

ADVICE

To	Chris Anderson, Francis Construction
Mode of transmission	Via email as PDF
Date	29.10.20
Instruction	Broad oak Place
FLAC Instruction ref	CC31-1036
Client	Francis Construction
Subject	Breach of condition (approved Tree Protection Plan)

1. Our Tree Protection Plan (appended) has been approved by the local planning authority pursuant to conditions. Any works that contravene the provisions of this plan are in breach of planning condition number 4. Specifically, drainage and lighting works subject of this advice constitute breaches of tree protection related conditions 4 (c), (d) and (e).
2. A breach of planning conditions such as outlined above places both the landowner (University of Reading) and the construction company (Francis Construction) at risk of enforcement measures.
3. FLAC attended site on the 23rd of October to review unconsented construction activities that have taken place within the root protection areas (RPAs) of retained trees. The construction elements comprise:
 - i) Installation of lamp columns and electric feed along communal pathway within RPAs of horse chestnuts 3029 and 3030
 - ii) Drainage beneath communal pathway within RPAs of horse chestnuts 3029 and 3030
 - iii) Land drain within RPAs of 3047 and 3048

4. Our assessment of the likely impacts of the works upon the trees combines a visual inspection of the site and a desk-based review of relevant documentation, including:

- i) CAD Drawing *Attenuation Provision Update* Date 27.07.20
Ref 1855571-SWJ-XX-XX-DR-C-2005-1705
- ii) CAD Drawing *External Pathway Layout* Date July 20
Ref 1855571-WW-00-EX-DR-E-7000-83001
- iii) Photograph bundle showing activity at the installation of the drain and electric feed to lamp columns

Works within RPAs of 3029 and 3030

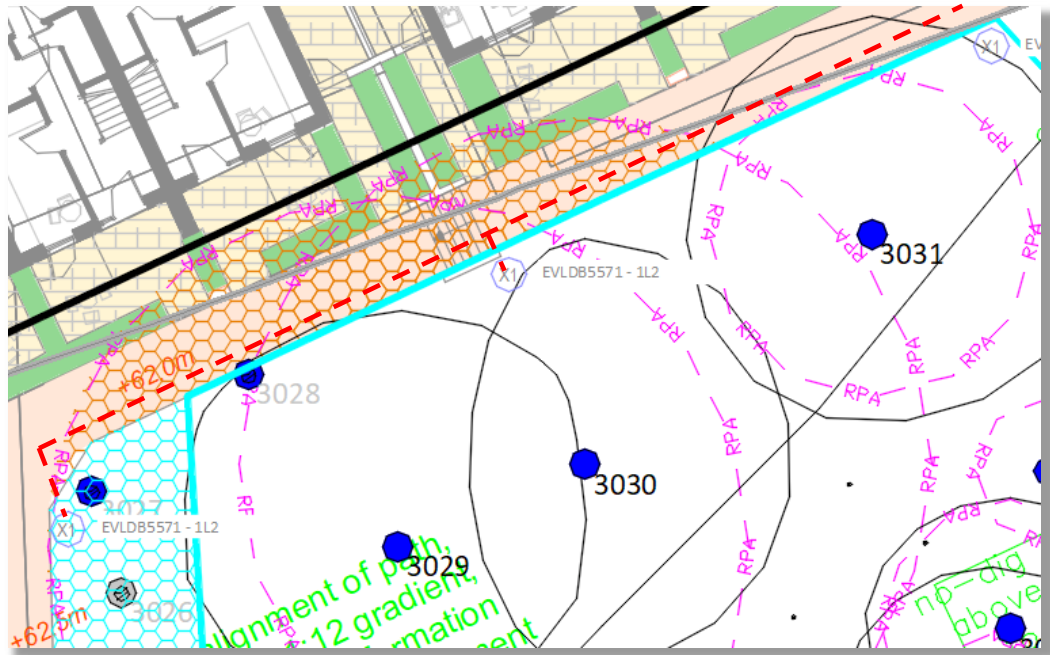
5. We understand the drainage alignment has been constructed beneath the footpath inboard of its southern edge and the electric feed also sits within this trench with short perpendicular spurs off it to the lamp columns (radially) towards the trees (see Figure 3 section detail below).

