Arboricultural Assessment
&
Impact Report
Crodaun,
Celbridge,
Co. Kildare

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1. Introduction

This report is designed to provide a broad descriptive outline of the trees and woody vegetation within and adjacent to the site of a proposed housing development at Crodaun, Celbridge, Co. Kildare and to outline the impact of this development on existing trees.
The site is 9.55ha in extent, is located 2km to the north of Celbridge main street and is bordered by agricultural fields to the north, existing housing to the east and south and public roads R449 & R405 to west and south. The land is currently in agricultural use for grazing and in terms of its field arrangements and tree stock is typical of agricultural settings within the eastern portion of the country. The site was assessed on the 21st of November 2018 by Ciaran Keating (CMK Hort & Arb Ltd.).

Image 1. Indicative red-line boundary

2. General description of woody vegetation

The site is composed of four full or partial fields (image 1) with typical field boundary systems. A total of forty-seven trees were assessed (refer to table 1 & Appendix I for details on individual trees) with all the standard and coppiced specimens being ash (*Fraxinus excelsior*) and occurring within agricultural field boundaries.
The agricultural field boundaries are primarily composed of hawthorn (*Crataegus monogyna*) with ash (*Fraxinus excelsior*) with more occasional blackthorn (*Prunus spinosa*). The shrub layer to the outer edges of the hedgerows is strongly populated by bramble (*Rubus fruticosus*) (images 2-3). The hedgerows conform to the habitat classification WL2, Tree Lines (Fossitt 2000).

Category	Number	% of total
A	0	0
B	27	57
C	13	27
U	7	15

Table 1. Tree Categories

Image 2. Typical view of internal hedgerows.

Image 3. Typical view of internal hedgerow. Note very heavy ivy growth smothering a number of trees.

The original hedgerows were most likely composed of clipped hawthorn with standard trees. Elm (*Ulmus procera*) was likely to have an element of this mix but elm have been lost to Dutch elm disease with ash now the dominant standard tree species. As there have been minimal management inputs in recent times the hedgerows have become somewhat overgrown. Though still providing shelter and stockproof barriers the hawthorn element has become tall and drawn with the ash heavily covered in ivy (*Hedera helix*).

The ash are a mixture of multi-stemmed and standard specimens. The multi-stemmed specimens may have been cut back as part of hedgerow management operations in the past. Cutting back trees to form multi-stemmed specimens is often also undertaken when trees have failed in full or part. The resulting re-growth in both instances is often crowded and structurally weak.

In addition to those located internally sections of hedgerow are also located near the southern boundary adjacent to the R405 (images 4&5). Again, the species composition and general condition of the trees is the same as the internal hedgerows however they are visible from the adjoining road and have landscape value and screening potential for the site from these directions. One group of trees at the intersection of the R405 & R449 have particularly high landscape potential due to their prominent location (image 4).

Image 4. Clump of trees at intersection of R405 & R449

Image 5. Hedgerow adjacent to R405

The western boundary of the site adjacent to the R449 is bordered by a bund (image 6) within local authority ownership and management. The bund is a mixture of fastigiate hornbeam (*Carpinus betulus fastigiata*), underplanted with hazel (*Corylus avellana*) and dog rose (*Rosa canina*) with bramble beginning to invade the planting. The bund varies in height over the course of the boundary with the site and effectively screens the site from the west. Screening is also afforded from the site toward the industrial units to west of the R449.

Image 6. Bund on western boundary

Image 7. Fastigiate hornbeam on R405

A linear planting of fastigiate hornbeam is also present adjacent to the southern boundary with the R405 (image 7). These trees and their counterparts on the opposite side of the road appear to have been planted to provide a formal tree lined approach to Celbridge.
There are no trees within the site which could be described as estate trees i.e. specimen plantings such as avenues or feature trees connected to Castletown House or other estates. However, there are a number of mature oak (*Quercus robur*) located adjacent to the southern boundary within the Crodaun Forest Park housing development (images 8&9) which have all the appearance of once being part of estate plantings. Though not providing low level screening to the site they do provide a mature tree aspect to & from the site at this location. An old boundary wall borders the site in this location and could provide a barrier to roots extending into the site.

Image 8. Oak trees within Crodaun Forest Park housing development viewed from site

Image 9. Oak trees adjacent to southern boundary viewed from Crodaun Forest Park estate

A very small number of trees are located on the eastern boundary with the Crodaun Forest Park housing development. A small number of mature trees originating from the former estate landholdings are also present within private gardens (image 10). The original estate boundary wall is still in place in this location. This wall and corresponding ditch should be a barrier to root development from these trees into the site (image 11).

Image 10. Former estate tree within neighbouring property on eastern boundary

Image 11. Boundary wall and ditch on eastern boundary

3. Impact & Mitigation

3.1 Impact of the proposed development

It is considered that the selection of trees for inclusion within housing developments should only be undertaken where the trees are suitable for retention and where their locations allow future detailed analysis to determine their ongoing condition. Retaining large mature trees within private garden should only be done in circumstances where trees are suitable for retention, have medium to long-term potential and can be effectively managed both during and after the construction phase. The isolation of trees from existing shelter should also be undertaken with caution

The proposed development of the site as shown on drawings TCRO001 104-107 Rev A necessitates the removal of all the internal hedgerows and trees with the exceptions of trees at the intersection of the R405 & R449 on the southern-western boundary. One tree within local authority ownership on the southern boundary (refer to drawing TCRO001 104 Rev A).

It is proposed to provide pedestrian and vehicular links between the site and the adjoining pavements and roads (R405 & R449). This approach in conjunction with the incorporation of the existing trees within the local authority lands effectively retains the majority of trees shown within images 4,5,6&7 and brings them into the public domain in a more structured way than currently. The retention of the cluster of mature trees at the intersection of the R405 & R449 is also welcomed as these trees have high landscape value in a prominent location within the area generally.

3.2 Mitigation

Mitigating the removal of existing trees and hedgerows can be achieved by appropriate planting. This may not necessitate the replacement of trees on a species by species basis as diversity within urban environments may be best achieved by planting a range of native and non-native species / cultivars. Included within the planting matrix within the Landscape Masterplan are a variety trees and shrubs providing structure to planting and aesthetic and ecological benefits.

3.3 Tree Protection

Key to the successful retention of trees on construction sites is the incorporation of effective tree protection measures during this stage. In this instance all the retained trees are located outside of the site proper. The erection of site hoarding is proposed to act as tree protection. A site arborist will be employed to provide advice on any arboricultural issues for the duration of the project.

Equally important will be the development of a structured and appropriate post construction management programme which provides professional tree management outcomes designed to successfully maintain trees in a built environment.

References

Fossitt J. A. (2000) A Guide to Habitats in Ireland, Heritage Council