LEGEND

- SITE BOUNDARY
- EXISTING TREES TO BE RETAINED
- EXISTING TREES TO BE REMOVED
- EXISTING VEGETATION TO BE RETAINED AROUND THE SITE BOUNDARY
- PROPOSED NATIVE TREE AT THE TREELINES AND WET WOODLAND (53 No.)
- PROPOSED NATIVE WET WOODLAND AND UNDERSTOREY PLANTING IN LOWLAND GRASSLAND (2,833 sq.m.)
- PROPOSED NATIVE LOWLAND GRASSLAND AT NEW FLOOD COMPENSATION AND NORTHERN AREA (3,521 sq.m.)
- PROPOSED NATIVE GRASSLAND (4,826 sq.m.)
- PROPOSED SWIFT BOX - INDICATIVE LOCATION
- PROPOSED BAT BOX - INDICATIVE LOCATION
- PROPOSED LOG PILES AND BUG HOTELS

PLANTING SCHEDULE

Proposed native treelines	Specification	Spacing (m CTR)	Total no.	Comments	Establishment Maintenance Period 18 months	Management year 1.5 -5
Salix pentandra	RB Feathered 1.5 - 2m		10	Notchet deciduous planting plants to be inspected after year 1 Monthly checks Trees to be pruned in the dormant season Trees checked in each instance and removed if necessary Water heavily during prolonged dry weather Weed removal at base of the hedge across the lifetime	Defectives to be pruned as at above and left to decompose in hedgerows. Trees and staking to be removed at end of establishment period. Hedgerows to be managed annually	
Prunus spinosa	HB Feathered 1.5 - 2m		11			
Malus sylvestris	RB Feathered 1.5 - 2m		10			
Fraxinus excelsior	RB Feathered 1.5 - 2m		8			
Corylus avellana	RB Feathered 1.5 - 2m		10			
Crataegus monogyna	RB Feathered 1.5 - 2m		14			
Total			64			

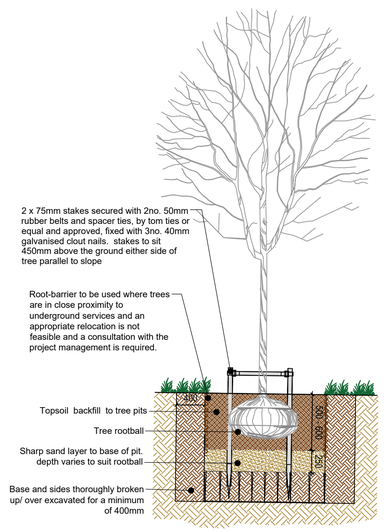
Proposed wet woodland	Specification	Spacing (m CTR)	Total no	Comments	Establishment Maintenance Period 18 months	Management year 1.5 -5
Alnus glutinosa	HB Feathered 1.5 - 2m		33	To be planted in groups with alternative species	Defective deciduous plants to be replaced after year 1 Monthly checks Trees to be pruned in the dormant season Checked regularly and removed if necessary Water heavily during prolonged dry weather Weed removal at base of tree Fertilise around the base of tree	Every 2 years check to see if staking is necessary to be kept away from overhead lines. Trees and staking to be removed at end of establishment period. Trees are properly mulched annually
Betula pubescens	OR Whip 1.0 - 1.2m tall		2			
Crataegus monogyna	RB Whip 1.0 - 1.2m tall		12			
Ilex aquifolium	HB Whip 1.0 - 1.2m tall		12			
Quercus robur	HB Feathered 1.5 - 2m		34			
Salix cinerea	HB Whip 1.0 - 1.2m tall		1			
Salix fragilis	RB Whip 1.0 - 1.2m tall		1			
Total:			114			

Proposed wet woodland (understorey)	Specification	% in mix	Area (m2)	Planting density (plants/ m2)	Total no.
Carex pendula	10cm pot	15	2833	1	425
Filipendula ulmaria	10cm pot	25			708
Iris pseudacorus	10cm pot	25			708
Luzula sylvatica	10cm pot	10			283
Mentha aquatica	10cm pot	25			708
Total:					2834

