Date |
|-------|---------|----------|-------------|------------|
| HEE | RMG | JGS | 1:2000 @ A3 | 25/06/2018 |





KEY
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- T1 Individual trees
- G1 Groups of trees
- W1 Woodland
- H1 Hedgerow
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location
(Feature not shown on topo)

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



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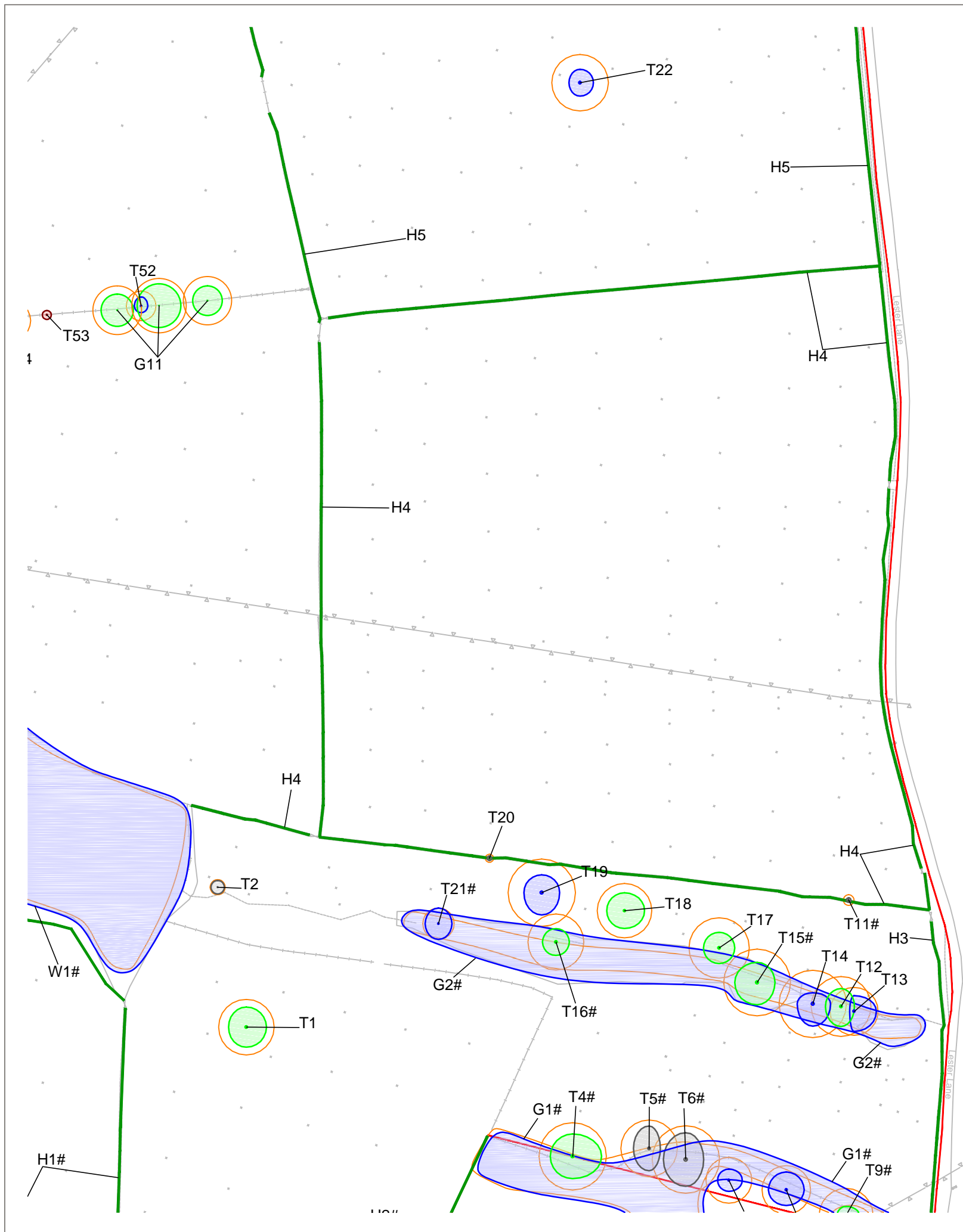


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Project
Warren Hall, Flint
Tree Constraints Plans
Title
Tree Constraints Plan Inset 4 [EXISTING]

Drawing Number
D7016.005

| Drawn | Checked | Approved | Scale | Date |
|-------|---------|----------|-------------|------------|
| HEE | RMG | JGS | 1:2000 @ A3 | 25/06/2018 |



KEY

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- T1 Individual trees
- G1 Groups of trees
- W1 Woodland
- H1 Hedgerow
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location
(Feature not shown on topo)

Tree Quality Categorisation

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

- Category A
(High quality)
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(Low quality)
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- Hedgerow
(Not categorised)

