One Victoria Manchester

Tree Planting Feasibility Assessment

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Introduction

TPM Landscape (on behalf of Torsion Construction) were asked by Manchester City Council to consider the feasibility of planting additional trees along Mirabel Street. The MCC proposal identified locations of potential trees, to form a continuation of the existing trees on Mirabel St.

The existing trees are Silver Birch (Betula pendula or Jacquemontii), and are now over 6m in height. They do not appear to have been planted in a soil support system, and it is not clear what method of planting pit has been implemented.

Modern tree planting techniques in urban situations typically adopt a soil support system to provide sufficient soil to allow the tree to grow to its species potential without damaging the pavement or adjacent services. A standard system is supplied by Green Blue Urban, who suggests that a tree such as Silver Birch will require approximately 17m^3 of soil to reach its species potential.

TPM has undertaken the tree cell system layout exercise to avoid conflicts with existing service routes and minimize the risk of damage to the roots of existing trees. Due to site constraints, a soil volume of minimum 3.6m^3 per tree is considered to be the maximum available space.

Layout of the tree planting and a typical tree pit detail has been prepared by TPM Landscape (drawing reference 204-TPM-10-10-DR-L-102/302) and the principles of this type of tree pit were applied to understand the feasibility of planting potential trees in the locations proposed by Manchester City Council.

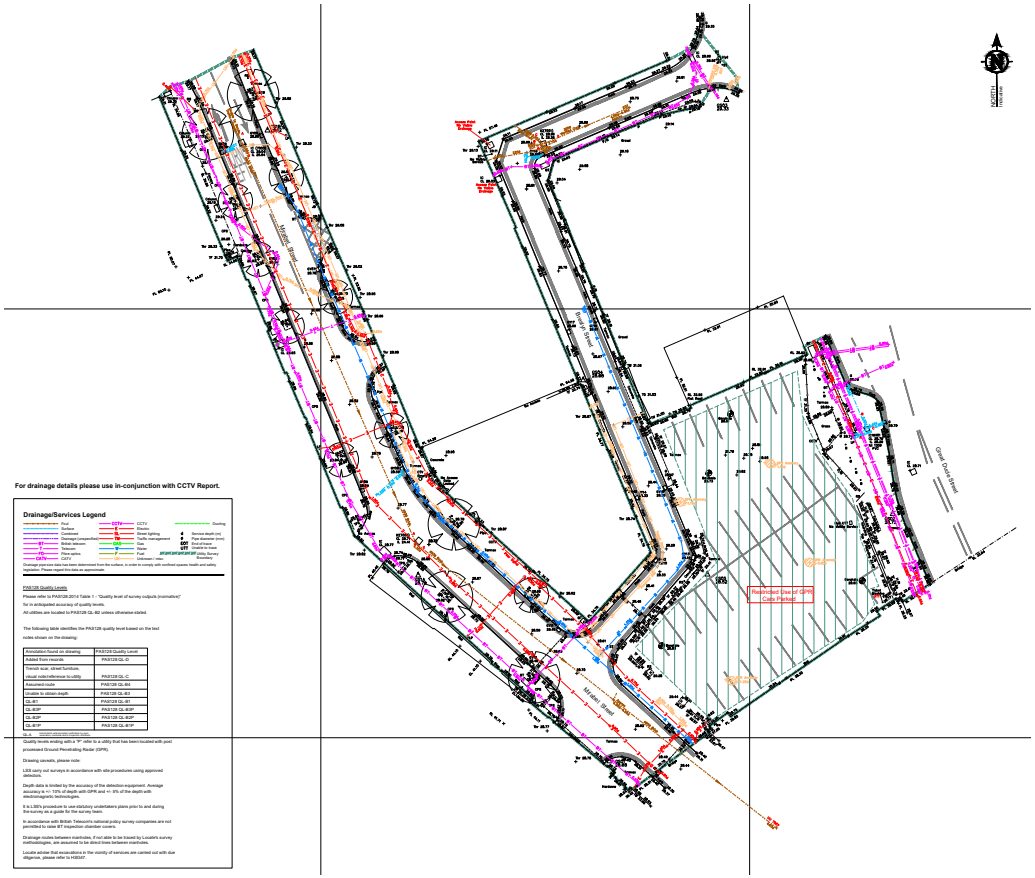
Existing Trees





Background Information

Existing service survey



MCC Proposal



Tree Planting Proposal

Trees 01/02 are proposed as indicated by MCC Highways engineer.
Tree 03 is slightly moved compared to MCC proposed location to avoid neighborhood development entrance area



No. of additional trees: 3
Tree species: Silver Birch
Tree size: 5.5-6m high, 20-25cm girth

