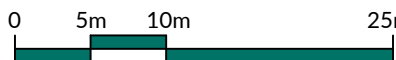


NORTH



NOTES

- The original of this drawing was produced in colour - a monochrome copy should not be relied upon.
- Scale for planning purposes only.
- All dimensions to be checked on site.
- The copyright of this document resides with Keen Consultants unless assigned in writing by the company.
- Details shown on this drawing are devised with reference to BS5837:2012: Trees in relation to design, demolition and construction - Recommendations.
- Tree Preservation Order and Conservation Area based on Havant Borough Council portal map.
- Topographical survey based on Harris Surveys Ltd drawing number 21341.
- Where trees were not identified on the topographical survey they have been plotted by eye.
- Site Plan based on Thorp Design drawing number 10129.303.

KEY

- Existing site features
- Proposed extension
- Trees retained (Green-coloured line indicates extent of canopy)
- Tree for removal (Red-coloured dash line indicates extent of canopy)
- 2.0m high barrier as detail in Figure 1
- Area of ground protection as detail in Figure 2
- Minimum extent of no-dig construction. Actual deployment may be greater. As detail in Figure 3

KEY TO TREE SCHEDULE

| Column Heading                                              | Explanation                                                                                                                                              |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tree No.                                                    | Unique number corresponding with number on plan                                                                                                          |
| Species                                                     | English names                                                                                                                                            |
| Ht (m)                                                      | Height in metres                                                                                                                                         |
| Branch Spread                                               | Crown radius in metres to cardinal points of the compass                                                                                                 |
| Stem Dia                                                    | All measurements conform to Annex C of BS 5837:2012                                                                                                      |
|                                                             | Single stem - Stem diameter in centimetres measured at 1.5m above ground level                                                                           |
|                                                             | Multi-stemmed tree with 2 to 5 stems - Diameter of each stem                                                                                             |
|                                                             | Multi-stemmed tree with more than 5 stems - Average stem diameter and number of stems                                                                    |
| Height of crown clearance                                   | Height in metres between the ground and underside of canopy                                                                                              |
| Height of first major branch and direction of growth        | Height from ground level to base of first major branch and the approximate direction of growth                                                           |
| Abbreviations as suffix to a dimension                      | Suffix 'e' denotes an estimated dimension                                                                                                                |
| Age Class                                                   | Suffix 'av' denotes an average dimension                                                                                                                 |
|                                                             | Age Class definitions:                                                                                                                                   |
|                                                             | Y = Young S = Semi-mature E = Early mature                                                                                                               |
|                                                             | M = Mature O = Over mature                                                                                                                               |
|                                                             | Summary of BS 5837:2012 categorisation:                                                                                                                  |
| Category grading and Estimated remaining Contribution (yrs) | 1. Trees unsuitable for retention:                                                                                                                       |
|                                                             | U = Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years |
|                                                             | 2. Trees to be considered for retention:                                                                                                                 |
|                                                             | A1, 2 or 3 = trees of high quality (substantial contribution >40 yrs)                                                                                    |
|                                                             | B1, 2 or 3 = trees of moderate quality (significant contribution >20 yrs)                                                                                |
|                                                             | C1, 2 or 3 = trees of low quality (but adequate, ie >10 yrs or young trees - until new planting can be established)                                      |
| Estimated remaining contribution                            | Note: Useful estimated remaining contribution of the tree or tree group based on figures stated in BS5837:2012                                           |
| Condition                                                   | Brief description including physiological and structural defects                                                                                         |
| Tree Works                                                  | Works required to be undertaken to the trees to facilitate the construction of remediate a defect encountered during the survey                          |
| Root Protection Radius                                      | Radius of minimum root protection area in metres calculated from section 4.6 and Annex D of BS5837:2012                                                  |
| Root Protection Area                                        | Total area of minimum root protection area extrapolated from root protection radius                                                                      |

|   |                                  |          |
|---|----------------------------------|----------|
| A | Tree protection measures updated | 17.10.22 |
| 0 | Preliminary issue                | 15.02.22 |

| Rev | Description                      | Date     |
|-----|----------------------------------|----------|
| 1   | Tree protection measures updated | 17.10.22 |
| 0   | Preliminary issue                | 15.02.22 |