Figure 1. Current view east, with horse chestnuts 3029 and 3030 respectively. Dashed yellow line to indicate drainage trench position



6. The marked-up *Tree Protection Plan* extract at Figure 2 below demonstrates the drainage trench has severed a chord on the north side of the RPAs of 3029 and 3030. This area was specified on the TPP to be protected initially by a combination of tree protection barriers in combination with temporary ground protection during construction, the latter to be replaced by a no-dig permanent surface thereafter, the objective being to avoid intrusions below ground level to safeguard roots for ongoing tree health and stability.

Figure 2. Extract from tree protection plan FLAC 31-1036.06-D: Orange octagonal hatch indicates area of temporary/permanent no-dig surfacing with dashed red line (added here) to mark-up indicative alignment of electric feed (in common trench) with short spurs radially towards trees to the two lamp columns that have been located within the RPAs. Lamp columns shown as blue octagonal polygons bearing X1 annotations



7. The photograph at Figure 4 below (and appended also at larger scale) shows the trench works at time of construction, in relation to the tree protection fencing. We understand that the excavations took place greater than one year ago, accordingly, subterranean investigations would risk further disturbance to existing or potentially regrown roots. By assessment of the photograph no significant roots can be seen on the tree side of the trench.

Figure 3. Section detail of common trench for both drainage and electric feed

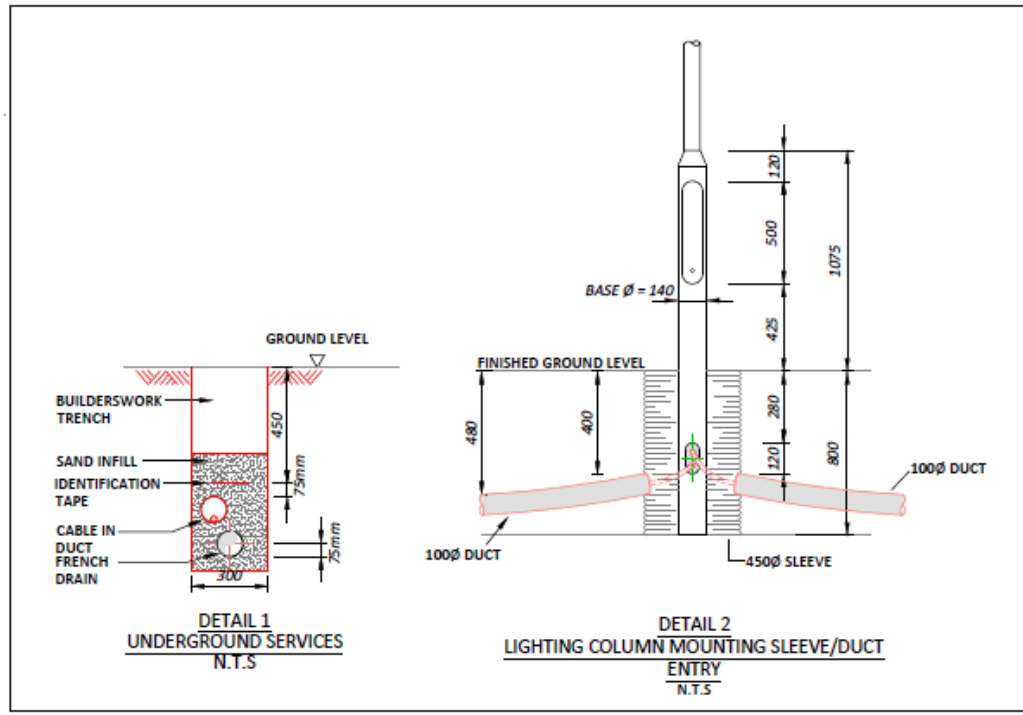
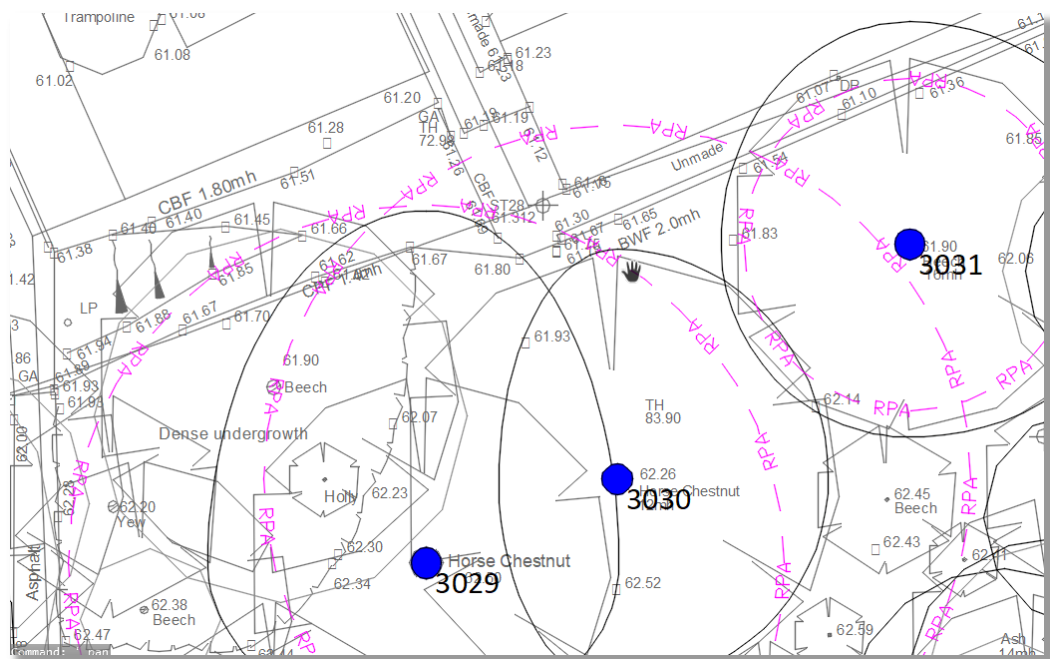


