Landscape Design Rationale

Auburn House SHD

April 2022

Issue 3

TBS

urbanism + landscape

Contents

1. Introduction

The Landscape Development Report has been prepared by The Big Space Landscape Architects on behalf of Kinwest Ltd. (the applicant) to describe the landscape proposals for the development of lands at Auburn, Malahide.

The report is intended to be read in conjunction with:

- Landscape drawings:
  - 1489_300 - Landscape Plan
  - 1489_301 - Detail Sheet 1
  - 1489_302 - Detail Sheet 2
  - 1489_303 - Play and Recreation Proposals
  - 1489-304 – Proposed Boundary Treatments
  - 1489_305 - Proposed Tree Planting, Lighting & Services
  - 1489_306 - Planting Details
  - 1489_307 - Planting & Phasing
  - 1489_308 - Existing trees & Proposed Planting
- Historical Landscape Report prepared by The Big Space
- The Arboricultural Survey and Reports prepared by The Tree File
- Conservation Report prepared by Sheehan & Barry

2. Existing Landscape & Surrounding Context

The subject site is located approximately 2 km south-west of Malahide Village, within the townland known as Streamstown and covers an area of approximately 13.28 hectares.

The lands are located 12km north of Dublin City Centre and 6km north of Dublin Airport.

The M1/ R125 motorway interchange is located approximately 3km to the west of the subject site and Malahide train station is located 2km from the site and is served by the Northern Commuter and DART systems. The subject site is accessed off Malahide Road and a tree lined driveway provides access to Auburn House.

Figure 2.1: Location of subject site

While there seems to have been some type of settlement on this site since the 1700's, as indicated on Rocque's 1760 survey of Co. Dublin, the current configuration of Auburn House was constructed in c.1779. The driveway, Auburn House and the woodland to the north, west and south of the house are represented on Taylor's 1816 map of Dublin. On the 1843 map, Auburn House and its stable yard are shown in more detail, along with the walled garden and orchards, the large open field to the east of the house, a well-established woodland to the rear of the dwelling with pathways and tree lined field boundaries.

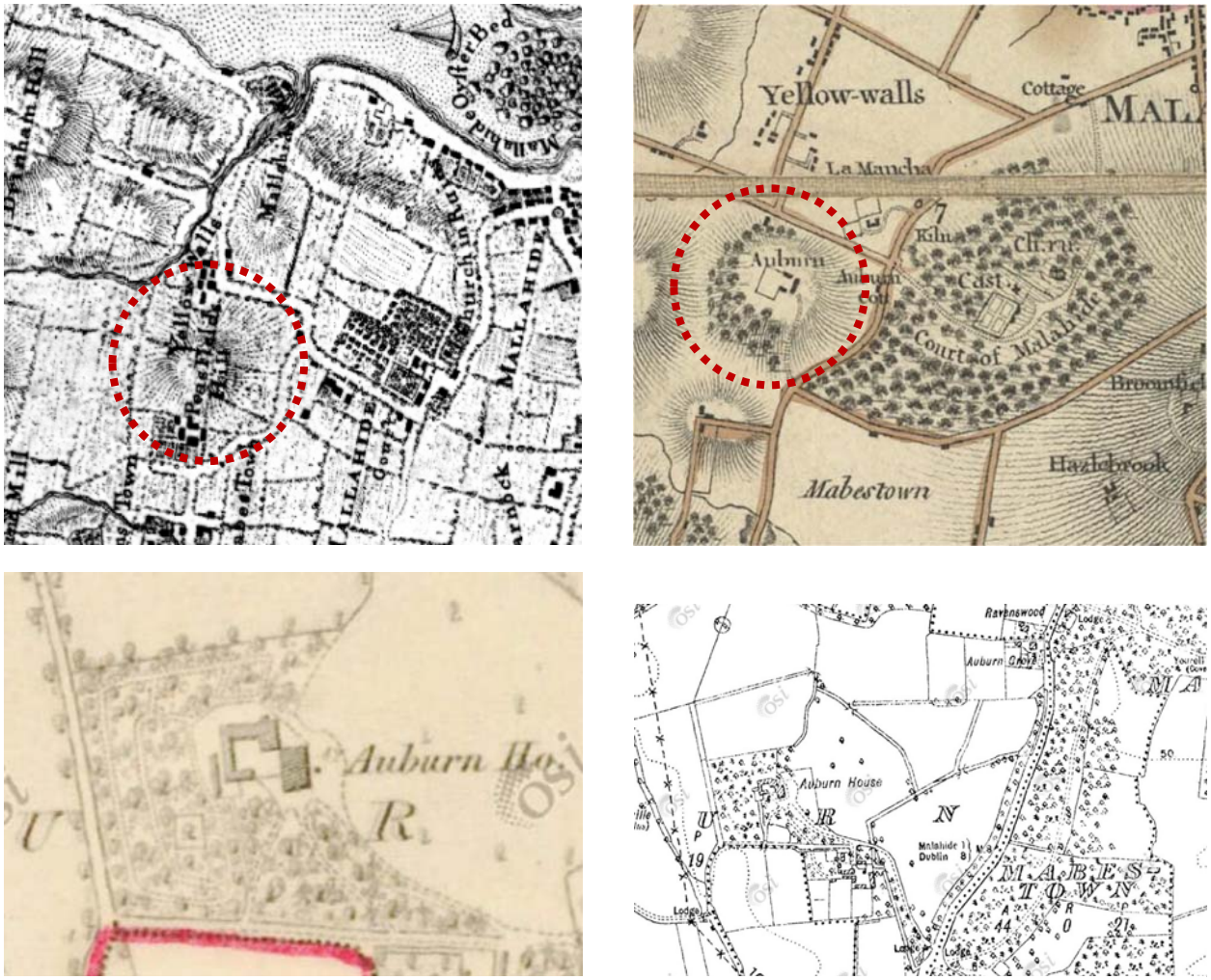


Figure 2.2: Historical Maps - Clockwise from top left: Rocque's 1760 survey; Taylor's map - Environs of Dublin (1816); Extract from 1829-42 Survey of Dublin; Six-inch OS map (1935-38)

The ground level rises from +9m OD along the eastern and south-eastern boundaries of the site, up to +10.45m OD at the north-west corner of the subject site and to +14.00m OD at western boundary at Carey's Lane. In the field to the north of the house there is a hillock that reaches +12.28m OD and another in the wooded area to the west of the house that reaches +14.49m OD.

A mature tree belt that runs along Malahide Road, forms the south eastern boundary of the subject site and there are established wooded areas located to the west, south-west and north-west of the house. To the east of the house is a large open field that provides views to the boundary tree belts and to the wooded areas within Malahide Demesne beyond. A tree lined stream divides the main part of the subject site from Little Auburn to the south. Mature trees and hedgerows with ditches forms the boundaries with the adjoining lands and separates the northern part of the site, from the field to the front of the house.

The existing woodlands, trees and hedgerows that surround the Auburn House estate, in particular the wooded area to the east of Auburn House which is evident on Taylor's 1816 map of Dublin, the tree lined driveway, walled gardens and the mature tree belt along Malahide Road, greatly contributes to the historical character and landscape setting of the subject site.

The Abington residential development is located to west, north and north east of the subject site. To the east of the subject site are large detached dwellings which are accessed off Malahide Road and the Clairville Lodge residential development, accessed off Carey's Lane, is located to the south of the subject lands.

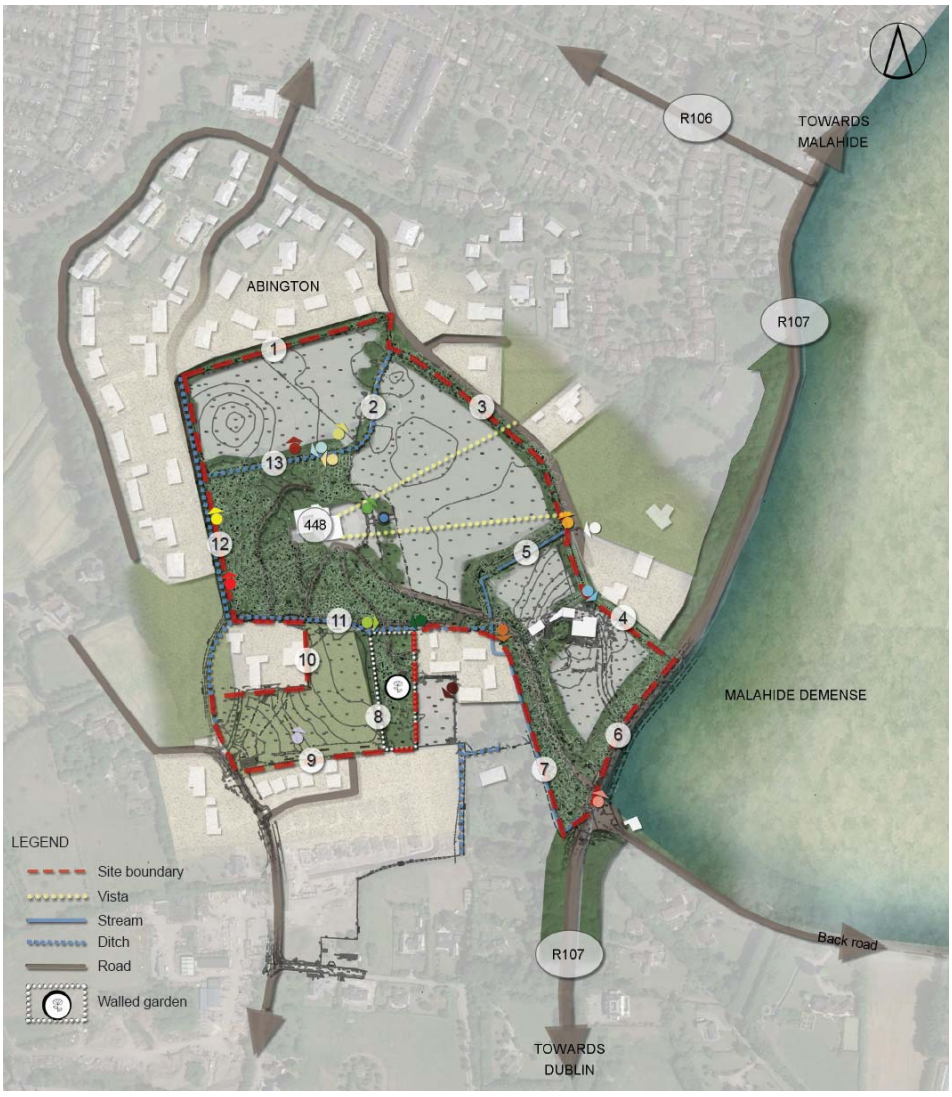


Figure 2.3: Subject site – Boundary analysis (refer to Historical Landscape Report for further detail)

