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SOIL & LANDSCAPE CONSULTANCY

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## TECHNICAL NOTE

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<b>Document Title:</b>	<b>Installation Guidelines</b>	<b>Client:</b>	<b>Bury Hill Landscape Supplies Ltd</b>
<b>Subject:</b>	<b>Horsham Yard – Urban Tree Soil</b>	<b>Author:</b>	<b>Matthew Heins</b>
<b>Date:</b>	<b>29<sup>th</sup> January 2024</b>	<b>To:</b>	<b>John Coles</b>
<b>Ref:</b>	<b>TOHA/23/8166/MH</b>	<b>Rev:</b>	<b>01</b>
<b>Appendices:</b>	<b>'Example Tree Pit Detail' (ref: TOHA/23/8166/MH/dwg1, January 2023)</b>		

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The following guidelines should be read in conjunction with Drawing 'Example Tree Pit Detail' (ref: TOHA/23/8166/MH/dwg1, January 2023).

1. Tree pit dimensions should be a minimum 1000mm wider than the rootball. For example, minimum pit dimensions for a 30-35cm girth tree should be 2.0 x 2.0 x 0.8m deep (without drainage layer). Extended tree pit dimensions may be required if the tree cannot root out into the surrounding ground (e.g. due to presence of root barrier or inhospitable ground) in order to support the tree's root development for its required lifespan.
2. Ground conditions beneath the tree pit should be assessed to confirm the need for a drainage layer or soakage layer. This can be carried out using a BRE365 Soakage Test (modified) or by examination and analysis of the soil materials.
3. If positive drainage is required, the pit depth should be increased by at least 0.20m for the inclusion of a granular drainage layer to surmount pipework (tbc by project engineer). Other drainage methods (e.g. attenuation layer installation) may require a thicker granular drainage layer.
4. A typical positive drainage system would comprise 80-100mm perforated pipe connected to a solid outfall pipe outside the pit. This is usually surmounted in a 200mm thick layer of non-calcareous, washed pea gravel (nominal aggregate size 6mm). Drainage design should be coordinated with the project engineer.
5. The tree guying system and any root barriers should be installed as specified / to manufacturer's instructions.
6. The moisture content of the soil at the time of installation should be consistent with the latest analysis undertaken (+/-2%). If the moisture content of the material to be installed falls outside of this range, further geotechnical testing should be undertaken to confirm the consolidation properties of the material.