Figure 4. Common trench to north of tree protection fence within RPAs of 3029 and 3030, shows spur to lamp column opposite 3030 being installed



8. Of course, there are limitations to any conclusions that can be drawn from the Fig. 4 photograph including that it does not fully show the section opposite 3029. However, no significant roots are visible in the photograph and it is our experience of photographing subterranean investigations near to trees that ordinarily where roots are present they can be seen, including roots smaller than 25mm in diameter.
9. We have reviewed the topographical survey prepared prior to redevelopment to learn what we can about the pre-existing site conditions and whether the previous situation may have affected root distribution within the area of disturbance. Figure 5 below depicts an extract of the topo with the FLAC ids. 3029, 3030 and 3031 overlaid including their RPAs.

Figure 5. Pre-construction topo extract (thought to originate from 2014) showing information within RPAs at north of 3029 and 3030



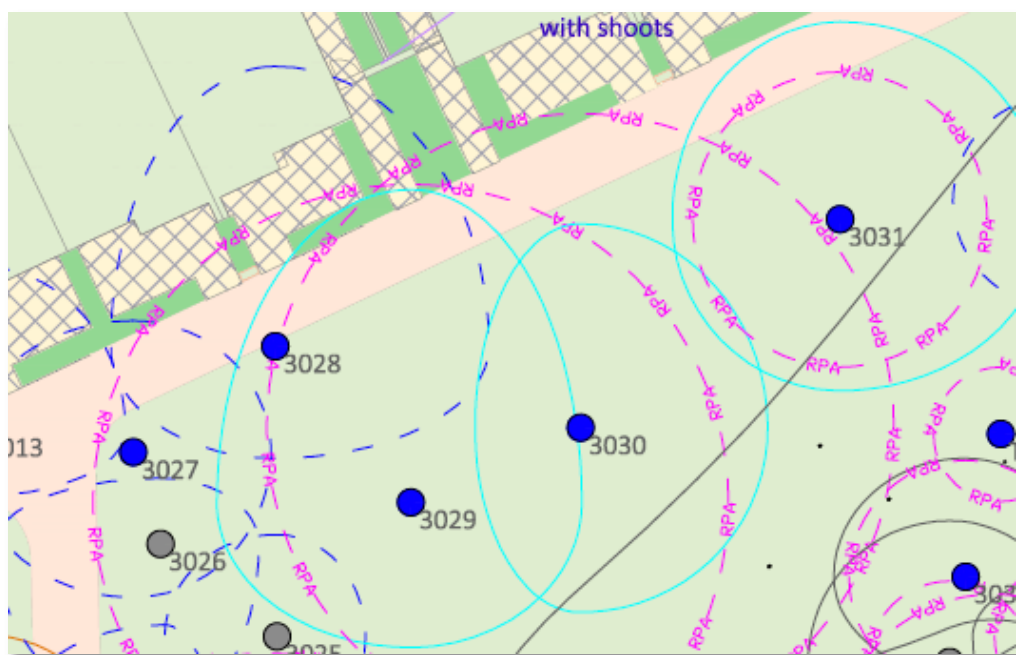
10. The topo survey shows that opposite 3030 the area of disturbance occurs where previously there was a small retaining structure with levels lower to the north. The topo is silent on the precise nature of this feature but a photograph taken during a FLAC site visit (01.03.17, see Figure 6 below) shows a small timber sleeper retaining structure. It is possible that historic ground modelling associated with the previous light industrial site use may have impeded root presence in the area of disturbance.