(1) Hedgerow with mature trees and railing between Abington and Auburn
(2) Tree lines ditch with fence
(3) Tree row between fence line and railing, between Abington and Auburn
(4) Belt of evergreen trees
(5) Tree lined stream, diving the field (historical field boundary)
(6) Mature trees along Malahide Road
(7) Tree lined drive up to Auburn House
(8) Walled gardens – folly, tree and shrub planting
(9) Wall between Clairville Lodge and Auburn
(10) Electric fence with low planting
(11) Mature trees, stone wall and ditch
(12) Tree and hedge planting along gravel track with ditch and fence
(13) Ditch with mature tree planting

3. Planning Policy Context

The two main texts that were referred to in the compilation of this report were:

- Fingal Development Plan (FDP) 2017-2023
- Streamstown Local Area Plan 2009

Within the Fingal Development Plan (FDP) 2017-2023 the subject site is located within lands zoned as "RA" Residential Area, which is defined as:

"Zoning Objective "RA" Residential Area: Provide for new residential communities subject to the provision of the necessary social and physical infrastructure."

The FDP 2017-2023 also states that the subject site is located within lands referred to as "Masterplan Area 9A" which corresponds with the FDP:

"Objective Malahide 11: Prepare and/or implement the following Masterplans during the lifetime of this Plan: Streamstown Masterplan (see Map Sheet 9, MP 9.A)".

The FDP further outlines the main points that need to be addressed within this masterplan:

- *"Facilitate low density residential development reflective of the character of the area.*
- *Protect and preserve trees, woodlands and hedgerows within the Masterplan area.*
- *Preserve the tree lined approach to Malahide along the Dublin Road.*
- *Facilitate high quality sustainable development that protects and enhances the sensitive historic and natural setting of Auburn House and integrates new development with the conservation and preservation of the Protected Structure, its curtilage and protected trees.*
- *Retain visual corridors to/from Auburn House through the establishment of a visual buffer to the east of Auburn House.*
- *The area for development north of Auburn House is considered a sensitive development zone, whereby a maximum ridge height of 6m should be applied.*
- *Provide for a pedestrian / cycle route along the Auburn House Avenue to Malahide Road.*
- *Ensure pedestrian connectivity between Auburn House Avenue and Abington/Gaybrook/Castleheath.*
- *The lands will be the subject of a detailed flood risk assessment."*

The following Local Objectives make reference to the mature trees along the eastern boundary of the subject site with the Malahide Road:

"Local Objective 55: Preserve the tree lined approach to Malahide.

Local Objective 57: New or widened entrances onto the Dublin Road between Streamstown Lane and the Swords Junction will be restricted, to ensure the protection of the mature tree-lined approach along the Dublin Road to Malahide."

3.1. Protected Views

The FDP 2017-2023 does not refer to any protected views to or from the subject site, however the Streamstown LAP 2009 does identify the vista from Auburn House looking east towards Malahide Demesne (refer to Figure 3).

Figure 3.1: Extract for Streamstown LAP (2009) indicating the vista/ visual corridor from Auburn House

In relation to views the Streamstown LAP 2009 also states that:

"There are no notable views from the site given the existing planting, the low lying nature of the land and existing properties, both within and adjacent to the site. As a result, the area is considered to have an enclosed character." (Source: Streamstown LAP 2009)

3.2. Protected Structures, Recorded Monuments & NIAH:

Protected Structure (RPS): Structures that are considered to be of special architectural, historic, archaeological, artistic, cultural, scientific, social or technical interest.

Auburn House (including the out-offices and the pigeon loft) is listed as a protected structure listed as RPS No. 448 – 'Late 18th or early 19th century house, outbuildings and walled garden'.

3.3. Statutory Designations

There are no Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Natural Heritage Areas (NHA) within the subject site.

3.4. Landscape Character

The landscape character of the area within and around the subject lands is identified as 'Low Lying Character Type' within the FDP 2107-2023. This type is *"characterised by a mix of pasture and arable farming on low lying land with few protected views or prospects. The Low Lying Character Type has an open character combined with large field patterns, few tree belts and low roadside hedges. This low lying area is dominated by agriculture and a number of settlements. The area is categorised as having a modest value. It contains pockets of important value areas requiring particular attention such as important archaeological monuments and demesnes."*

This character type is identified as a *'low sensitivity'* meaning that *"these landscapes can absorb a certain amount of development once the scale and forms are kept simple and surrounded by adequate screen boundaries and appropriate landscaping to reduce impact on the rural character of the surrounding roads. The protection of views and riparian corridors from inappropriate development is of paramount importance in these areas."* (Source: FDP 2107-2023)

In relation to landscape character the Streamstown LAP 2009 notes that:

"Streamstown is characterised by low-lying, medium-sized fields in agricultural use with low-density detached dwellings. Field boundaries comprise largely self-seeded hedgerows. The local road network is rural in character, with Carey's Lane and Streamstown Lane being bounded by a grass verge, low stone walls and hedgerows.

The site has a semi-rural character, being bounded to the west by Green Belt zoned lands and to the east by a significant area of Open Space in the form of Malahide Castle demesne." (Source: Streamstown LAP 2009)

Figure 3.2: Landscape Character Types (extracted from FDP 2107-2023 with subject site highlighted)

4. Design Rationale

4.1. Description of Proposed Development:

"The proposed development will consist of the preservation and protection of the existing Protected Structure of Auburn House and its stables as 1 no. residential dwelling; the conversion of the existing stables of Auburn House to provide for storage space for the main Auburn House and the construction of 368 no. new residential dwelling units (comprising 87 no. houses, 239 no. apartments & 42 no. duplex units) for an overall total of 369 no. residential units, including Auburn House. The development shall consist of 135 no. 1-bedroom apartments and duplex apartments, 138 no. 2-bedroom apartments and duplex apartments, 8 no. 3-bedroom apartments and duplex apartments, 47 no. 3-bedroom houses, 34 no. 4-bedroom houses, 6 no. 5-bedroom houses and the existing 11-bedroom Auburn House along with 1 no. childcare facility and 1 no. ancillary resident facility. The proposed development shall also provide landscaped public open space, car parking and all associated ancillary site development infrastructure including foul and surface water drainage, internal roads, cycle paths and footpaths, and boundary walls and fences. Vehicular access to the proposed development is to be via a new entrance at the R107 Malahide Road/Dublin Road entrance, with the existing entrance to Auburn House acting as a pedestrian/cyclist entrance and access to existing properties outside the application site, there will be a secondary entrance comprising modifications of the existing vehicular entrance off Carey's Lane to the south west of the development, the closure of the existing vehicular entrance to Little Auburn, the provision of 4 no. ESB substations, 1 no. new foul pumping station, public lighting; proposed foul sewer works along Back Road and Kinsealy Lane and all associated engineering and site works necessary to facilitate the development. The building heights range from 2 storey to 5 storey buildings with balconies or terraces being provided to the apartments and duplex units."

(Source: Downey Planning Consultants, 2022)

4.2. Design Approach

The design approach to the external spaces within the proposed development is to produce a scheme with a strong identity and distinctive sense of place, while not detracting or competing with existing character and setting of Auburn House. It is intended that this can be achieved through careful design considerations including:

- Retention of existing woodlands and trees as a priority
- Protection of the unique character and setting of Auburn House
- Sensitive approach to the design and planting of the open spaces, boundaries and management of the woodland areas, tree belts and hedgerows.
- Well defined and overlooked public/ communal spaces
- Usable spaces with varying character, dynamics and emphasis, without detracting from the setting and character of Auburn House.
- Provision of passive and active recreational opportunities for a variety of age groups and abilities
- Connectivity & Permeability: Provision of cycle/pedestrian access and routes within and through the scheme and linking to Malahide Road and Carey's Lane.

To create a legible environment for people to live within and move through, a hierarchy of materials such as paving and planting, will be employed to create different zones and provide visual cues to how people may move through or use these spaces. While different paving materials and textures will be used to demarcate changes in levels, verges, pedestrian priority zones and to guide the visually impaired, it is proposed that materials (e.g. paving), lighting and tree planting will be chosen from a limited palette to encourage visual cohesion within the scheme.

Figure 4.1: Landscape Overall Plan

Ground plane materials within the public spaces will be restrained and consist of bound gravel for the pedestrian walkways within the public spaces and brushed concrete for walkways adjacent to roads. Permeable paving will be used for driveways and car parking areas.

Focal points, such as sculptural elements, specimen tree planting will also be incorporated at appropriate locations within the project to enhance this sense of place and to assist with way-finding through this scheme.

The perimeter boundaries are limited to existing boundaries, which will be augmented where required.

In order to create a highly legible and therefore self-regulating environment, signage and barriers will be kept to a minimum, thereby reducing physically intrusive measures, enhancing pedestrian and cyclist movement and creating a more attractive public realm.

An objective of the landscape strategy is to provide opportunities for passive and active recreation, by way of natural play/ fitness trails, play facilities and pathways through the open spaces.

