

**A38 Derby Junctions
Scheme Number TR010022**

8.85 Veteran Tree Loss T358

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Veteran Tree Loss T358

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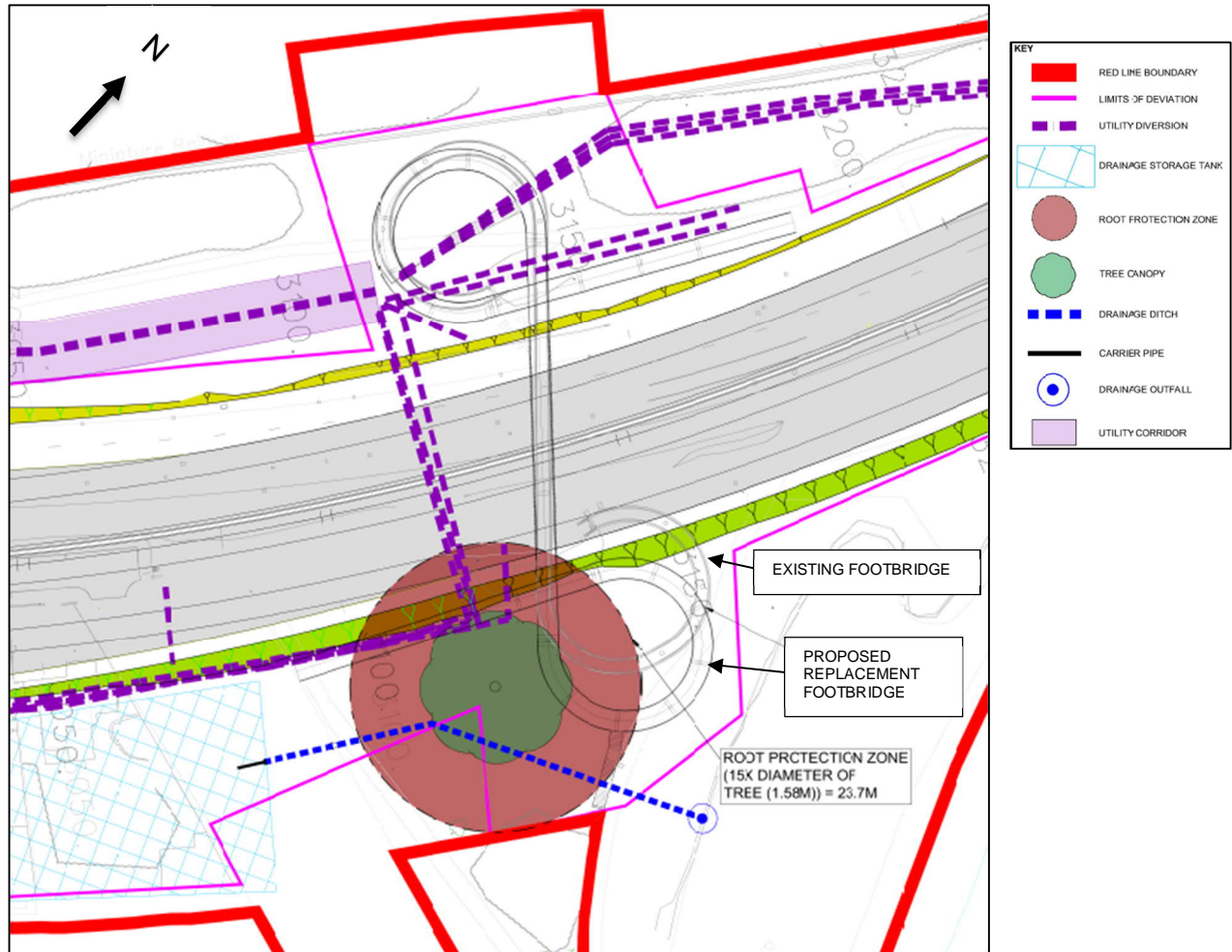
1 Introduction