Figure 6. Photograph extract from FLAC site visit 01.03.17 to show position of former shallow retaining structure opposite 3030 to 3031, diminishing opposite 3029



11. We have reviewed our 2015 Planning Submission material, which at its drawing entitled *Tree Survey, Retention & Removal Proposals + Layout* FLAC Drwg No. 31-1036.05-A (see extract at Figure 7 below) shows the previous tree presence in this area.

Figure 7. Plan extract from FLAC Planning Submission material (2015) to show positions of former trees in relation to 3029



12. The drawing extract shows the locations of former trees felled to facilitate development FLAC identifies. 3026, 3027 and 3028 at west to north RPA quadrant. It is possible that roots of these former trees may have dominated the soil such that it was less attractive for root colonization of this area by roots from 3029 due to the inevitable competition for water and nutrients. However, this might only mean that the horse chestnut dispersed fewer roots here rather than no roots.
13. Our assessment finds that construction activity has occurred within the outer third of the RPAs that would have severed any roots present. Pre-existing ground conditions and presence of former companion trees may potentially have restricted the quantum of root distribution within the area of these works by 3029 and 3030. However, we cannot firmly conclude that no root severance or disturbance has occurred. Accordingly, it is prudent to undertake mitigation management in the interests of safety, this is described in greater detail below.