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|        |                 |
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| Client | MR & MRS DENTON |
|--------|-----------------|

|         |                                                                |
|---------|----------------------------------------------------------------|
| Project | LAND AT LANGSTONE LODGE,<br>1 LANGSTONE HIGH STREET, LANGSTONE |
|---------|----------------------------------------------------------------|

|       |                      |
|-------|----------------------|
| Title | TREE PROTECTION PLAN |
|-------|----------------------|

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| Date     | Scale    |
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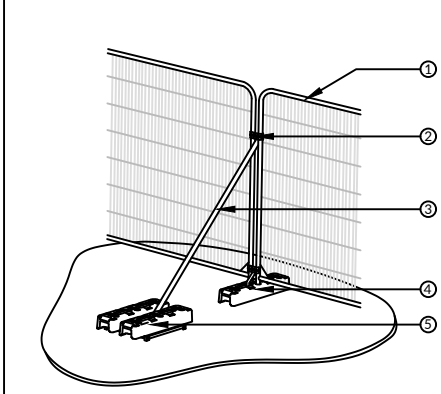
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|----------------|--|

1760-KC-XX-YTREE-TPP01RevA

Trees at Langstone Lodge, 1 Langstone High Street, Havant

| Tree No. | Species                 | Ht (m) | Branch Spread (m) |     |    |      | Stem diameters (cm) |           |        |        |        | Height of crown clearance (m) | Height of first branch (m) (compass point) | Age class | Category grading | Estimated remaining contribution (yrs) | Condition<br>Physiological / Structural                                                                                                                                                                                                                                                                                                                                                                                      | Tree Works to BS3998                               | Root protection radius (m) | Root protection area (sq.m) |
|----------|-------------------------|--------|-------------------|-----|----|------|---------------------|-----------|--------|--------|--------|-------------------------------|--------------------------------------------|-----------|------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------|-----------------------------|
|          |                         |        | N                 | E   | S  | W    | Single Stem         | 2-5 stems |        |        |        |                               |                                            |           |                  |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                    |                            |                             |
|          |                         |        |                   |     |    |      |                     | Stem 1    | Stem 2 | Stem 3 | Stem 4 |                               |                                            |           |                  |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                    |                            |                             |
| 1        | Holm oak                | 17     | 9                 | 10  | 10 | 11   |                     |           |        |        |        |                               |                                            |           |                  |                                        | Visually significant tree growing against road.                                                                                                                                                                                                                                                                                                                                                                              |                                                    | 15.00                      | 707                         |
| 2        | Mimosa                  | 9      | 3                 | 3   | 3  | 3    | 32                  |           |        |        |        |                               |                                            |           |                  |                                        | Growing close to boundary wall. Crown reduced in the past.                                                                                                                                                                                                                                                                                                                                                                   |                                                    | 3.84                       | 46                          |
| 3        | Sycamore                | 13     | 4                 | 3   | 6  | 5    | 36                  |           |        |        |        |                               |                                            |           |                  |                                        | Part of a row of similar sized trees bisecting garden. Of limited merit. Compromising development of street tree.                                                                                                                                                                                                                                                                                                            |                                                    | 4.32                       | 59                          |
| 4        | Sycamore                | 15     | 5                 | 3   | 2  | 5    | 35                  |           |        |        |        |                               |                                            |           |                  |                                        | Part of a row of similar sized trees bisecting garden. Of limited merit.                                                                                                                                                                                                                                                                                                                                                     |                                                    | 4.20                       | 55                          |
| 5        | Sycamore                | 15     | 3                 | 3   | 2  | 1    | 27                  |           |        |        |        |                               |                                            |           |                  |                                        | Extensive decay at base due to past stem loss.                                                                                                                                                                                                                                                                                                                                                                               |                                                    | 3.24                       | 33                          |
| 6        | Sycamore                | 13     | 3                 | 1   | 1  | 4    |                     | 21        | 16     |        |        |                               |                                            |           |                  |                                        | Smaller tree suppressed by its much larger neighbour. Unsuitable to long term.                                                                                                                                                                                                                                                                                                                                               |                                                    | 3.17                       | 32                          |
| 7        | Sycamore                | 16     | 6                 | 5   | 7  | 5    | 66                  |           |        |        |        |                               |                                            |           |                  |                                        | Forms part of a row of similar sized trees bisecting garden. Twin stemmed from circa 1.5m above ground level. This tight union is highly susceptible to failure in future years. Prominent ribs of tissue are forming on either side confining the weakness.                                                                                                                                                                 |                                                    | 7.92                       | 197                         |
| 8        | Ash                     | 18     | 7                 | 5   | 6  | 3    | 45                  |           |        |        |        |                               |                                            |           |                  |                                        | Forms part of a row of trees bisecting garden. Crown development compromised by adjoining sycamore. Extensive area of deadwood on lower stem. Showing distinct signs of Ash Dieback.                                                                                                                                                                                                                                         |                                                    | 5.40                       | 92                          |
| 9        | Holly                   | 4      | 2                 | 2   | 2  | 2    |                     | 17        | 11     | 15     | 21     |                               |                                            |           |                  |                                        | Small tree at end of planting bed. Has been crown reduced in the past.                                                                                                                                                                                                                                                                                                                                                       |                                                    | 3.94                       | 49                          |