These proposed pathways in addition to providing recreational opportunities will also promote connectivity within the overall scheme and adjoining areas, including Malahide Demesne to the east.

4.2.1. Existing Woodland, Trees and Hedgerows:

(to be read in conjunction with arboriculturist's report)

The retention of the existing woodlands, trees and hedgerows are a priority of the landscape strategy as they strongly contribute to semi-rural and mature setting of the development and will assist in screening the proposed structures from the adjoining lands and road, as well as providing visual amenity and biodiversity benefits. The design of the development has where possible followed the pattern of exiting field boundaries to ensure retention of existing woodland and mature hedgerows where possible and to retain the historical patterns of the landscape. The existing hedgerows that are to be retained will be pruned, tidied and replanted with native species where the hedgerow is of poorer quality.

During the construction phase the existing trees and hedgerows that are to be retained will be protected from construction traffic, material storage, ground level changes and any other disturbances, in accordance with the recommendations set out in BS5837: 2012 and detailed in the arborist's report.

Figure 4.2: Auburn House - Woodlands, tree belts & hedgerows

4.2.2. Road Hierarchy and Pedestrian & Cycling Approach:

A road/street hierarchy has been developed throughout the subject lands to reinforce the character areas and to encourage appropriate traffic speeds for cycling and pedestrians, as required (refer to engineer's drawings). The site layout identifies a meandering north-south road designed to encourage cycle/pedestrian accessibility to the proposed buildings and spaces within the estate lands.

Pedestrian & Cycling Priority Approach:

A number of traffic calming measures have been used throughout the scheme to encourage more pedestrian and cyclist traffic and create safer movement for all throughout the scheme. Some of these measures include:

- Horizontal deflections in the form of pinch points and on-street parking
- Vertical deflections such as raised traffic tables, raised entry treatments, ramps at main junctions which reduce vehicular speed and permit safer pedestrian crossings.
- Reduced corner radii to assist in reducing vehicular speed.

These measures are intended to create more pedestrian friendly areas that promotes more liveable roads and encourages greater pedestrian movement between the proposed residential areas and the adjacent opens spaces.

4.2.3. Communal apartment spaces

The apartment blocks overlook significant communal amenity spaces (including over podium slab) for use by the residents that includes native tree planting, ground modelling, seating, shrub and lawn areas for passive recreation.

Play facilities are proposed within the communal open spaces of Blocks 1-3, Blocks 4,5 and duplexes in the southern part of the site.

4.2.4. Play and recreation opportunities:

Pathways have been proposed throughout the scheme to provide recreational opportunities for future residents and which will also promote connectivity within the overall scheme and the adjoining areas including Malahide Demesne. Within the subject site it also proposed to include natural play elements and exercise stations, which are inclusive and suitable for a variety of ages and abilities in locations that are suitable for the setting. The layout of the scheme has been designed so that there will be the appropriate level of passive surveillance from the proposed dwellings overlooking the various open spaces. 'No-dig' (minimal impact on tree rootzones) pathways have been proposed through the existing woodlands to the rear of Auburn House, based off the existing historical walkways, which will provide

passive recreational opportunities appropriate to the woodland setting. Open lawn and grassland meadows are also provided within the public spaces to provide space for informal play and passive recreation.

Playground facilities have been proposed within the northern and southern residential area within the communal open spaces, that will have the appropriate level of passive surveillance. Within the central/ front field section of the proposed development a natural play trail has been proposed, that is suitable for the setting e.g. balancing logs, boulders, mounds. A natural play area is also located within the walled garden, benefiting from the enclosed nature of the space and retaining the existing mature trees.

Table 1: Play & Recreation Provision: Location, area & quantity of pieces of equipment

Character Area	Location of play & recreation area	Play area in sq.m.	Qty. of equipment per play/ recreation area
Character Area 1 - The Avenue	Southern Residential Area - communal space	123 sq.m.	4Nr
Character Area 2 - The Frontfield	Central Residential Area - public open space	326 sq.m.	12Nr
Character Area 3 - The Backfield	Northern Residential - communal space	264 sq.m.	9Nr
Character Area 5 - Streamstown	Walled Garden - public open space	295 sq.m.	12Nr
Total		**1,008 sq.m.**	**37Nr** *(1Nr per 40 sq.m)*
(Note: as per FCC requirements: total units within the proposed development: 368Nr units x 4sq.m. of play area for every unit = 1,472sq.m. of play area required & 1Nr piece of equipment per 50sq.m. = 29Nr pieces of equipment required)			

'Safagrass' play safety surface is proposed to all the play areas, in order to provide the recommended safety measures while also retaining the natural aesthetic of the development's setting. All play equipment and safety surfacing will conform with European Standards EN 1176-1-11 and EN 1177 and will be RoSPA certified. Further details in relation to the play and recreation proposals within the proposed development are indicated on drawing 1489_303.

4.2.5. Lighting:

The proposed lighting throughout the scheme will be to the required LUX levels that permits the safe use of pathways, cycleways and public open spaces, with more ambient, way finding lighting to the communal open spaces.

It is intended that there will not be any lighting within the woodland area to the west of Auburn House – to minimise disturbance to the existing trees rootzone to insure their successful retention within the scheme and due to wildlife in the area.

4.2.6. SuDS:

It is intended to utilise SuDS within the proposed scheme, stormwater attenuation areas are provided primarily above ground within public spaces and below ground in privately managed areas. SuDS detention basins are proposed south of proposed Apartment Block 4 and within the central open space to the east of Auburn House (refer to engineer's drawings for further detail). Additional flood water attenuation is also being provided through the re-profiling of the lands east of the access road within the central part of the site. Permeable paving is also proposed as much as possible within the scheme, along with green roofs to the apartment buildings to assist in water attenuation.

4.2.7. Biodiversity Benefits:

The proposed planting will be selected to be native species where possible, pollinator-friendly, to be low maintenance and to maximize feeding opportunities for birds and insects. It is proposed to fix swift boxes at appropriate locations and 21 Schwegler bat boxes (or equivalent) of varying design shall be erected within the woodlands to provide a variety of suitable roost sites. These boxes must be away from lighting and shall be no lower than 3 metres from ground level (refer to ecology report for further details). 'Bug hotels' can also be located in certain open spaces if deemed appropriate by the ecologist and local authority.

4.3. Character Areas:

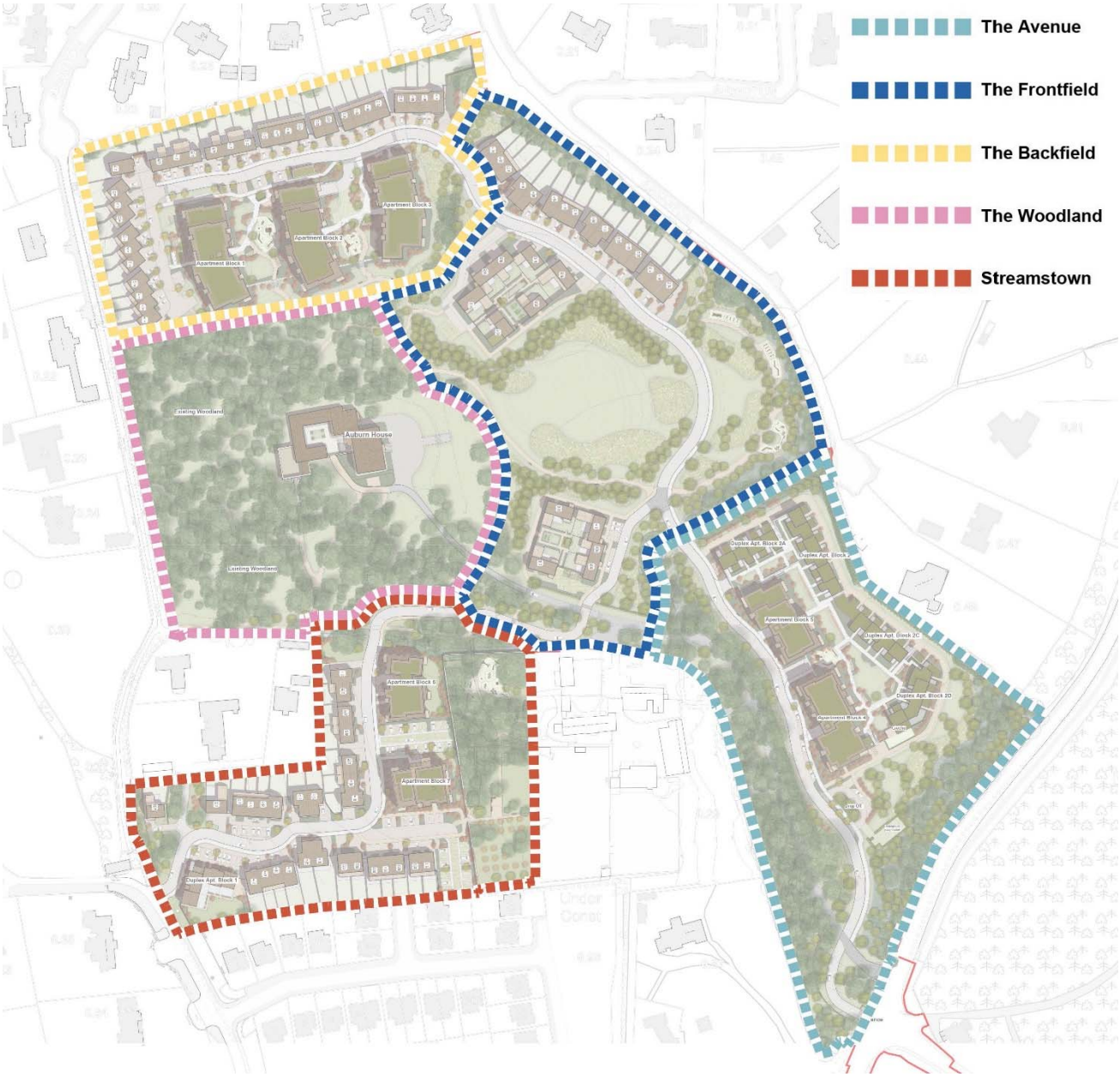


Figure 4.3: Character Areas (Source: CCK, 2022)

