

Blackfriars Road Tree failure

Initial observations preliminary report

Introduction

This report is written to record and report initial observations and recommendations following the failure of a tree near 79 Blackfriars Road.

This report is written by Howard Booth following the site inspection on 23 February 2017. The site visit was made without the use of measuring equipment due to the limited time to prepare and all observations were made of the tree in-situ as it had fallen.

This is a preliminary report and has not considered the records of the tree in NAMS and is intended to establish the contributory factors of tree failure.

Observations

A mature rowan tree failed at the base and fell towards the building and was resting on the building and railings. To the east of the tree a relatively new segregated cycle lane, the kerb line appears as though it may have been changed as part of the cycle facility improvement works.

During the time of inspection the wind speeds were relatively high. The strong winds were Storm Doris which would probably have been present at the time of tree failure.

On the south side of the tree there was a split extending to approx. 1m above ground. Inside the opening wood was discoloured along most of the length and there was a sheet of fungal mycelium. The wood in some sections, particularly nearer the base has the black lines of pseudosclerotial plates and in areas the wood was compressible showing decay was present. Up to approx. 300mm above ground within the crack there is compost like organic matter.

Around the base of the tree in the ground were several dead roots in the region of 12mm diameter. Underneath the base of the tree wood was spongy to touch near the centre of the stem. Underside of the tree there were two areas of flattened roots with a darker surface, the shape of the roots was not typical of natural growth in open ground.

The type of failure appears to have been rotational on the centre of the tree at the base. There were no large roots lifted on the carriageway side (east) and on the west side the stem detached from the stump remnants in the ground.

Small roots were attached and exposed on the east. The top of these roots, approx. 5mm diameter, has bark from the top side missing in a form that could be associated with scraping mechanical damage.

The stem was tapped with knuckles for soundness. At approx. 0.5m above ground on the north side the bark was punctured and in the region of 10ml of orange/red liquid poured out from the stem.

At approx. 0.4m above ground level on the north side was what appeared to be an old fungal fruiting body based on the shape, pattern and colour.

The crown of the tree was tested by scratching the bark to look for chlorophyll beneath. Much of the crown that was tested showed evidence of life. A secondary stem to the north was dead. This stem has fungal fruiting bodies along much of the

length and sub-branches. The tiers of small fungal brackets appear to be like those of silver leaf (*Chondrostereum pupureum*) which extended to approx. 2m above ground.

Comments

The strong winds of Storm Doris forced the tree fail. There was decay at the base of the tree but no live fungal fruiting bodies to suggest decay was present. While there was an old fungal fruiting body at approx. 0.4m there is no evidence that this was still active, an inactive fungal fruiting body can indicate that the tree has compartmentalised and stopped the spread of decay. Further assessment of this, possibly destructive, should be carried out to confirm whether this was linked with the failure.

The presence of a mycelium sheet and compost like material in the stem exposed by the split suggests that a longitudinal crack was present at the base in the tree prior to this whole tree failure. The build up of compost would probably take months which suggests that the tree had suffered a partial failure previously. Images of the tree in Google Streetview from 2015 and 2016 show a very sparse crown indicative of poor health. The widespread dieback in the crown could have been caused by damage to the xylem if roots were also damaged by the previously partial failure.

While there is fungal related dieback in part of the tree this appears to be localised to one area and is unlikely to be linked directly with the failure at the base of the tree.

It seems as though the kerb line may have moved as part of the cycle lane construction. The work would have been within 1m of the base of the tree and where major roots are often found. The exposed root on the east had the bark on the top removed. This damage would probably have been caused by mechanical scraping. There are few other roots on this side of the tree exposed following the tree failure. The presence of this one relatively shallow root suggests that excavations for building work did not go deeper or closer to the tree. While the proximity of relatively recent building work may be considered as a contributing factor the observations made do not support this as the main contributing factor. Excavations around the base of the tree need to be made to establish the extent of the roots and whether damage was made during construction work.

Recommendations

Retain the main stem of the tree for further investigations and as evidence should a claim for damages be made against TfL.

Assess stem of tree to view extent of decay.

Excavations around base of the tree to establish extent of roots, root decay and possible physical damage.

Review tree inspection records and network videos and photos