| 10       | Sycamore                | 14     | 1                 | 6   | 4  | 3    | 41                  |           |        |        |        |                               |                                            |           |                  |                                        | Forms part of a row of similar sized trees bisecting garden. Crown development compromised by adjoining tree.                                                                                                                                                                                                                                                                                                                |                                                    | 4.92                       | 76                          |
| 11       | Sycamore                | 15     | 6                 | 4   | 2  | 5    | 48                  |           |        |        |        |                               |                                            |           |                  |                                        | Forms part of a row of similar sized trees bisecting garden. Crown development compromised by adjoining tree.                                                                                                                                                                                                                                                                                                                |                                                    | 5.76                       | 104                         |
| 12       | Sycamore                | 15     | 2                 | 2   | 6  | 4    | 41                  |           |        |        |        |                               |                                            |           |                  |                                        | Forms part of a row of similar sized trees bisecting garden. Pocket of decay at base. Crown development compromised by adjoining trees. Presence of this tree is compromising the development of the adjoining larger and better beech tree.                                                                                                                                                                                 |                                                    | 4.92                       | 76                          |
| 13       | Sycamore                | 15     | 2                 | 4   | 5  | 1    | 36                  |           |        |        |        |                               |                                            |           |                  |                                        | Forms part of a row of similar sized trees bisecting garden. Crown development compromised by adjoining tree. Presence of this tree is compromising the development of the adjoining larger and better beech tree.                                                                                                                                                                                                           |                                                    | 4.32                       | 59                          |
| 14       | Sycamore                | 15     | 5                 | 3   | 0  | 4    | 30                  |           |        |        |        |                               |                                            |           |                  |                                        | Forms part of a row of similar sized trees bisecting garden. Crown development compromised by adjoining tree. Presence of this tree is compromising the development of the adjoining larger and better beech tree.                                                                                                                                                                                                           |                                                    | 3.60                       | 41                          |
| 15       | Beech                   | 17     | 8                 | 7   | 7  | 7    | 133                 |           |        |        |        |                               |                                            |           |                  |                                        | Visually significant tree of multi-stem form from circa 2-4m above ground level. Been pruned in the past. Decaying remnant of fungal fruit body at base. Fruit body too degraded to attain species.                                                                                                                                                                                                                          |                                                    | 15.00                      | 707                         |
| 16       | Sycamore                | 15     | 2                 | 3   | 4  | 3    | 26                  |           |        |        |        |                               |                                            |           |                  |                                        | Part of a group of 3 trees. Growing extremely close to boundary wall. Presence compromises development of street trees.                                                                                                                                                                                                                                                                                                      |                                                    | 3.12                       | 31                          |
| 17       | Sycamore                | 15     | 3                 | 1   | 3  | 4    | 31                  |           |        |        |        |                               |                                            |           |                  |                                        | Part of a group of 3 trees. Growing extremely close to boundary wall. Presence compromises development of street trees.                                                                                                                                                                                                                                                                                                      |                                                    | 3.72                       | 43                          |
| 18       | Sycamore                | 15     | 6                 | 6   | 5  | 4    |                     | 38        | 40     |        |        |                               |                                            |           |                  |                                        | Poor fork formation at circa 1m above ground level. Showing signs of included bark and reaching a point where it is likely to fail. Unsuitable to long term retention.                                                                                                                                                                                                                                                       |                                                    | 6.62                       | 138                         |
| 19       | Row of leyland cypress  | 2av    |                   | 1av |    | 10av |                     |           |        |        |        |                               |                                            |           |                  |                                        | Row of conifers growing in lawn.                                                                                                                                                                                                                                                                                                                                                                                             |                                                    | 1.20                       | 5                           |
| 20       | Row of sycamore         | 18av   |                   | 7av |    | 40av |                     |           |        |        |        |                               |                                            |           |                  |                                        | Densely spaced line of trees along northern boundary. Would appear to have been self-set all have growing in competition with one and other. Most stems have an ericoid form and are of little merit. Row contains occasional ash that is showing signs of Ash Dieback. The ash are unsuitable to long term retention. Some dead stems branches and crossing branches that would be better removed to prevent their failure. | Remove dead stems, branches and crossing branches. | 4.80                       | 72                          |
| 21       | Ash                     | 19     | 6                 | 6   | 9  | 5    | 71                  |           |        |        |        |                               |                                            |           |                  |                                        | Larger tree within row. Some decay associated with past branch loss. Showing advance signs of Ash Dieback.                                                                                                                                                                                                                                                                                                                   |                                                    | 8.52                       | 228                         |