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Project

Warren Hall, Flint
Tree Constraints Plans

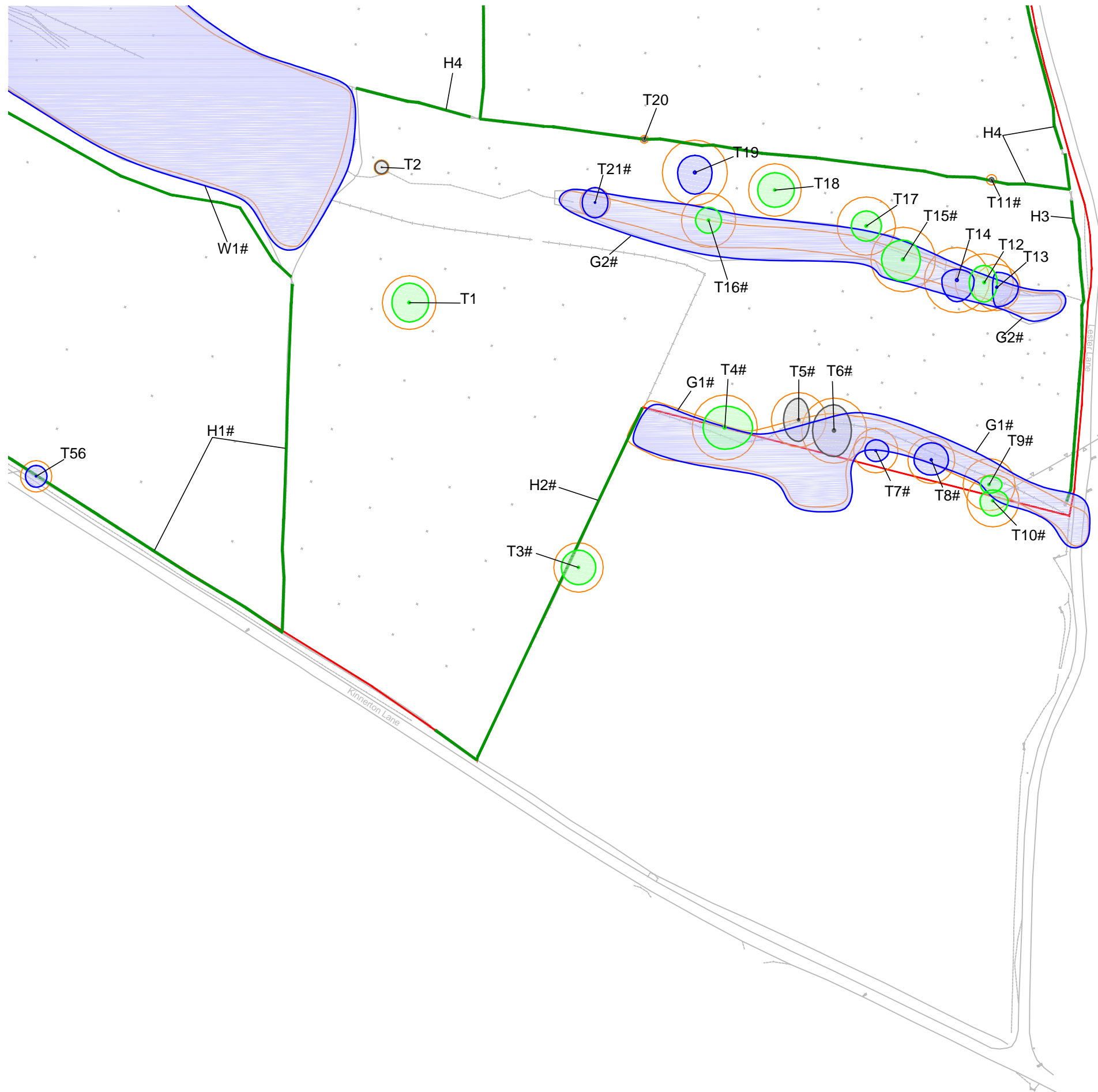
Title

Tree Constraints Plan Inset 5 [EXISTING]

Drawing Number

D7016.006

| Drawn | Checked | Approved | Scale | Date |
|-------|---------|----------|-------------|------------|
| HEE | RMG | JGS | 1:2000 @ A3 | 25/06/2018 |



KEY

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- T1 Individual trees
- G1 Groups of trees
- W1 Woodland
- H1 Hedgerow
- Root Protection Area (RPA)
- Survey Boundary
- # Approximate location
(Feature not shown on topo)

Tree Quality Categorisation

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

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

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Project

**Warren Hall, Flint
Tree Constraints Plans**

Title

Tree Constraints Plan Inset 6 [EXISTING]

Drawing Number

D7016.007

| Drawn | Checked | Approved | Scale | Date |
|-------|---------|----------|-------------|------------|
| HEE | RMG | JGS | 1:2000 @ A3 | 25/06/2018 |