Proposed native lowland grassland	Sowing Rate (grams / m)	% in mix	Total Area (m2)	Total No. (kg)	Comments	Establishment Maintenance Period 18 months	Management year 1.5 -5
EQ85 Wetland Wet Flora (Geotextile - coated as provided by an approved supplier)	1.5	100	3521	5.28	To be sown on internal existing topsoil. Avoid a 10 metre exclusion zone to ground water to choose soil	Cut 1 - 2 times per year as required. Follow a Pollard pollinator friendly cutting regime to encourage flowers	

Proposed native grassland	Sowing Rate (grams / m)	% in mix	Total Area (m2)	Total No. (kg)	Comments	Establishment Maintenance Period 18 months	Management year 1.5 -5
WFB3 Bird Attracting Wildflowers as provided by an approved supplier	1	100	4826	4.83	To be sown on internal existing topsoil. Avoid a 10 metre exclusion zone to ground water to choose soil	Cut 1 - 2 times per year as required. Follow a Pollard pollinator friendly cutting regime to encourage flowers	

TREE PLANTING DETAIL



Ecological landscape proposals strategy:

In order to offset the loss of 25 trees and 0.09ha of amenity grassland for the development, the below measures and additional habitat creation are proposed. The recommendations are in line with Irish Water's Biodiversity Guidelines IW-AMT-GL-021.

Treelines
It is proposed to create new treelines along the proposed access truck access track in the west of the site. Proposed species for treelines along the new track: Rowan (*Sorbus aucuparia)*, Wild Cherry (*Prunus avium)*, Silver Birch (*Betula pendula)*, Scots pine (*Pinus sylvestris)*, Elder (*Sambucus nigra)*, Pedunculate oak (*Quercus robur)*

Wet Woodland
It is proposed to create a wet woodland to the north of the site. Presently, this area is encroached with the invasive Giant Hogweed. However, treatment is ongoing and it is expected that once construction is complete and it is time to implement landscaping measures, the area will be free of invasive plants.

Planting a wet woodland in this area will provide new habitat and competition against re-encroachment of invasive species. The woodland will also potentially provide a degree of flood relief for the site as it will be planted within the flood zone and will slow surface water run-off rates from the site, thus contributing to SUDS drainage action within the site.

The following species are proposed for the woodland, which is based on species that are present in the local area and typical species found in **Wet pedunculate oak-ash woodland (WN4)** (Fossitt 2000). This type of woodland is associated with areas that are flooded or waterlogged in winter but which dry out in summer. It occurs on periodically-flooded alluvial sites that are well above the limits of regular inundation.

Pedunculate oak (*Quercus robur)* - 30%
Alder (*Alnus glutinosa)* - 20%
Grey willow (*Salix cinerea)*, Goat willow (*Salix caprea)*, Hawthorn (*Crataegus monogyna)*, holly (*Ilex aquifolium)* and Hazel (*Corylus avellana)* - 50%.

Additional understory and ground-flora species that should be considered include the following native wetland species will be planted to include:

Flag iris (*Iris pseudacorus)*, Great wood-rush (*Luzula sylvatica*), Pendulous sedge (*Carex pendula*), Water mint (*Mentha aquatica)*, Meadowsweet (*Filipendula ulmaria)*.

Grasslands
Grassland areas to the north of the side will remain under their current low maintenance regime of two cuts a year.

Bat Boxes
At least 4 bat boxes will be placed on suitable trees along the eastern and western boundaries of the site, in agreement with a qualified ecologist.

Bird Boxes
It is proposed to place a swift box on the north-eastern façade of the northern building within the site, underneath an overhang, approximately 5m from the ground. Yearly maintenance in the form of cleaning, outside of nesting season, may be required.
It may be possible to install an electronic 'caller' under licence from the NPWS to attract swifts to the nest.

Additional Measures
Dead wood piles can be created in suitable areas of the site from the trees being felled.
Bug hotels will be placed on trees adjacent to wildflower areas, for cavity-nesting bees.

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Project
Castletroy WwTP

Title
Ecological Landscape Proposals

for

Client
Irish Water

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