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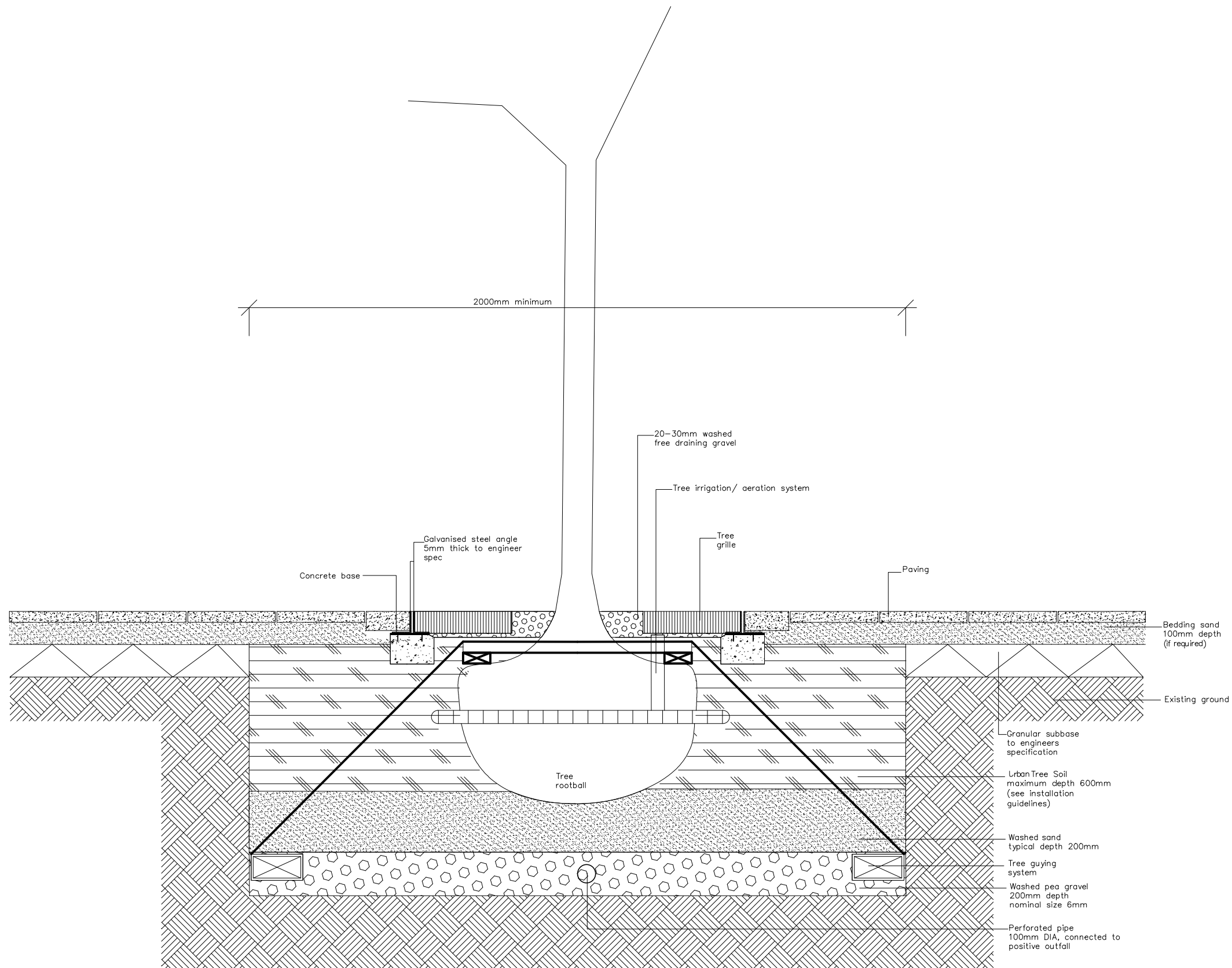
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7. The lower section of the soil profile (e.g. 200mm thick if soil profile is 800mm thick) should be backfilled with a suitable *Washed Sand*, which has the same particle size distribution as the *Bury Hill Urban Tree Soil*. This layer should be compacted to achieve the required level of consolidation with suitable equipment, undertaking an appropriate number of passes (e.g. 3 passes of a Vibro Tamper (75kg – 100kg weight)).
  8. Place tree rootball on compacted sand layer, adjusting position to ensure correct height of the root collar in relation to finished surface. Install any aeration/irrigation system as required.
  9. The upper part of the pit (maximum thickness 600mm) should be backfilled with the *Bury Hill Urban Tree Soil* in 150-200mm layers. Each layer should be compacted to achieve the required level of consolidation with suitable equipment, undertaking an appropriate number of passes (e.g. 3 passes of a Vibro Tamper (75kg – 100kg weight)). The soil should not be over compacted as this will potentially lead to particle interpacking, poor aeration and drainage and restricted root growth.
  10. Mineral soil conditioner (e.g. TerraCottem *Universal*) should be incorporated into each layer of the *Bury Hill Urban Tree Soil* at a rate of 1.5kg/m<sup>3</sup> prior to compaction. Reference should be made to the associated soil testing report prior to installation. It is important that the soil conditioner is incorporated evenly into the soil during installation.
  11. The California Bearing Ratio (CBR) value for each layer should be checked using a hand-held Mexe Cone Penetrometer (e.g. Proceq Soil Assessment Cone Penetrometer Model A2451).
  12. Unless tree has been positioned prior to the placement of the *Bury Hill Urban Tree Soil* layer, a hole of sufficient size should be excavated into the *Bury Hill Urban Tree Soil* to receive the tree rootball and any aeration/irrigation system. Recompact soil disturbed by the installation of the tree.
  13. Install surfacing finish as required.
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### Example Tree Pit Detail

Scale @ A3: 1:20

January 2023

Client: Bury Hill Landscape Supplies Ltd

Ref: TOHA/23/8166/MH/dwg1