- 1.1 This note has been prepared in response to the Examining Authority's request to summarise the reasons behind the reported unavoidable loss of the veteran oak tree T358. This tree is located near the existing Markeaton footbridge (north of Markeaton junction) and it is anticipated that it will be lost as part of the Scheme works. In this note the A38 Derby Junctions Scheme is referred to as "the Scheme", which is a Nationally Significant Infrastructure Project (NSIP).
- 1.2 As detailed in the National Policy Statement for National Networks (NPSNN) where veteran trees would be affected by a development, the Applicant is required to set out proposals for their conservation or, where their loss is unavoidable, the reasons for this. The loss of tree T358 is reported in the Environmental Statement (ES) Chapter 8: Biodiversity [APP-046] and in the ES Appendix 7.2: Arboricultural Impact Assessment Report [APP-177]. The Planning Statement and National Policy Statement Accordance Table [APP-252] highlights the unavoidable loss of the veteran tree, noting that other veteran trees within the Scheme footprint would be retained. As detailed in ES Chapter 8: Biodiversity [APP-046] (refer to para. 8.10.35), given the loss of this veteran tree, it is proposed that the felled tree with its potential bat roost features will be made into a totem pole feature and installed at the edge of Markeaton Park as part of the bat mitigation strategy (refer to Environmental Masterplan as illustrated in Figure 2.12c/d [APP- 068]).
- 1.3 This note needs to be read in the context of the DCO application, which is for a preliminary design of the Scheme. Any proposals suggested in this note are not to be taken as final design commitments; they are indicative at this stage in order to demonstrate issues that may arise on the basis of the information available to Highways England at this stage of the Examination. No reliance should be placed on these indicative observations in terms of detailed design as the final detailed design of the Scheme is a matter to be determined by the Secretary of State under the terms of the Development Consent Order (once granted).

2 Proposed Works Impacting upon Tree T358

- 2.1 The Root Protection Area (RPA) around the veteran oak tree, designated as T358 (stem diameter 1,575mm), has been determined in accordance with BS5837: 2012 Annexe C, D and Section 4.6. This area has been defined in ES Appendix 7.2: Arboricultural Impact Assessment Report [APP-177] and an explanation for the approach is outlined in that assessment (please refer to the tree constraint plan 17 in Appendix A and the tree retention plan 18 in Appendix D). These plans show the tree T358 and its associated RPA in relation to the Scheme, with the tree retention plans indicating the assumed loss of the tree.
- 2.2 Figure 1 below prepared specifically for this technical note shows the location of the veteran oak tree T358 and the RPA around it. It also demonstrates indicative proposed engineering infrastructure in the vicinity of T358, including the A38 carriageway, the proposed replacement footbridge location, utilities diversions and highway drainage provisions.

Figure 1: T358 Root Protection Area (RPA) Impacts – shows existing and proposed indicative location of footbridge, plus Scheme features (carriageway, utilities diversions and highway drainage works)



A38 Main Carriageway

- 2.3 The Preferred Route that was announced in January 2018 was developed through the Scheme’s preliminary design which has formed the basis of the submitted DCO application. This route, whilst removing the houses from Queensway, avoids wider impacts on the public open space of Markeaton Park, Markeaton Lake and the park’s associated trees. The Scheme comprises an alteration of an existing highway, designed with the aim of improving the existing highway infrastructure within a constrained urban environment. As such, the proposed route closely aligns with that of the existing A38 highway.
- 2.4 The proposed alignment of the altered A38 places the new southbound diverge slip road across land currently occupied by the Queensway houses. As the road extends to the north towards Kedleston Road junction, the proposed carriageway construction extends out into the area of land adjacent to the Mill Pond. As illustrated in the Arboricultural Impact Assessment Report, heavy plant and excavation activities will need to be undertaken within the northern section of the RPA [APP-177]. The proposed A38 carriageway construction also has an unavoidable impact on the western side of T358’s RPA. Please refer to Figure 1 which illustrates the interaction between indicative Scheme carriageway works and T358’s RPA.

