Chestnut Avenue, St Anne's Park: Tree Care Programme

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1: introduction

Dublin City Council (DCC) Parks, Biodiversity and Landscape Services are in charge of the maintenance and care of Dublin City urban forest, street trees and park trees included. Every year, Arboricultural Consultants and DCC Parks staff carry out over 4000 trees assessments, which are recorded on our tree management app.

DCC Parks, Biodiversity and Landscape Services have organised a systematic, phased inventory and Inspection of the trees in St Anne's Park which was started at the end of 2021. This inventory and risk assessment was undertaken to determine the risk rating of trees, in accordance with guidance and principles defined by the International Society of Arboriculture 'Tree Risk Management Best Practices' and National Tree Safety Group 'Common Sense Risk Management of Trees'. This inventory and assessment is also the first step toward the writing and implementation of a Woodland Management Plan for St Anne's Park. The Arboricultural reports in relation to phase I and phase II will be available on DCC Park website soon.

2 The Chestnuts Avenue

The avenue of early veteran horse chestnut (*Aesculus hippocastanum*) is a particularly prominent feature in the park extending north east from the Annie Lee Bridge towards the pond. Unfortunately during recent wind events, one of the horse chestnuts was uprooted while several got damaged as limbs broke off. Evidently extensive and urgent works were required to prevent further losses and keep the avenue.

The thirty horse chestnuts of this avenue were inspected by a qualified arborist in November 2022. The following is an extract and photos from the report's comments and recommendations.

The majority of the thirty trees are lapsed pollards, having been cut decades ago, and been allowed to grow extended and heavy limbs from the original pruning points. Trees at the north eastern end of the avenue are maiden specimens – trees that have not been pruned or worked in the past. A defining characteristic of the avenue are the hollowing stems, they contribute great character and a sense of antiquity to the avenue as well as numerous opportunities for wildlife.

Figure 11. Avenue of lapsed pollard horse chestnut between park footpath and meadow.

Figure 12. Long heavy limbs arising from bolling points of horse chestnut with decay and failures.

There is evidence of limb failure within the main crown scaffolds and a number of gaps from root plate failure exposing the shallow soils overlaying sand. The stems also show scattered bleeding points, a bacterial infection known as Horse Chestnut Bleeding canker (Pseudomonas syringae pv. aesculi) which leads to bark death followed by death of the vascular cambium. This can prepare exposed, aerated wood for further decay by secondary decay colonisers such as decay fungi.

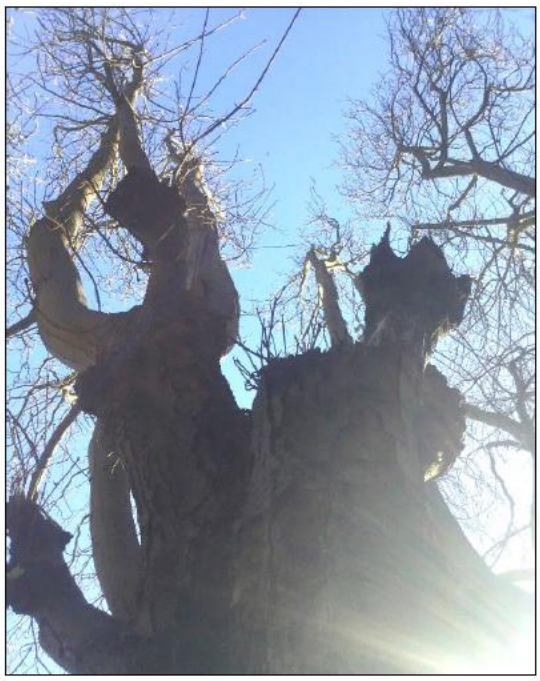

Figure 13. Long heavy limbs arising from bolling points of horse chestnut with decay and failures.

Figure 14. Horse chestnut Bleeding canker (Pseudomonas syringae pv. aesculi) on stems.