| 22       | Pair of ash             | 17av   |                   | 7av |    | 55av |                     |           |        |        |        |                               |                                            |           |                  |                                        | Pair of trees growing on northern boundary. Both showing signs of Ash Dieback.                                                                                                                                                                                                                                                                                                                                               |                                                    | 6.60                       | 137                         |
| 23       | Row of leyland cypress  | 3av    |                   | 1av |    | 10av |                     |           |        |        |        |                               |                                            |           |                  |                                        | Short section of conifer hedge along northern boundary.                                                                                                                                                                                                                                                                                                                                                                      |                                                    | 1.20                       | 5                           |
| 24       | Row of sycamore and ash | 16av   |                   | 7av |    | 60av |                     |           |        |        |        |                               |                                            |           |                  |                                        | Row of trees growing inside and outside the northern boundary. The sycamore has partially failed and leaning toward the east. All the ash are showing signs of advance Ash Dieback.                                                                                                                                                                                                                                          |                                                    | 7.20                       | 163                         |
| 25       | Apple                   | 4      | 2                 | 1   | 2  | 2    | 41                  | 22        |        |        |        |                               |                                            |           |                  |                                        | Older fruit tree with extensive decay within main stem. Pruned on a regular basis.                                                                                                                                                                                                                                                                                                                                           |                                                    | 5.58                       | 98                          |
| 26       | Sycamore                | 13     | 6                 | 6   | 3  | 3    | 52                  |           |        |        |        |                               |                                            |           |                  |                                        | Extensive decay in main stems. Unions between stems liable to failure. Unsuitable to long term retention.                                                                                                                                                                                                                                                                                                                    |                                                    | 6.24                       | 122                         |
| 27       | Ash                     | 14     | 4                 | 7   | 7  | 7    |                     | 28        | 34     | 29     |        |                               |                                            |           |                  |                                        | Combines with other trees of similar size on eastern boundary. Triple stemmed from circa 8m above ground level. Tight unions between those stems that are liable to failure in future years. Showing signs of Ash Dieback.                                                                                                                                                                                                   |                                                    | 6.33                       | 126                         |
| 28       | Pair of sycamore        | 15av   |                   | 7av |    | 60av |                     |           |        |        |        |                               |                                            |           |                  |                                        | Pair of close grown stems on eastern boundary. Tight unions between stems on each tree.                                                                                                                                                                                                                                                                                                                                      |                                                    | 7.20                       | 163                         |
| 29       | Ash                     | 13     | 3                 | 7   | 5  | 2    | 48                  |           |        |        |        |                               |                                            |           |                  |                                        | Leans acutely toward the northeast. Showing advance signs of ash dieback. Unsuitable to long term retention.                                                                                                                                                                                                                                                                                                                 |                                                    | 5.76                       | 104                         |
| 30       | Apple                   | 3      | 2                 | 2   | 2  | 2    |                     |           | 15     | 7      | 1.5    | 1.5N                          | S                                          | C1        | >10              |                                        | Small multi-stem fruit tree growing in lawn.                                                                                                                                                                                                                                                                                                                                                                                 |                                                    | 4.76                       | 71                          |
| 31       | Paperbark birch         | 7      | 2                 | 2   | 1  | 1    | 13                  |           |        |        |        |                               |                                            |           |                  |                                        | Small tree growing in lawn area.                                                                                                                                                                                                                                                                                                                                                                                             |                                                    | 1.56                       | 8                           |
| 32       | Golden fuchsia          | 3      | 2                 | 2   | 2  | 2    | 17                  |           |        |        |        |                               |                                            |           |                  |                                        | Small tree growing in lawn. Decay pockets in main stem.                                                                                                                                                                                                                                                                                                                                                                      |                                                    | 2.04                       | 13                          |
| 33       | Pear                    | 7      | 3                 | 2   | 2  | 2    | 13                  | 14        |        |        |        |                               |                                            |           |                  |                                        | Extensive decay in main stem.                                                                                                                                                                                                                                                                                                                                                                                                |                                                    | 2.29                       | 17                          |
| 34       | English oak             | 17     | 10                | 10  | 10 | 10   | 136                 |           |        |        |        |                               |                                            |           |                  |                                        | Visually significant tree growing in lawn. Past damage to lower stem and some decay now present. Some decay pockets associated with past branch loss. Some dead branches within crown.                                                                                                                                                                                                                                       |                                                    | 15.00                      | 707                         |