Highway Drainage

- 2.5 The proposed A38 main carriageway alignment will pass beneath the Markeaton junction; this excavated feature requires a pumping station to remove surface water runoff from the highway. This water will be attenuated in features installed in the land remaining following the demolition of the Queensway properties (noting that the area will be designated as replacement Public Open Space).
- 2.6 The proposed drainage attenuation features comprise buried storage tanks and open water features to treat the attenuated water through Sustainable Drainage Systems (SuDS). This includes an open ditch connecting the attenuation tanks to the proposed discharge point at the Mill Pond. Given the constrained nature of the Order limits, the ditch will pass through the eastern side of T358's RPA. Please refer to Figure 1 which illustrates the potential locations of the drainage apparatus.

Footbridge

- 2.7 The existing footbridge (refer to Figure 1) will be impacted by the proposed alignment of the Scheme necessitating its demolition and replacement.
- 2.8 The demolition activities to remove the existing Markeaton footbridge will have an impact on T358's RPA, namely heavy plant and excavation activities will need to be undertaken within the northern section of the RPA.
- 2.9 The western ramp of the proposed replacement footbridge (refer to Figure 1) is likely to be in the same position as that of the existing footbridge with a similar loop radius to that of the existing footbridge. The new bridge ramps have been designed to current accessibility requirements, which provide an improvement over the steeper gradients of the existing bridge. However, retaining the existing loop radii will mean that the approach ramps for the new footbridge will be longer than those of the existing bridge.
- 2.10 The eastern ramp position of the new footbridge will need to be moved further east due to the proposed carriageway alignment. This will result in the footbridge conflicting with the canopy of T358 and the support foundations and the approach ramp impacting on the tree's RPA. Please refer to Figure 1 which illustrates the interactions between T358 and its RPA with the existing and proposed replacement footbridge. In addition, in order to install the replacement footbridge, heavy plant and excavation activities will need to be undertaken within the northern section of the RPA.

Statutory Undertakers

- 2.11 Markeaton junction is a key location that has a significant number of Statutory Undertakers' plant crossings at the junction. As such, the construction of the underpass through the junction requires all services to be diverted around the proposed works.
- 2.12 The creation of a Statutory Undertakers corridor along the outer edge of Markeaton Park has enabled the diversion of key services. The main east/ west crossing point of the A38 for the Statutory Undertakers plant is to the north of the underpass close to the existing/ replacement footbridge. The excavations required to install the plant and equipment will impact on the southern side of T358's RPA. Refer to Figure 1 which illustrates the interactions between T358 and its RPA with proposed utilities diversions.

3 Result of Combined Impacts

- 3.1 The urban surroundings of the A38 as it passes through Derby constrains the space available to make the required improvements to the highway. The limited space and land available has been carefully assessed so that the land used is optimised to enable the improvements to the A38 and its associated engineering infrastructure and that impacts from the Scheme (from an environmental perspective and from a compulsory acquisition perspective) are minimised.

- 3.2 The combination of all the required works, as listed above, affect all sides of the RPA of T358 with excavation works. This is particularly true of the carriageway of the realigned A38 itself. In addition to the various works requiring excavations, the replacement footbridge also conflicts with the canopy of the tree. The processes of undertaking all the work in this area of the site means that there will be a significant number of construction vehicle movements across the tree's RPA.
- 3.3 With the large number of intrusions to the RPA of T358 means that the tree would be unavoidably lost to allow the Scheme works to be constructed.