The main concern is the increasing likelihood of mechanical failure from heavy branches attached to a severely decaying pruning point. Given the high occupancy of the area, there is a need to lower the risk of crown and root plate failure by significantly reducing the height of the canopy. However, a balance needs to be struck between removing enough material to reduce biomechanical stress to prevent failure and limiting the removal of leaf mass to that to which the tree can reasonably tolerate.

Figure 15. Occluding stem wound offering nesting opportunities for birds and bats.

Figure 16. Occluding stem wound offering nesting opportunities for birds and bats.

The ability of a tree to tolerate crown reduction depends to a large extent on the species and the age of the limb being cut. Aesculus hippocastanum has the ability to produce abundant growth from dormant buds, and if cuts are confined to the relatively newer wood, it will have a good chance to produce enough new material to sustain function

The reduction in crown volume recommended should ideally be staged over a number of years in a process known as retrenchment pruning. However, due to the length of time since they were last pruned, there is an obvious and urgent need to avert continued failures, not just from a tree risk management perspective but to prevent further failures ensure the longevity of this important historic landscape feature. Legacy planting within this area will be important to maintain the cultural continuity of an avenue in some form. Species other than A. hippocastanum should be considered such as an Elm cultivars and clones (e.g. Ulmus lutece, Ulmus lobel). Trees could be replaced in gaps as they arise or better still, a new continuous avenue of trees planted some 10m to the south of the existing line.

The work which entail the crown reduction of 30 horsechestnuts and the removal of a dead beech tree is programmed for the first week of March 2023. As this is a health and safety work on cultivated land, this tree work is not restricted by the section 40 of the Wild act. However work will be stopped if bird nests are found. An ecologist also undertook a bat assessment was which confirmed the absence of bat roosts in these trees

Please note that as mentioned previously one dead beech tree, located on the slope beside the avenue, will also be removed.

Dead beech tree

Further tree care works in Saint Anne's Park as recommended by the arborist will be tendered within our Tree Surgeon Framework and additional reports will be available soon.

Details of the work

I.D	Species	Requirement Type	Requirement Note	Comment
09EB	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	2m above original pollard point	
09EC	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	2m above original pollard point	Rigidiporus ulmaris main stem from large codominant stem failure
09EH	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	3m height 3m radial	Leaning stem, broken limbs
09EJ	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	By 6m height 4m radial	
09EK	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	3m height 1m radial	
09EL	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 6m radial 2-4m	

I.D	Species	Requirement Type	Requirement Note	Comment
09EM	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	6m height 2-3m radial	
09EN	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	2m above previous pollard point	
09EP	Aesculus hippocastanum	Monolith	4m	
09EQ	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	6m height 5-6m radial	
09ER	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	To 1m above previous pollard point, remove 3 limbs attached to decayed knuckle ov	
09ES	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	6m height 3m radial	
09ET	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 3-4m	
09EV	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	6m height 2-3m radial	
09EW	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	6m height 2-3m radial	
09EX	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 2-3m radial 1-2m	
09EY	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 2-3m radial 1-2m	
09EZ	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	6m height 2m radial	
09F0	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	3m height 2m radial	
09F1	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 4m, radial 2-3m	
09F3	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height 4m radial 2m	
09F4	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 4m radial by 2m	
09F5	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	4m height 2m radial	
09F6	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height 4m radial 2-4m	Bleeding canker (Phytophora) and slime flux main stem
09F7	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 3m and radial by 2m	

I.D	Species	Requirement Type	Requirement Note	Comment
09F8	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 4m radial by 3m	
09F9	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height 2m radial 3m	Bleeding canker (phytophora) main stem with associated dead bark and underlying decay
09FA	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height and radial 1-2m	
09FB	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height 4m radial 2-3m	Slime flux and bleeding canker main stem
09FC	Aesculus hippocastanum	Reduce Crown and Crown Cleaning	Height by 4m radial by 2m	
09FL	Fagus sylvatica	Tree Removal/ stump grinding		