| 35       | Ash                     | 15     | 2                 | 7   | 7  | 6    |                     | 23        | 44     | 39     |        |                               |                                            |           |                  |                                        | Established broad-spreading tree. Showing advance signs of ash dieback. Some decay associated with past branch loss. Some broken branches within crown.                                                                                                                                                                                                                                                                      | Remove broken branches                             | 7.58                       | 180                         |
| 36       | Sycamore                | 16     | 7                 | 10  | 6  | 10   |                     |           |        |        |        |                               |                                            |           |                  |                                        | Reasonably well formed multi-stem tree. Crown development compromised by adjoining ash. Removal of the ash would favour the development of this sycamore.                                                                                                                                                                                                                                                                    |                                                    | 13.23                      | 550                         |
| 37       | Ash                     | 18     | 7                 | 7   | 6  | 7    | 75                  |           |        |        |        |                               |                                            |           |                  |                                        | Stands to north of grove of sycamores. Showing signs of ash dieback. Unsuitable to long term retention.                                                                                                                                                                                                                                                                                                                      |                                                    | 9.00                       | 255                         |
| 38       | Grove of sycamores      | 16av   |                   | 6av |    | 45av |                     |           |        |        |        |                               |                                            |           |                  |                                        | Group of closely spaced trees growing within lawn. All vary slightly in their characteristic from clean single stem to multi-stemmed. Some stems forming tight unions that are likely to failure in future years. Others are significantly defective. At some point in the future consideration should be given to selective removal to favour the better stems.                                                             |                                                    | 5.40                       | 92                          |
| 39       | Group of sycamore       | 17av   |                   | 7av |    | 45av |                     |           |        |        |        |                               |                                            |           |                  |                                        | Group of tightly spaced stems dividing lawn. All stems tightly packed so each ones development is compromised. Some decay pockets in stems associated with past branch loss. Selective thinning could remove the weaker specimens and retain the better ones however, there is no one tree of any particular merit worthy of retention.                                                                                      |                                                    | 5.40                       | 92                          |
| 40       | Beech                   | 15     | 6                 | 6   | 5  | 8    | 52                  |           |        |        |        |                               |                                            |           |                  |                                        | Established tree growing on boundary. Showing advance signs of ash dieback. Unsuitable to long term retention.                                                                                                                                                                                                                                                                                                               | Crown lift to 3m above proposed pathway.           | 6.24                       | 122                         |
| 41       | Sycamore                | 16     | 3                 | 6   | 7  | 6    | 49                  |           |        |        |        |                               |                                            |           |                  |                                        | Crown development severely compromised by adjoining ash. Small undersized leaves indicating lack of vitality. Prominent crack in bark on southeast side.                                                                                                                                                                                                                                                                     | Crown lift to 3m above proposed pathway.           | 5.88                       | 109                         |
| 42       | Sycamore                | 17     | 7                 | 6   | 8  | 4    | 77                  |           |        |        |        |                               |                                            |           |                  |                                        | Sporiness of fine branch and foliage in upper crown. What foliage there is small and undersized. Extensive decay in lower stem. Hollow reveals that bodies of Gonodema decay fungi.                                                                                                                                                                                                                                          | Crown lift to 3m above proposed pathway.           | 9.24                       | 268                         |
| 43       | Ash                     | 14     | 7                 | 6   | 7  | 7    | 44                  |           |        |        |        |                               |                                            |           |                  |                                        | Showing advance signs of ash dieback. Unsuitable to long term retention.                                                                                                                                                                                                                                                                                                                                                     |                                                    | 5.28                       | 88                          |
| 44       | Ash                     | 13     | 5                 | 5   | 6  | 5    | 44                  |           |        |        |        |                               |                                            |           |                  |                                        | Showing signs of Ash Dieback. Has been cut back on southern side to provide clearance in adjoining garden. Patch of dead bark and incipient decay at ground level on northern side. Unsuitable to long term retention.                                                                                                                                                                                                       |                                                    | 5.28                       | 88                          |
| 45       | Lawson cypress          | 9      | 2                 | 2   | 2  | 2    | 29                  | 27        | 26     |        |        |                               |                                            |           |                  |                                        | Small conifer adjoining garages.                                                                                                                                                                                                                                                                                                                                                                                             |                                                    | 5.69                       | 102                         |
| 46       | Mimosa                  | 4      | 3                 | 3   | 3  | 3    | 13                  | 16        |        |        |        |                               |                                            |           |                  |                                        | Small ornamental tree growing in driveway.                                                                                                                                                                                                                                                                                                                                                                                   | Remove.                                            | 2.47                       | 19                          |