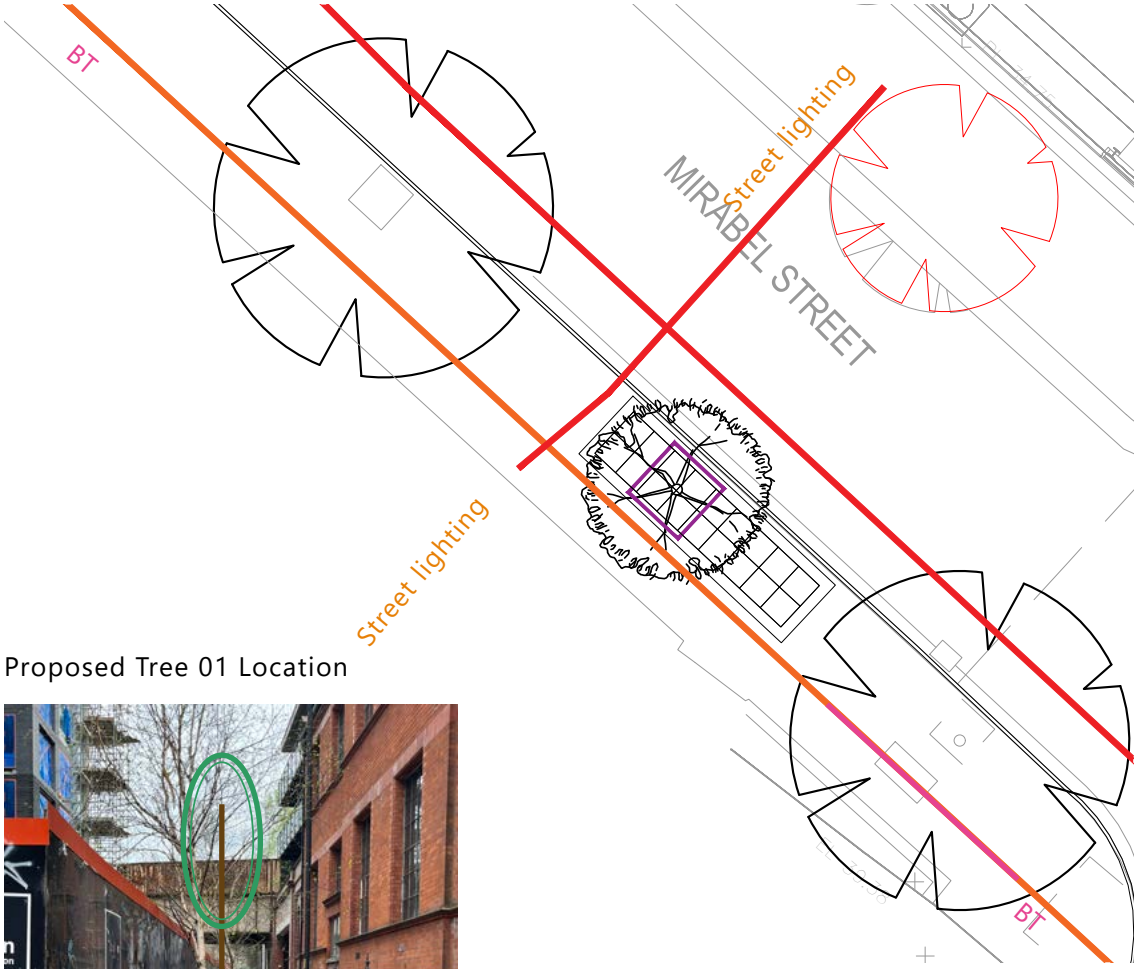
Trees would need to be planted using the GreenBlue Urban ArborSystem, incorporating soil cells, irrigation and aeration systems, root management, and rootball guying, to support the long-term health and establishment of urban trees.

The tree cell system is proposed to have minimum 3.6m^3 of soil volume per tree. The layout assumes the 1200mm depth of tree cells would need to be use in this situation. This would need to be approved by the service providers or statutory authority regarding any potential below-ground obstructions.

A root protection system (root barrier and root director) would need to be installed to prevent potential damage to surrounding paving and underground services by root growth.

A drainage pipe connected to the surface water system would need to be included at the base of the tree pit in order to prevent the tree pit filling with water. This would need agreement with the statutory authority.

Tree 01



Proposed Tree 01 Location

Tree planting note

The current layout proposes the use of 1200mm high tree cell units to achieve 5.4m³ soil volume for tree 01 and tree 03, 3.6m³ soil volume for tree 02, avoiding existing kerb, BT route and Street lighting route.