4.3.1. Character Area 1 - The Avenue:

Figure 4.4: Landscape Plan - Character Area 1

Figure 4.5: Section AA

Figure 4.6: Section BB

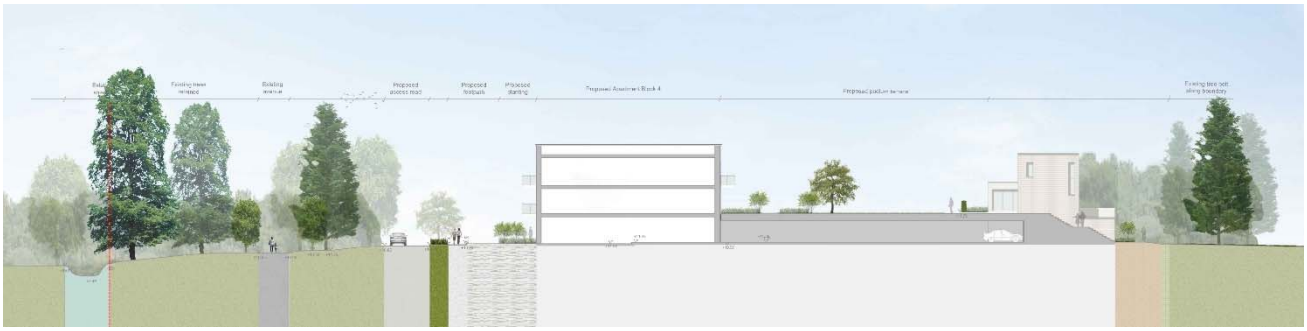


Figure 4.7: Section CC

Tree lined approach to Malahide:

The mature tree lined road to Malahide, formed by the woodland within Malahide Demesne and in part by tree belt along the subject land's south-eastern boundary, is a distinguishing feature of the approach to Malahide and contributes to the local character and landscape setting.

The FDP (2017-2023) contains Local Objective's 55 and 57 which highlights the importance of protecting the tree lined approach to Malahide.

It is intended that the trees located along the south-eastern boundary will be retained, apart from the trees highlighted in the arboricultural report and survey which are in such poor health/state of decline that it necessitates their removal.

This tree belt will be further reinforced with additional mature tree and woodland planting where appropriate and with the recommended species as outlined in the Woodland Management Plan, as prepared by the arborist.

The retention of these trees is crucial to protecting the landscape setting of the subject site and to assist in screening the proposed development from Malahide Road.

Figure 4.8: Concept Image – Parkland Landscape

Existing Entrance:

It is proposed that the existing entrance is to be retained, limiting it use for pedestrians and cyclists, with vehicular access retained solely for existing residential use. A new vehicular entrance is proposed immediately south of the existing entrance.

The important aspects for consideration at this location, is to achieve balance in protecting the historical relationship and context of Auburn House's entrance, while ensuring the necessary safety requirements (including required sightlines), to allow for the safe access/egress to Malahide Road.

To emphasise the priority of pedestrian and cyclists, granite setts are proposed at the existing entrance and along the avenue, past the crossover with the new entrance road.

Existing Driveway approach to Auburn House - 'Conceal and Reveal':

The existing driveway that provides access to Auburn House off Malahide Road was designed to conceal views towards the house until visitors arrived at the front of the dwelling. This was achieved by the careful curving of the driveway and strategic tree planting that prevented views towards the house but provided glimpsed views of the surrounding landscape.

It is proposed to maintain the existing driveway in its current form to ensure that the existing character of the drive is retained and enhanced through the provision of replacement woodland tree planting. The

drive will form part of the perimeter walk around the estate lands including the woodland, walled garden, stream and central park.

New access road:

The new access road has been designed to minimise the negative impact on the existing trees that bound the existing drive to Auburn House, while facilitating the safe movement of vehicles through the development.

Granite setts are proposed at the new entrance off Malahide Road to emphasise the entry point while also creating cohesion with the existing entrance, through the use of similar materials.

A sculptural signage element (design and location subject to consultation with FCC), black estate railings with hedge planting are also proposed at this new entrance, to create a sense of arrival without detracting from the existing entrance and avenue.

Additional tree planting and strategic ground modelling is proposed to screen views of the proposed road from the existing drive and from Auburn House.

It is proposed that the majority of the trees that form the boundary between the subject site and Malahide Road will be retained, unless they are in very poor health or need to be removed to facilitate the construction of the new entrance road (works to be carried out in accordance with arboriculturist's report and drawings). The proposed entrance off Malahide Road and the access road is discussed in more detail in the 'Access Assessment Report' complied by Downey Planning Consultants.

Proposed Southern Residential Development & Opens Spaces:

The landscape strategy within this part of the proposed development is to:

- Maintain sufficient distance from Malahide Road to prevent any encroachment into the existing mature tree belt
- Re-planting the existing tree belt to assist in screening the proposed development and to maintain the tree lined approach to Malahide
- Maintain existing trees along the eastern boundary to protect the off-site residential amenity of dwellings adjoining the subject lands
- Retain the woodland setting of the existing drive
- Provide pedestrian and cycle route through the scheme to link with Malahide Road
- Provide attractive communal open spaces for future residents to relax, move and/ or socialise within.
- Extensive lawn areas for passive recreation
- Play and recreation area that will provide active recreational opportunities for future residents

- SuDS - green roofs to the apartment buildings to assist in water attenuation.


Figure 4.9: Concept Images - Residential Area

Existing Stream/ historical field boundary:

The small stream that flows east to west across the southern part of the site and the associated tree belt is to be retained within the proposed development as it forms an important boundary as identified on historical maps and plays a considered role in the integration of the proposed development into the existing landscape.


Figure 4.10: Concept Images - Treatment to Communal & Open Spaces

4.3.2. Character Area 2: The Frontfield

Figure 4.11: Landscape Plan - Character Area 3

Figure 4.12: Section DD

Front field:

The front field, located to the east of Auburn House, was likely designed to create an open, pastoral vista towards Malahide Demesne.

A key objective of the landscape strategy is to retain this important vista and to frame views from Auburn House, by way of a well-considered tree planting scheme.

The proposed central space will provide a quality recreational area and will also form part of an attractive pedestrian route around the estate lands which will be overlooked from the north and south by housing units.

This space also contains a SuDS detention basin within a gently undulating landscape containing native trees and ground modelling, open lawn and grassland meadow. The planting approach within this

space, is to reinforce and maintain the existing vista, create visual interest and to create a sense of place, resulting in restful and inviting spaces to encourage use by future residents.

It is also proposed to remove the more recently added circular pool to the front of the house.

Figure 4.5: Concept Images - Treatment to Front Field/ Central Open Space

Central Residential areas:

Clustered courtyard style dwellings are proposed within this part of the development, north and south of the central open space:

- Permit a controlled and cohesive approach to the interface between dwellings and parkland space
- Hedge type planting to 'soften' the edges of the proposed dwellings and boundary walls
- Ornamental planting within the courtyard cluster of dwellings to provide an attractive space for future residents
- Reinforced grass as a surface treatment to permit occasional vehicular access
- Natural stone materials – pedestrian surface and boundary treatments
- Subtle ground modelling with mature tree planting
- Assist in mitigating the visual impact from Auburn House but not from the existing drive
- Natural play trail near the eastern boundary composed of play elements that are appropriate for the setting, such as balancing logs, boulders, play tunnel and ground modelling, with passive surveillance from the proposed dwellings to the north and south of this space.
- Pedestrian pathway to provide passive recreational opportunities and linkages/ permeability through the subject site

- In order to retain the existing mature trees along the north-eastern site boundary, a fenced and gated pedestrian trail is proposed to the rear of the dwellings.

Figure 4.6: Concept images - central play area

4.3.3. Character Area 3 - The Backfield:

A key objective in this part of the site is to protect the existing field boundaries as far as possible to:

- Maintain the setting and landscape character of Auburn House
- Retain the historical field boundary and mature trees as much as possible between Apartment Block 3 and the northern courtyard buildings and reinforce the field boundary with additional tree planting where necessary.
- Retain the residential amenity of the surrounding dwellings that adjoin the subject site and provide an attractive setting for future residents.
- Assist in screening the proposed development from the adjoining lands

Figure 4.8: Landscape Plan - Character Area 3 The Backfield

Figure 4.7: Section EE

The proposed treatment to the rear of the dwellings within this part of the site includes a set-back boundary to extend the distance of proposed the development to the existing trees and hedgerows. Communal open spaces are provided between the proposed apartment blocks to provide:

- Amenity grass areas for people to relax, socialise and play within.

- Specimen tree planting and ground modelling with shrub/wildflower meadow and multi-stem tree planting to define and create interest within the spaces and to provide pleasant human scale spaces.
- Provide seating, play and recreational opportunities
- To ensure permeability within the spaces and to provide linkages to the surrounding areas including the woodlands
- SuDS - Green roofs proposed to the apartment buildings to assist in rainwater attenuation.

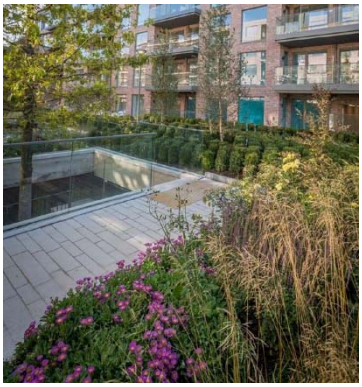



Figure 4.9: Concept Images -Treatment to Podium Areas

4.3.4. Character Area 4 – Auburn House & The Woodland:

Auburn House and curtilage:

It is proposed that Auburn House will be retained as a single dwelling as part of the development and that additional planting and a seating area are to be provided to the south of the house, to enhance the private amenity space of the dwelling.