4 Possible Alternatives to reduce impact on T358

- 4.1 Following concerns raised during the Examination relating to the loss of the veteran tree T358, options have been investigated to potentially avoid or reduce the impact on the tree and its RPA.
- 4.2 The Limits of Deviation (LoD) included within the application for the Scheme were set based on the preliminary design information available at the time of the application and have been set to optimise land use within the Order limits and to minimise impacts from the Scheme. These LoD form the basis of the environmental impacts of the Scheme as assessed in the Environmental Statement. Whilst the LoD offers a small degree of flexibility in terms of the location of the final works items (particularly those noted above) even within these confines the works cannot avoid impacts on the tree itself and its RPA. This is particularly the case in respect of the realigned carriageway which will still impact the tree and/or its RPA even if the proposed 1m LoD is utilised and the proposed location of the new footbridge.
- 4.3 The A38 main carriageway LoD is restricted to 1m. In order to reduce the Scheme impact on the RPA of T358 the carriageway would require need to be relocated to the shifting west (an option which is not proposed by Highways England or included as part of the Scheme and is outside of what has been assessed as part of the DCO application). This shift to the west would, however, have a resultant impact of taking more land from Markeaton Park and risk taking further mature trees from the perimeter of the park. The options explored for the alignment of the A38 are provided in Environmental Statement Chapter 3 - Scheme History and Assessment of Alternatives [APP-041] and this note does not explore these alternative options any further as the justification for the alignment of this proposal has been made out in those documents. In addition, the location of the new footbridge is proposed to be as close as possible to the footprint of the existing footbridge and this location necessitates encroaching the tree and/or the RPA.
- 4.4 It should be noted that whilst the individual engineering infrastructure items can be repositioned to potentially reduce the impact on the RPA of T358, access for construction vehicles carrying out demolition and construction works would still need to cross the RPA, whilst the main carriageway works would still have a significant impact on the western side of T358's RPA. In order to reduce the impacts of construction traffic on the RPA, access restriction can be put in place, although this would not prevent some parts of the RPA being impacted.

5 Conclusion

- 5.1 The Scheme as submitted to the Examination would, as a result of the combined impacts on the veteran tree T358 and its associated RPA, result in the unavoidable loss of the veteran tree due to the proposed works and construction traffic within the vicinity of the tree. As such, the Environmental Statement reports the loss of this veteran tree and explains and assesses this as a worst case scenario.
- 5.2 It is important to note that whilst a number of infrastructure items (listed in this note) can be repositioned within the relevant LoD, even where the A38 main carriageway is moved to its

maximum LoD of 1m it cannot be moved further and this limit will still impact the tree and/or its RPA. In addition, the new footbridge is proposed to be of a similar design and in a similar location to the existing footbridge and this will impact the tree and its RPA. Given the constrained nature of the site these work items (even if moved within its LoD) will still impact on the tree and/or its RPA. Finally, the associated construction traffic movements within close proximity to the tree's RPA in order to deliver the works would also remain, although some construction plant access restrictions could be put in place.

- 5.3 However, during the Scheme detailed design stage, Highways England will examine further options that may increase the potential to retain tree T358 and reduce the Scheme impacts upon its RPA. This will include examining the potential for moving construction works further outside of the RPA if possible and within the confines of the existing constraints including the LoD.
- 5.4 As such, whilst it may be possible to retain the tree itself and measures taken to reduce the Scheme impacts upon the tree's RPA, the Scheme works would still inevitably have a significant effect on the tree's RPA. It thus remains the most likely scenario (despite best endeavours) that the veteran tree will be unavoidably lost due to the Scheme. As noted above, given the loss of this veteran tree it is proposed that the felled tree with its potential bat roost features will be made into a totem pole feature and installed at the edge of Markeaton Park as part of the bat mitigation strategy.
- 5.5 In terms of the policy tests within the NPS NN, the loss of the veteran tree should be weighed in the balance against the clear national and local need for the Scheme coupled with the significant benefits of that the Scheme will bring, including unlocking future investment in the City of Derby and the time savings a less congested route will bring.