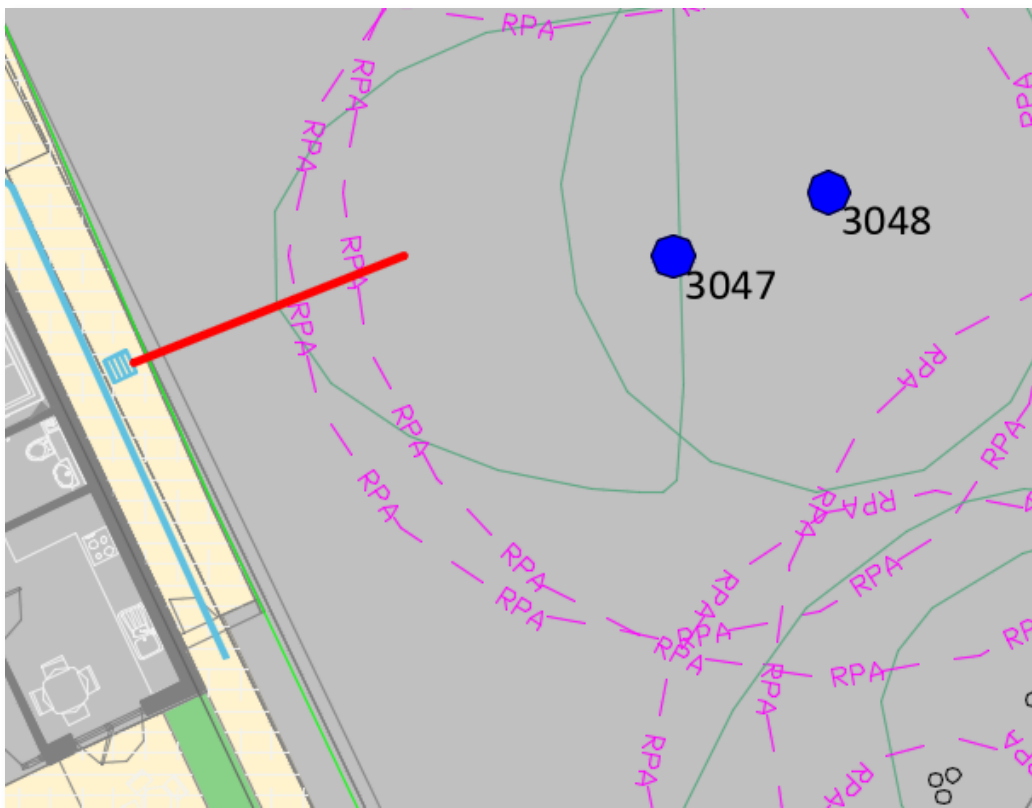
Works within RPAs of 3047 and 3048

14. The drainage drawing provided to us depicts 3no. land drains discharging into the wooded area to east of the development and a land drain within the RPA of 3051. On site however, we found only one drain discharging into the woodland, in a position not shown on the plan provided to us (see photograph Figure 8 below). Furthermore, we have been told by Francis Construction that the land drain shown on the drawing that lies within the RPA of 3051 has not been constructed.
15. The land drain terminates ca. 5.1 metres west of stem centre of 3047, its alignment enters the periphery of the RPAs radially (see marked-up plan extract Figure 9 below). This feature appears to be formed predominantly, if not wholly, within recently made (raised) ground such that it may sit above pre-existing ground levels and intrusion below ground level is thought to be minimal (topo survey does not provide levels for this off site area). Whilst no ill-effects are evident currently, the council may have views on discharge of land drainage into the off site wooded area.
16. We do not anticipate significant disturbance has occurred to 3047 or 3048. No arboricultural mitigation is proposed beyond a schedule of re-assessment of condition as set out below.

Figure 8. Land drain discharge located within RPAs of 3047 and 3048



Figure 9. Red line our mark-up to show land drain discharge into west RPA periphery



Tree management

17. In mitigation for the disturbance to the RPAs at north of 3029 and 3030 and the potential for root severance we make the following management recommendations, which take the form of firstly crown pruning and secondly a scheme of re-assessment:

Pruning recommendations

- i) Horse chestnut 3029 - Reduce height by 3 metres and lateral spread by 2 metres
(NB past FLAC pruning recommendation not fully actioned, 23.07.19)
- ii) Horse chestnut 3030 – Reduce height by 3 metres and lateral spread by 2 metres

Unrelated to unapproved construction works but sensible management in any event:

- iii) Hornbeam 3031 – Crown lift over footpath to 3 metres and reduce lateral branches of north crown by 2 meters to provide increased offset from front elevation of dwelling.

We advise that the pruning to the two horse chestnuts 3029 and 3030 is undertaken within 3 months of this advice.

18. We are not aware of a new tree preservation order affecting the subject trees but pruning of trees within the site red line boundary is controlled by condition 4 (a) of the planning consent, **which requires written approval from the council prior to undertaking tree works**. The relevant clause is provided at Figure 9 below.

Figure 9. Extract from planning consent 150890 at its condition 4 (a)

a) No retained tree or ground vegetation shown on drawings DR-411-103 P00 or 31-1036.05-A Rev.A shall be cut down, uprooted or destroyed, nor shall any retained tree be topped or lopped, without the written approval of the local planning authority. Any topping or lopping approved shall be carried out in accordance with British Standard 3998 (Recommendations for Tree Work).

Re-assessment of tree condition

19. Future visual inspections undertaken by level 6 qualified arboriculturist are recommended to provide a review of the condition of horse chestnuts 3029, 3030, 3047 and 3048. Root severance/disturbance can lead to a range of detrimental impacts that may potentially develop over time. This recommendation is proposed because a deterioration of tree condition may lead to a partial or whole tree failure in a location where this could lead to serious harm and/or damage. Our recommendation is therefore:

Horse chestnuts 3029, 3030, 3047 and 3048 to be re-assessed

- i. August 2021
- ii. November 2022
- iii. August 2023
- iv. November 2024

The staggered times of year are intended to enable a review both in and out of leaf and across a time window of the year when fruiting bodies of decay fungi are potentially visible.

This completes our advice at this time.

Forbes-Laird Arboricultural Consultancy