Woodland to rear of Auburn House:

The existing woodland around Auburn House varies in age and condition. The original woodland is the most imposing element of the English landscape garden within the Auburn estate and is evident on Taylor's 1816 map of Dublin. The original woodland would have comprised Oak, Beech Horse Chestnut, Sweet Chestnut and Lime which are now over mature and in decline, with increasing losses over the last 20 years from winter storms. This has resulted in the natural re-generation of primarily Ash and Sycamore replacing the planted woodland and creating an increased proportion of the woodland today.

The existing pathways through the woodland will be maintained and re-dressed for pedestrian use, providing an attractive pedestrian route around the estate, while minimising any negative impact on the existing trees. Where openings occur within the canopy of the woodland to the rear of Auburn House, it is proposed that exercise equipment will be provided immediately adjacent to the pathway.

The Woodland Management Plan prepared by the arborist, will provide guidance and a strategy by which the site's existing and future tree population and woodland areas can be managed, maintained, restored

and improved in a sustainable manner to accommodate the requirements of the planning authority and all stakeholders. In accordance with the project ecologist recommendations bat boxes are proposed within the woodland to provide a variety of suitable roost sites (refer to ecology report for further details).

4.3.5. Character Area 5 - Streamstown

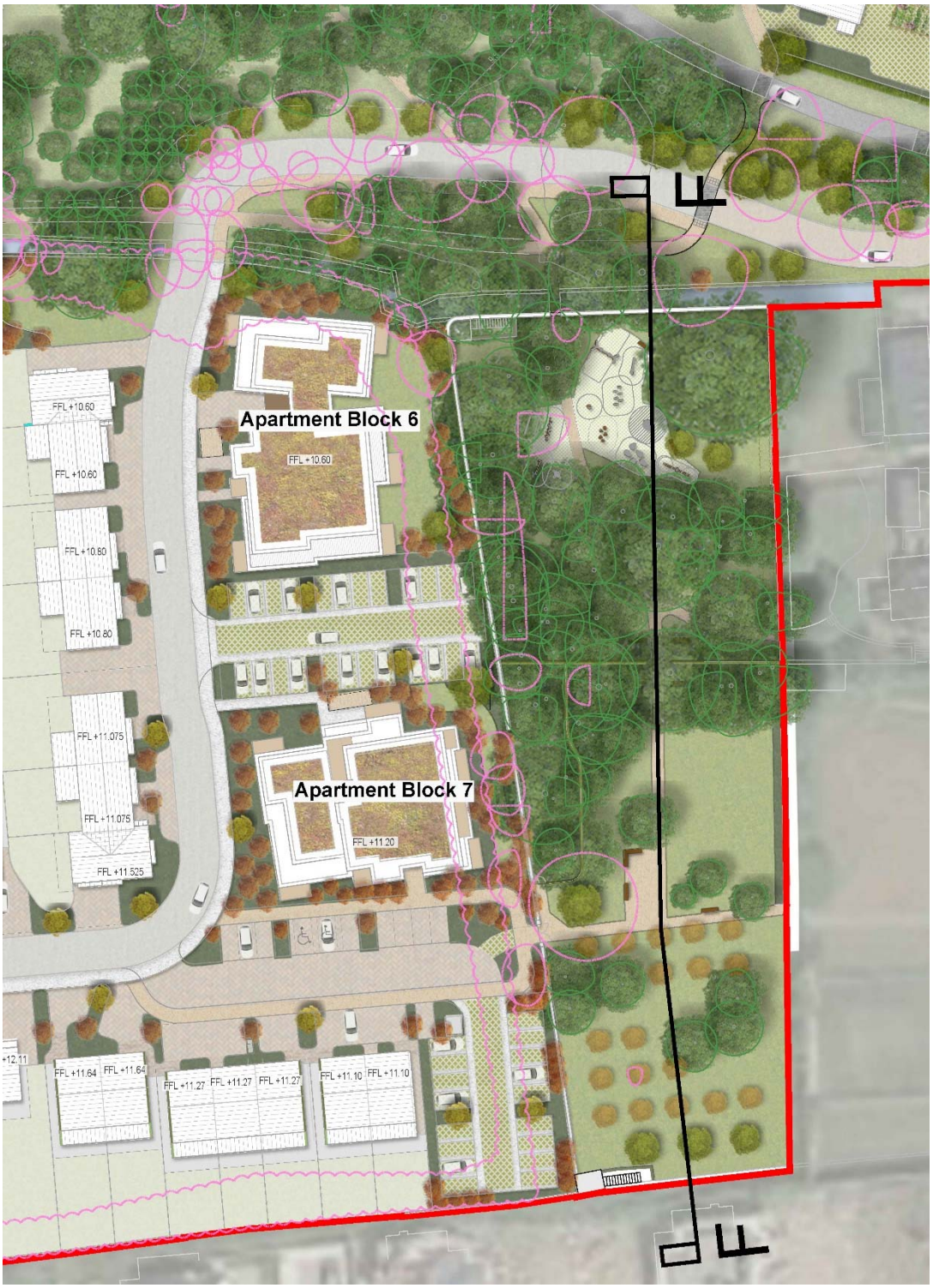


Figure 4.10: Landscape Plan - Character Area 5 – The Walled Garden

Figure 4.11: Section FF

Walled Gardens:

Walled gardens were a common feature of historic houses of the past and were once known as the 'kitchen garden' as vegetable and fruit trees were grown to keep the family kitchen well stocked. Auburn was no exception and historical mapping identified an orchard within the walled garden. The walled garden remains largely intact, although the majority of the original space is not included within the subject application. The area contained within the application area is enclosed with limestone coursed walls and has become overgrown with a number of re-generated trees/scrub (hazel, holly, sycamore and ash). The intention is to retain the large specimen London Plane located in the north-eastern corner of the walled garden. The re-generated scrub material will be removed to allow for the re-planting of new orchard trees to re-create the original design intent. The existing openings through to the adjacent garden will be respected and marked with pathways although they will not extend fully to the existing accesses. The small pet cemetery with the two headstones within the garden will be relocated and retained.

Figure 4.12: Proposed Play Equipment to Walled Garden (refer to drawing 1489_303 for full details of play provisions)

Seating and a natural play area are proposed within the northern part of the walled garden, which will benefit from maturity of the existing trees and the safety provided by the enclosed nature of the space. A communal open space enclosed by hedge planting, is proposed within the central part of the walled garden, for the future residents of Apartment Block 7 and Irish heritage orchard trees are proposed in the southern part of the wall garden to re-create the original design intent.

Carey's Lane: Access and residential development

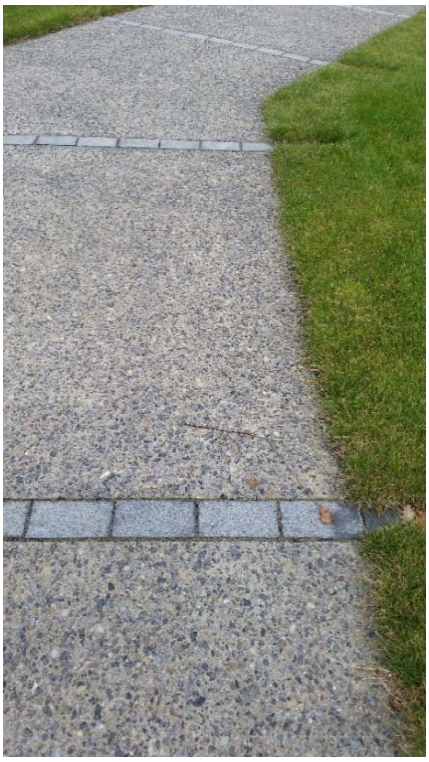
- Retaining existing trees where it is feasible and in accordance with the arboriculturist's recommendations
- Proposed tree planting to assist in screening the proposed dwellings and infrastructure
- Use of limited palette of high quality materials that is respectful of the historical setting

Figure 4.21: Concept Images - Reinforced Grass & Street Tree Planting

5. Surface Treatments & Site Furniture:

Exposed aggregate concrete pathway:

- e.g. Pedestrian Pathways



Buff Coloured Asphalt:

- E.g. Shared surfaces

Granite Setts:

- To entrance areas, stables courtyard and pedestrian crossings

Resin and chip surface:

- E.g. over bitmac surface to stables courtyard.

Reinforced Grass/ Grasscrete:

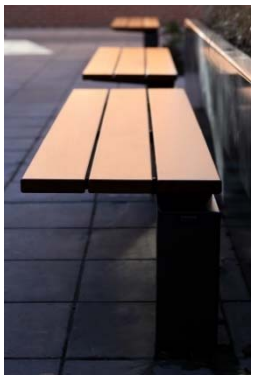
- To private driveways and parking bays

Pathway – Textured/ Brushed Concrete Finish:

- E.g. to pedestrian areas with occasional vehicular traffic

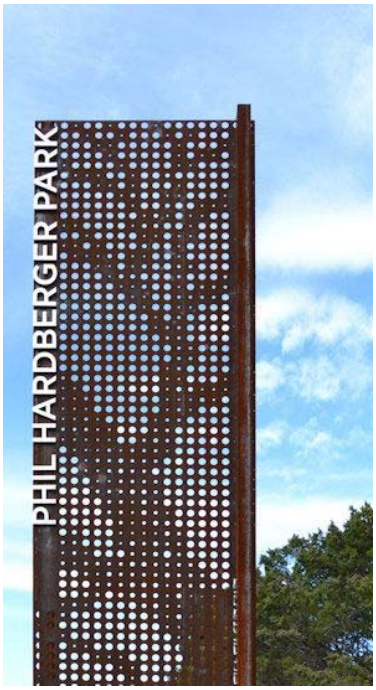
Seating:

- Free-standing benches to communal and public open spaces



Sculptural Signage & wayfinding signage

- To entrance areas (subject to consultation with FCC) and wayfinding (within the development)



Bollards:

- Collapsible bollards at existing entrance and avenue

External Bicycle Parking:

- Sheffield bicycle stands

6. Proposed Planting:

The planting proposals within the scheme will be employed to:

- assist in the successful integration of the proposed scheme into its landscape setting
- structured native tree planting is proposed within the spaces and along the new main central spine road which links into the amenity spaces.
- create visual interest and a sense of place
- act as a buffer and assist in partially screening and filtering views of the proposed development from the surrounding area e.g. adjoining residential areas, Malahide Road
- assist in defining areas and reinforcing the character of the various spaces
- provide visually attractive spaces for future residents and the local community to relax, move and/ or socialise within
- open lawn and grassland meadows are proposed throughout the public spaces which provide space for informal play and passive recreation.
- provide a sense of enclosure at the transitions between public areas to communal areas and the proposed buildings, while also permitting passive surveillance of the open space areas

- compensate for any loss/ enhance biodiversity benefits with an emphasis on pollinator friendly plant species.