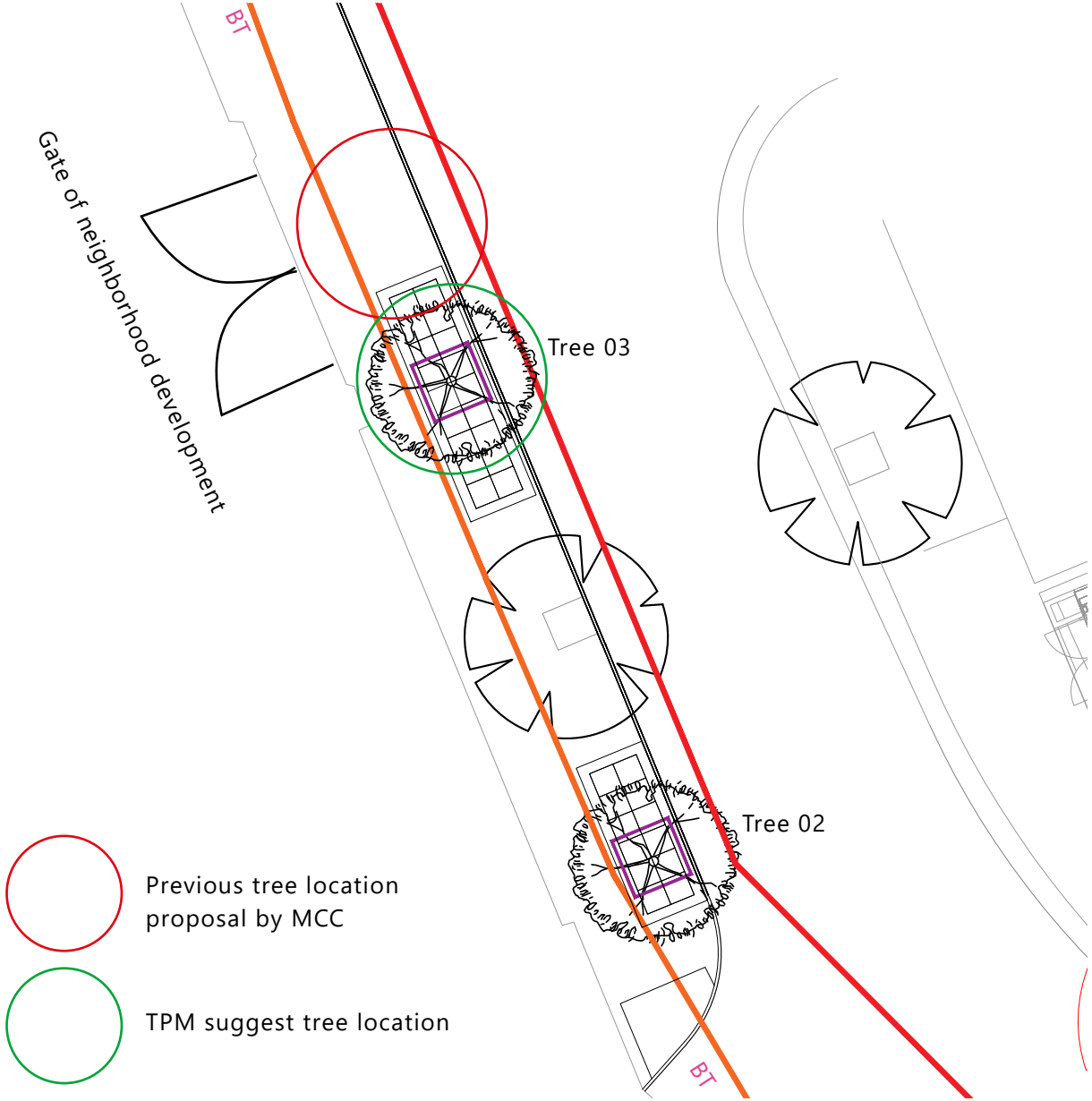
The tree cell system is specified in accordance with GreenBlue Urban typical details. While GreenBlue Urban is the leading supplier of tree cell systems in the UK. It is not known whether MCC Highways have an acceptable tree pit detail for trees in adopted highways.

The location of existing BT line is close to the proposed tree cell system's trench but hopefully won't overlap with the tree cells. Site work needs to be monitored during excavations to identify and protect the existing BT line and any other services which are identified during the excavations. A contractor will need to excavate with extreme care, and provide a method statement prior to commencing the works. Any services uncovered in the excavations must be notified to the relevant authority.

The extent of the roots of the existing trees is unknown, however as they are growing in a predominantly hard surface, it is unlikely that they extend far beyond the immediate vicinity of the trees, and are unlikely to be affected by the excavations of the proposed tree pits. The tree cell system is proposed to be located outside of the tree canopy of the existing trees, in order to avoid the potential of damaging existing tree roots.

Tree 02/03

Tree 03 is proposed for relocation as the proposed location is in front of the access gates of the neighbourhood development.



Proposed Tree 02 Location



Proposed Tree 03 Location