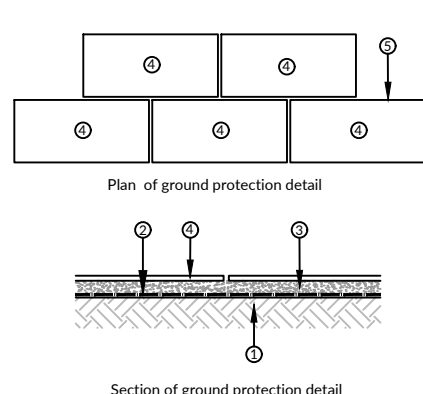
Figure 1: Example of a protective barrier



- Steel mesh panel
- Connectors fitted to secure panels
- Diagonal strut
- Block feet to avoid driven scaffold poles
- Block tray weighted with blocks

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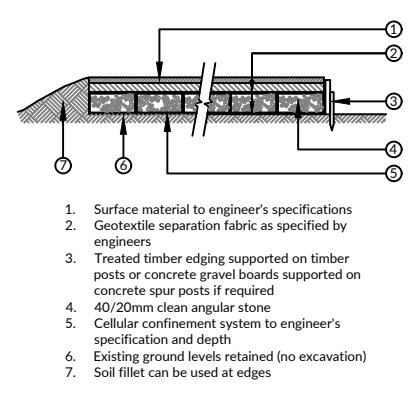
Figure 2: Typical ground protection detail



- Existing ground
- Geotextile membrane eg. Terram 1000 or similar
- Compression-resistant layer (e.g. 100mm depth of woodchip)
- Robust sheets (timber, steel, recycled plastic) overlying Terram 1000 or similar
- Where wider than one sheet stagger joints

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Figure 3: Typical detail of 'no-dig' surfacing



- Surface material to engineer's specifications
- Geotextile separation fabric as specified by engineers
- Treated timber edging supported on timber posts or concrete gravel boards supported on concrete spigot posts if required
- 40/20mm clean angular stone
- Cellular confinement system to engineer's specification and depth
- Existing ground levels retained (no excavation)
- Soil filllet can be used at edges

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Note:  
All trees on site are protected by Conservation Area

1  
Believed to be protected by TPO but no online record