Phasing of Planting: Planting will take place on a phased basis. As the construction phase of each zone is completed , the planting will take place by the end of the following planting season (refer to drawing 1489_307). Tree and woodland planting will take place in accordance with the Woodland Management Plan.














6.1. Outline Planting Schedule

Figure 6.1: Planting within the public and communal open spaces will be selected from the following species:

Indicative Planting Schedule *(to be carried out in accordance with arboriculturist's woodland management plan and the project ecologist's recommendations)*		
Species Name	**Specification**	**Size** (girth/ height)
Proposed Semi-mature Tree Planting *125Nr Large Specimen Trees (30-35cm girth) & 404Nr Parkland/ Medium Trees (20-25cm) to be selected from the following:*		
Aesculus hippocastanum	min.1.8m clear stem, RB	30-35cm; 20-25cm girth
Betula pendula/ B. pubescens	min.1.8m clear stem, RB	30-35cm; 20-25cm girth
Fagus sylvatica	min.1.8m clear stem, RB	30-35cm; 20-25cm girth
Pinus nigra/ P. sylvestris	Feathered, RB	3 -3.5m; 2-2.5m high
Prunus avium	min.1.8m clear stem, RB	30-35cm; 20-25cm girth
Quercus ilex	min.1.8m clear stem, CG	20-25cm girth
Q. petraea/ Q. robur	min.1.8m clear stem, RB	30-35cm; 20-25cm girth
Tilia cordata	min.1.8m clear stem, RB	30-35cm; 20-25cm girth
Salix alba	min.1.8m clear stem, RB	30-35cm; 20-25cm girth
Sorbus aucuparia	min.1.8m clear stem, RB	30-35cm; 20-25cm girth
Proposed Street Tree Planting *73Nr Street trees to be selected from the following:*		
Acer campestre	min.1.8m clear stem, RB	16-18cm girth
Quercus petraea	min.1.8m clear stem, RB	16-18cm girth
Proposed Ornamental/ Small Tree Planting *530Nr ornamental/ small trees to be selected from the following:*		
Acer ginnala	Multi-stemmed, RB	2.0-2.5m high
Acer palmatum	Multi-stemmed, RB	2.0-2.5m high
Amelanchier lamarckii	Multi-stemmed, RB	2.0-2.5m high
Magnolia grandiflora	Multi-stemmed, RB	2.0-2.5m high
Orchard Tree Planting *18Nr Irish heritage orchard trees to be selected from a mix of apple, pear & plum trees*		

Woodland Planting (5,840 sq.m.) *(to be carried out in accordance with the arboriculturist recommendations within the woodland management plan)*		
Species Name	**Specification**	**Size** (girth/ height)
Standard Tree Planting		
Acer campestre	2xtr.,RB,fthd	8-10 cm girth; 2.5m high
Aesculus hippocastanum	2xtr.,RB,fthd	8-10 cm girth; 2.5m high
Betula pendula/ B. pubescens	2xtr.,RB,fthd	8-10 cm girth; 2.5m high
Fagus sylvatica	2xtr.,RB,fthd	8-10 cm girth; 2.5m high
Prunus avium	2xtr.,RB,fthd	8-10 cm girth; 2.5m high
Quercus petraea	2xtr.,RB,fthd	8-10 cm girth; 2.5m high
Quercus robur	2xtr.,RB,fthd	8-10 cm girth; 2.5m high
Sorbus aucuparia	2xtr.,RB,fthd	8-10 cm girth; 2.5m high
Transplants Planting		
Acer campestre	2xtr.,BR,fthd	120-150cm
Aesculus hippocastanum	2xtr.,BR,fthd	120-150cm
Betula pendula/ B. pubescens	2xtr.,BR,fthd	120-150cm
Corylus avellana	2xtr.,BR,fthd	120-150cm
Crataegus monogyna	2xtr.,BR,fthd	120-150cm
Ilex aquifolium	2xtr.,RB	120-150cm ht,fthd
Pinus sylvestris	2xtr.,RB	120-150cm ht,fthd
Prunus avium	2xtr.,BR,fthd	120-150cm
Quercus petraea	2xtr.,BR,fthd	120-150cm
Native Hedging		
Acer campestre	1+2,BR,fthd	120-150cm
Crataegus monogyna	1+2,BR,fthd	120-150cm
Ilex aquifolium	1+2,RB,fthd	120-150cm
Prunus spinosa	1+2,BR,fthd	120-150cm
Ornamental Hedge Planting		
Fagus sylvatica	1+2,RB,fthd	120-150cm
Prunus lusitanica	1+2,RB,fthd	120-150cm
Shrub and Herbaceous Planting		
Alchemilla alpina	2 litre	
Anemone 'Honorine Jobert'	2 litre	
Asplenium scol. 'Angustifolia'	2 litre	
Buxus sempervirens	3 litre	
Calamagrostis 'Karl Foerster'	3 litre	
Cornus alba 'Wintersun'	60-80cm; Bareroot	
Crocosmia ' Lucifer '	3 litre	
Digitalis grandiflora 'Carillon'	3 litre	

Echinacea purpurea 'White Swan'	3 litre	
Helleborus or. 'Montsegur'	3 litre	
Helleborus orientalis (white)	2 litre	
Libertia grandiflora	3 litre	
Liriope muscari 'Monroe White'	2 litre	
Luzula nivea	3 litre	
Miscanthus sinensis 'Gracillimus'	3 litre	
Panicum virgatum 'Heavy Metal'	3 litre	
Pennisetum alop. 'Hameln'	3 litre	
Perovskia atriplicifolia 'Blue Spire'	3 litre	
Persicaria amp. 'Fat Domino'	2 litre	
Polystichum set. 'Herrenhausen'	3 litre	
Rosa 'Flower Carpet' (whilte)	3 litre	
Rudbeckia f. v. sul. 'Goldsturm'	3 litre	
Salvia nem. 'Caradonna'	3 litre	
Salvia nem. 'Schneehugel'	3 litre	
Stipa tenuissima 'Ponytails'	3 litre	
Tiarella cordifolia	3 litre	
Verbena bonariensis 'Lollipop'	3 litre	
Vinca minor 'Gertrude Jekyll'	1 litre	
Bulb Planting:		
Allium hollandicum c. vars		
Allium 'Purple Sensation'		
Anemone blanda		
Crocus cvs		
Galanthus nivalis	(of Irish provenance only)	
Hyacinthoides non-scripta	(of Irish provenance only)	
Narcissus c.vars (3 approx.)		
Tulipa 'White Triumphator'		
Turfgrass		
10% Agrostis castellana (Highland Browntop Bent)		
10% Agrostis capillaris (Browntop Bent)		
40% Festuca pratensis (Meadow Fescue)		
40% Festuca rubra (Red Fescue)		
Wildflower/ Native Grass Areas		
Planting to wildflower meadow areas – biodiversity/ pollinator friendly species seed mix. Species to be selected in accordance with Project Ecologist recommendations.		
Abbreviations:		
RB – root-balled		
BR - Bareroot		
CG – container grown		
xtr. – number of transplants in nursery		
cm g. – girth of tree in centimetres measured 1m above ground		
ltr cg. – plants supplied in e.g. 2 litre volume containers		

7. Outline of Operations

Ground preparation will precede planting and will include weed clearance and amelioration where necessary. There will be a period of 12 months defects liability on all planting with plant failures being replaced in the following planting season.

Chemical use: due to the creation of the Nature Park and the site's proximity to the estuary all use of chemicals, such as herbicides, pesticides and fertilizers will require prior approval by the project ecologist and landscape architect.

Herbicide and Pesticide usage must be carried out in accordance with:

S.I. 155 of 2012 - European Communities (Sustainable Use of Pesticides) Regulations 2012

S.I. 159 of 2012 - European Communities (Plant Protection Products) Regulations 2012

PLANTING

Materials

All plant material shall be good quality nursery stock, free from fungal, bacterial or viral infection. Aphis, Red Spider or other insect pest, and physical damage. It shall comply with the requirements of the following sections of B.S. 3936, Specification for Nursery Stock, where applicable:

Part 1 - 1992:	Specification for trees and shrubs
Part 2 – 1990:	Specification for roses
Part 4 – 2007:	Specification for forest trees, poplars and willows
Part 7 - 1989:	Specification for bedding plants
Part 9 - 1998:	Specification for bulbs, corms and tubers
Part 10 - 1990:	Specification for ground cover plants

All plants shall have been nursery grown in accordance with good practice and shall be supplied through the normal channels of the wholesale nursery trade. They shall have the habit of growth that is normal for the species.

Except for any cultivated varieties or exotic species which do not set viable seed in Ireland, all plants shall have been grown from seed.

The Contractor will be deemed to have advised his suppliers of the relevant sections of this specification, including all protection required, at the time of enquiry and shall in all cases be liable to replace materials brought on site which are not in accordance with this specification.

Species

All plants supplied shall be exactly true to name as shown in the plant schedules. Unless stipulated, varieties with variegated or otherwise coloured leaves will not be accepted, and any plant found to be of this type upon leafing out shall be replaced by the Contractor at his own expense.

Bundles of plants shall be marked in conformity with the relevant part of B.S. 3936. The contractor shall replace any plants that are found not to conform to the labels. An inspection of plants shall be undertaken prior to planting to ensure quality control.

Extra Heavy Standard and Standard Trees

Extra Heavy Standard trees shall have a total height of 4.0 to 4.5 metres and a girth of 14-16 cm at 1m above ground level. Standard trees shall have a clear stem 1.70 m to 1.85 m in height from ground level to the lowest branch, a minimum girth of 8 cm measured at 1m above ground level and a total height of 2.5 to 3.0 metres.

Trees shall have a sturdy, reasonably straight stem, a well defined and upright central leader, with branches growing out of the stem with reasonable symmetry, or a well balanced branching head according to the Schedule. The crown and root systems shall be well formed and in keeping with the nature of the species. Roots shall be in reasonable balance with the crown and shall be conducive to successful transplantation.

Trees shall be supplied bare rooted unless otherwise specified. They shall have been regularly undercut or transplanted. They shall have been lifted carefully to avoid tearing of major roots and to preserve a substantial proportion of smaller and fibrous roots. Trees shall have been grown on their own roots. Budded or grafted trees will be rejected.

Transplants

Transplants shall not be less than three years old, and shall have been transplanted at least once. Trees of species not listed in B.S. 3936: Part 4: 1984 shall be sturdy, with a balanced root and shoot development. Sizes shall range from 600-900 and 900-1200 mm.

Trees shall be well furnished with lateral and fibrous roots, and shall be lifted without severance of major roots. Roots shall be of the habit normal for the species.

Salix shall have been stumped and transplanted at the end of the first year in the nursery.

Shrubs

Shrubs shall be of the minimum size specified in the schedules, with several stems originating from or near ground level and of reasonable bushiness, healthy, well grown, and with a good root system. Pots or containers shall be as scheduled. Plants shall not be pot bound, nor with roots deformed or restricted. Bare root material will only be accepted where specified.

Herbicides

Chemical use – due to the creation of the Nature Park and the sites proximity to the estuary all use of chemicals, such as herbicides, pesticides and fertilizers will need require prior approval by the project ecologist and landscape architect.
Within the proposed Nature Park the use of herbicides and pesticides should be minimised.
Where species is deep rooted and cannot be removed manually or is persistent it should be treated with localised and spot application of hormone weed killers.

Weedkiller Application

All weedkiller handling and application should be carried out in accordance with the manufacture's instructions, COSHH Regulations, using the necessary PPE and by trained personnel only.

Bulky Organic Manure/ Mushroom Compost

Bulky organic manure shall consist either of spent peat compost, mushroom compost, as described above, spent hops, or of well rotted farm manure. Farm manure shall consist of predominantly of faecal matter and shall be free of loose, dry straw and of undigested hay. Manure shall be free of surplus liquid effluent. This shall be used on mounds only. Well spent mushroom compost shall be used in all ornamental planting areas.

Fertilisers

Controlled release fertiliser N:P:K 15:9:11 plus trace elements - Osmocote plus or similar approved applied at specified rates.

Fertiliser shall be supplied in sealed bags or containers bearing the manufacturer's name, the net weight and analysis.

Stakes for Standard Trees

Stakes shall be of peeled larch, pine or Douglas fir, preserved with water-borne copper-chrome-arsenic to I.S. 131, to a net dry salt retention of 5.3 kg. per cubic metre of timber. Stakes shall be turned, and painted one end. Sizes shall be as follows:-

for extra heavy standard trees:	2700 x 75 mm dia.
for standard trees:	2700 x 75 mm dia.

Set stakes vertically in the pit, to the western side of the tree station, and drive before planting. Drive stake with a drive-all, wooden maul or cast-iron headed mell, not with a sledge hammer.

Tree Ties

Tree ties shall be of rubber, P.V.C. or proprietary fabric laminate composition, and shall be strong and durable enough to hold the tree securely in all weather conditions for a period of three years. They shall be flexible enough to allow proper tightening of the tie.
Ties shall be min. 40 min. wide for standard trees. Provide a simple collar, free of rough or serrated edges, to prevent chafing. Provide for subsequent adjustment of the tie either by means of a buckle (nail tie to stake immediately behind it) or by leaving heads of securing nails slightly proud, to permit easy extraction and repositioning. All nails shall be galvanised.

Protection

The interval between the lifting of stock at the nursery and planting on site is to be kept to an absolute minimum. Plants shall be protected from drying out and from damage in transport. All stock awaiting planting on site shall be stored in a sheltered place protected from wind and frost, from drying out and from pilfering. Bare rooted plants not immediately required shall be heeled-in in a prepared trench, the bundles of plants first having being opened, the plants separated and each group separately heeled-in and clearly labelled. The roots shall be covered with moist peat or soil and shall be kept moist until planted. Pots shall not be removed until plants have been carried to their planting station. Plants packed in polythene must be stored in shade.

All forest transplants and bare root shrubs shall be wrapped in polythene from the time of lifting to conserve moisture. Except when heeled-in, they shall be protected in polythene at all times until planted into their final position on site.

Plants shall be handled with care at all times, including lifting in and despatch from the nursery. Plants or bundles of plants shall not be tossed, dropped of subjected to any stress likely to break fine roots.

Damage

Any roots damaged during lifting or transport shall be pruned to sound growth before planting. On completion of planting any broken branches shall be pruned.

Vine Weevil

Line out all container grown plants on level ground. Drench pots with 40 g of 40% Diazinon W.P. in 100 litres water. Allow to stand for at least three days before planting.

Setting Out

Setting out shall be from figured dimensions where indicated, and otherwise by scaling.

Transplants shall be planted at the spacings indicated, in staggered rows.

Transplants in mixtures shall be planted at the spacings indicated, in staggered rows or at random according to instructions on the contract drawings. Species shall be planted in groups in each area. Set out groups avoiding obvious repetition, regularity, and single lines of one species.

Shrubs and ground covers planted in mass shall be at the spacing indicated on the drawings. Shrubs shall not generally be planted closer to a kerb or to the edge of a planting area than a distance equal to half the spacing indicated for that species.

Ripping

Rip all disturbed ground a minimum of 600 mm deep with a subsoiler approved by the Landscape Architect in two transverse directions.

Topsoiling

Excavate for shrub beds and hedge trenches to 400 mm below finished levels. Dispose of material to tip off site or to areas of filling on site as directed by the Landscape Architect. Break up base of beds and trenches min. 150 mm deep. Remove topsoil from areas to be sown with wild-flower mix.

Decompact base of planting bed to allow drainage.

Load and carry topsoil from stockpiles on site, and backfill beds/trenches in layers each not more than 150 mm deep, lightly consolidating each as the work proceeds. Leave area slightly mounded, to allow for settlement.

Incorporate ameliorant and fertiliser, as specified.

Site Preparation

Weedkilling for the below areas – herbicide selection and usage will need to be approved by the project ecologist and landscape architect. prior to works taking place onsite.

Preliminary Weedkilling

Transplants: Weedkill full ground area. Apply a first treatment before 15th July, and a second not later than 15th September to kill regrowth.

Hedge Trench: Weedkill. Excavate trench 600 x 400 mm. Add ameliorants as follows, incorporate evenly into excavated material, and backfill:-

Organic Manure :	75 mm deep
Osmocote plus :	70 gm/m

Shrub Planting: Weedkill. Spread over all planting areas:-

Organic Manure :	50 mm deep
Osmocote plus :	75 gm/msq

Standard and Selected Standard Tree Planting

Excavate tree pits to 0.5 cubic metres volume (1.0 m diameter x 60 cm deep). The base of the pit shall be broken up to a depth of 15 cm and glazed sides roughened. Remove subsoil, stones and rubbish to tip on site as directed by the Architect/Engineer. Supply and drive the stake.

For planting in areas of made up ground, load and carry topsoil from stockpile on site. In undisturbed ground, backfill with excavated material. Mix the following ameliorants evenly throughout the topsoil while it is stacked beside the pit. (Quantities are calculated for a pit of the specified dimensions):-

Organic Manure: 0.047 cubic m (equivalent to manure 6 cm deep over 1 m dia of tree pit).
Osmocote plus :250 gm

Trees shall be planted at the same depth as in nursery, as indicated by the soil mark on the stem of the trees. They shall be centred in the planting pit and planting upright. The roots shall be spread to take up their normal disposition. Fit tie. Clean a neat circle 1000 mm dia. of all grass.

Planting of Shrubs and C.G. Transplants

Remove all plastic and non-degradable wrappings and containers before planting. Make four vertical cuts with a sharp knife on the quadrants through the edge of C.G. rootballs to sever girdling roots. Excavate hole to min. 10 cm greater diameter than the root spread, and to a depth to allow planting to same depth as in the nursery. Spread out roots of bare root species. Backfill in layers of not more than 10 cm, firming each layer and on completion.

Replacements

The planting will be inspected in September following planting. Any tree or shrub found to have died from any cause except as provided below or the work of other contractors shall be replaced by the contractor at his own expense. Replacement planting shall conform in all respects with this Specification, including all specified excavation, provision and incorporation of all fertilisers and ameliorants, and weedkiller treatments.

Failures will not be charged to the Contractor in the following cases:-

- Damage by hares or rabbits, where not protected by fencing or shelters.
- Failure solely due to prolonged dry weather, except in where the contractor will be responsible for watering.
- Losses due to theft, vandalism or disturbance by other contractors.

Persistence of weed in planted areas will be regarded as a contributory cause of failure due to drought. Prolonged dry weather will not exonerate the Contractor if the scheduled aftercare operations have not been carried out as programmed.

GRASS SEEDING

Seed Mixture

An appropriate seed mix will be specified for the type of sward and level of maintenance

Fertiliser

10:10:20, N:P:K - supplied in bags bearing the names of the manufacturer, the analysis of the contents and the net weight. The contractor shall produce to the Landscape Architect the original delivery docket or invoice stating the quantity supplied for these works.

Pre-Seeding Weedkiller

Herbicide selection and usage will need to be approved by the project ecologist and landscape architect. prior to works taking place onsite.

Non-selective herbicide: Do not apply when rain is forecast within six hours. Do not apply when wind is likely to cause spray drift (over 24 kph/15 mph). Allow leaf symptoms to develop before carrying out any cultivations (at least 7 days).

Post Emergence Weedkiller

Apply selective weedkiller when grasses have reached the two-leaf stage or beyond, and when seedlings have emerged and have reached cotyledon or two-leaf stage (approx. 4 weeks after sowing). Do not mow within 7 days of treatment. Do not apply during drought. Apply on a fine, still, warm day.

Machinery

All machinery shall be in good and serviceable condition. Harrows and cultivators shall have their full complement of tines, which shall be sharp, effective, and set to give the specified depth of cultivation. Mowers shall be sharp and evenly set to the specified height, and shall in use avoid pulling or laying the sward.

Tractors for use in ripping shall be four-wheel drive or tracked. All tractors shall be fitted with position control to ensure even cultivation, at the minimum specified depth.

Weather

All work to soil shall be carried out in dry weather, and when the soil can be reduced to a friable condition, avoiding smearing or panning, and rutting and compaction by tractors.

Seeding shall be carried out in the fine, still weather. Seed shall not be permitted to fall onto hard surfaces or into planting areas. Any grass germinating there shall immediately be treated with a total weedkiller at the Contractor's expense.

Weedkilling

Application: Killing existing grass pre-seeding, and killing weeds germinating in re-spread topsoil. Apply non-selective weedkiller (For seeding from mid-August onwards, apply not later than 31st July).
If germinating weed grasses are less than 100 mm high and broad leafed weeds have not produced full-sized leaves, do not apply non-selective weedkiller. Apply non-selective herbicide @ 3.0 litres/hectare in water @ 200-300 litres/hectare 4 to 7 days before cultivating.

Ripping

Rip with a subsoiler approved by the Landscape Architect in two transverse directions. The first pass shall be across the maximum fall of the land and the second at right angles to this. Rip at 600 mm maximum centres, at a constant depth of 400 mm. Do not mix subsoil and topsoil layers during ripping.

Cultivations

Cultivate in transverse directions by disc or tine harrows and/or rotary cultivators, to the minimum depth specified in the operations schedule. Remove weeds and roots, metal items and rubbish. Produce a tilth as follows; Reinstatement areas 75mm and quality areas/verges 50mm and pick off stones and debris over that size.

If rotary cultivators are used, the ratio of tractor speed to tine speed shall be sufficient to avoid smearing at the base of the cultivation.

Final Grading

During cultivations, grade with a blade, lute or grader, to produce even, flowing surfaces, free from local humps and depressions.

Finishes

Topsoil shall stand 30 mm proud of manholes, paths and kerbs after cultivation and firming.

Fertiliser

During last stages of cultivation, apply fertiliser evenly over the full area of seeding in two equal passes in transverse directions, and incorporate into the seed bed up to 30 mm deep.

First Cut

Before cutting, pick off stones above the maximum diameter specified on the operations schedule. Roll if specified on the operations schedule to firm sod. The time for cutting and the height of the cut shall be as specified in the operations schedule.

Quality

The quality of the grass sward shall be even throughout with a constant sward and colour. The contractor shall make good any areas not of this quality. Make up and seed over any depressions which develop after seeding. Re cultivate and re-seed any areas which fail to germinate or which die off.

AFTERCARE

The operations are grouped under the following headings;

Newly planted trees
Shrub beds
Groundcover
General litter clearance

GRASS AREAS

Amenity Grass Areas

Maintenance Objective

To provide an even stand of vegetation of uniform height and colour comprising predominantly grass species, although a small percentage of dichotyledenous plants - no more than 5 per cent - will be accepted.

Maintenance Operations

a) Mowing shall be carried out using a cylinder mower to maintain the vegetation length within the limits of 30 mm and 75 mm during April to August inclusive and between 50 mm and 90 mm during the rest of the year. (This will normally require mowing at up to once a week in the peak of the season and up to, 20 times per year).

b) The arisings shall be let fly but must be distributed evenly over the surface and at no time shall the layer of clippings be of such a depth that will affect the growth of vegetation. At no stage must arisings come to rest on paved or planted areas.

Additional Operations

a) All edges of grass areas, against buildings, footpaths, roadways, trees, posts and any other obstruction shall be kept neat, trimmed and tidy.

b) Mowing strips against fences, etc. shall be 100 mm wide and may be maintained by the use of an appropriate approved herbicide.

Care of Newly Planted Trees - General

Young trees will need regular attention to ensure establishment. The most important operation is to keep the soil around the base of the tree free from weeds or grass and to ensure secure and correct staking.

Maintenance Objective

Establish a stable and healthily growing tree with a well-shaped framework for future growth.

Maintenance Operations

a) Maintain a 1m. diameter circle of plant-free soil around the base of each isolated tree by hoeing *or* the use of approved herbicide other than a residual.

Allow for hoeing up of soil once every 4 weeks in the growing season (5 times per year). Allow for herbicide treatment once in the winter or spring and 3 additional treatments.

Note: In some areas this operation may be replaced by the application of bark mulch as ground cover.

b) Cut back any tall vegetation that is threatening to shade or smother the young tree (i.e. taller vegetation growing from outside the 1 m weed free area). Allow for cutting back regularly (3/4 times a year).

c) *Provisional item* Water the newly planted trees throughout the summer months (May to August) as required after any period of 4 weeks without significant rainfall (less than 5 mm). Apply sufficient water to thoroughly wet the top 150 mm of soil around the tree roots. This will normally require approximately 10 litres for a seedling or whip and 20 litres for a standard tree, include transport of water to the site.

d) Check stakes and ties for firmness and support and adjust as necessary. Allow for checking twice a year, preferably in late spring and late summer.

e) Firm the soil around the roots to ensure that the plant is securely planted in the ground and upright. Allow for firming once in the spring after planting.

f) Formative prune to remove any dead, diseased or damaged shoots and create a balanced form for future growth. Allow for pruning once in the season after planting.

Shrub Beds - General

The borders must be kept weed free, particularly of perennial weeds, to allow planting to give early cover. However, the plants may be required to be thinned so that the shrubs that are retained are able to achieve an attractive form. This may involve removing the intermediate plants soon after shoots are touching.

Maintenance Objective

Maintain shrub growth to cover as much as possible of the bed area and allowing the individual plants to achieve as nearly as possible their natural form. Maintain the borders free of visible weeds and shape and prune the shrubs to avoid obstructing pathways or blocking light to, or adhering to windows.

Maintenance Operations

a) After planting, if appropriate and in season for the species involved, prune shrubs to develop their desirable ornamental characteristics. At the same time remove intermediate plants that are restricting the natural and attractive development of their neighbours. Remove all arisings from site.

b) Lightly cultivate the surface soil, to a depth of approximately 50 mm, remove or bury all annual weed or natural litter and break any surface capping. Take special care to avoid unnecessary damage to the shrub plants and ensure that all the shrubs are firmly bedded in the soil. Leave the surface with a fine and even tilth with soil crumbs of less than 50 mm in diameter. Once a year operation in early winter.

Note: This operation is only essential where the soil is compacted or as a means of incorporating mulch. Not required where the areas are mulched.

c) Maintain the soil surface substantially free of weeds (less than 10 per cent weed cover) by hand removal and spot treating with Glyphosate, or approved equivalent. Spot treatment at approximately four-weekly intervals in the main growing season, to a total of five times per season.

Note: As an alternative the beds can be regularly hand-hoed at up to two-weekly intervals in the main growing season, to 6 times per year. This procedure is recommended for the first year after planting when the plants may be more sensitive to contact herbicide damage and residual herbicides may not be used.

Ground Cover - General

Described as dense, low-growing plants, which cover the ground and smother any weeds. Ground-cover needs careful establishment, to ensure that any perennial weeds are eliminated.

Maintenance Objective

Maintain a dense, weed free cover of healthy growth, clipped or pruned as necessary to give a neat and tidy finish and contained within the planted area.

Maintenance Operations

a) Maintain the area substantially free of weeds (less than 10 per cent of weed cover at maximum) by hand removal or spot treating any emergent weeds during the growing season with Glyphosate, or approved equivalent. Spot treatment or weed removal at approximately four-weekly intervals in the main growing season, to 5 times per year in total. Frequency of sprays to drop, as the plants establish.

b) Trim and tidy the plants once a year in the winter months, to remove dead vegetation or overgrowing branches. Remove all arisings from site. The amount of work will vary according to the species.

Litter Clearance - General

Maintenance Objective

Collect and remove from the site, all extraneous litter and rubbish on a regular within landscape basis so that its presence is not detrimental to the appearance of the site. (This means that the landscape should be free from litter after each visit to site).

Maintenance Operations

a) Collect and remove to the contractor's tip all extraneous rubbish, not arising from maintenance works, which is detrimental to the appearance of the site. This rubbish to include stones (over 50mm dia. which may be buried), bricks, debris, paper, confectionery and other wrappings, bottles, cans and plastic containers.

Allow for this operation to be carried out at regular intervals based in conjunction with other maintenance visits and operations.

Herbicide and Pesticide usage must be carried out in accordance with:

Plant protection products (PPPs) are regulated by Regulation (EU) No. 1107/2009.
Regulation (EC) No. 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC
The main Irish legislation concerning the control, marketing and use of plant protection products (PPPs) are:
S.I. 155 of 2012 - European Communities (Sustainable Use of Pesticides) Regulations 2012
S.I. 159 of 2012 - European Communities (Plant Protection Products) Regulations 2012

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