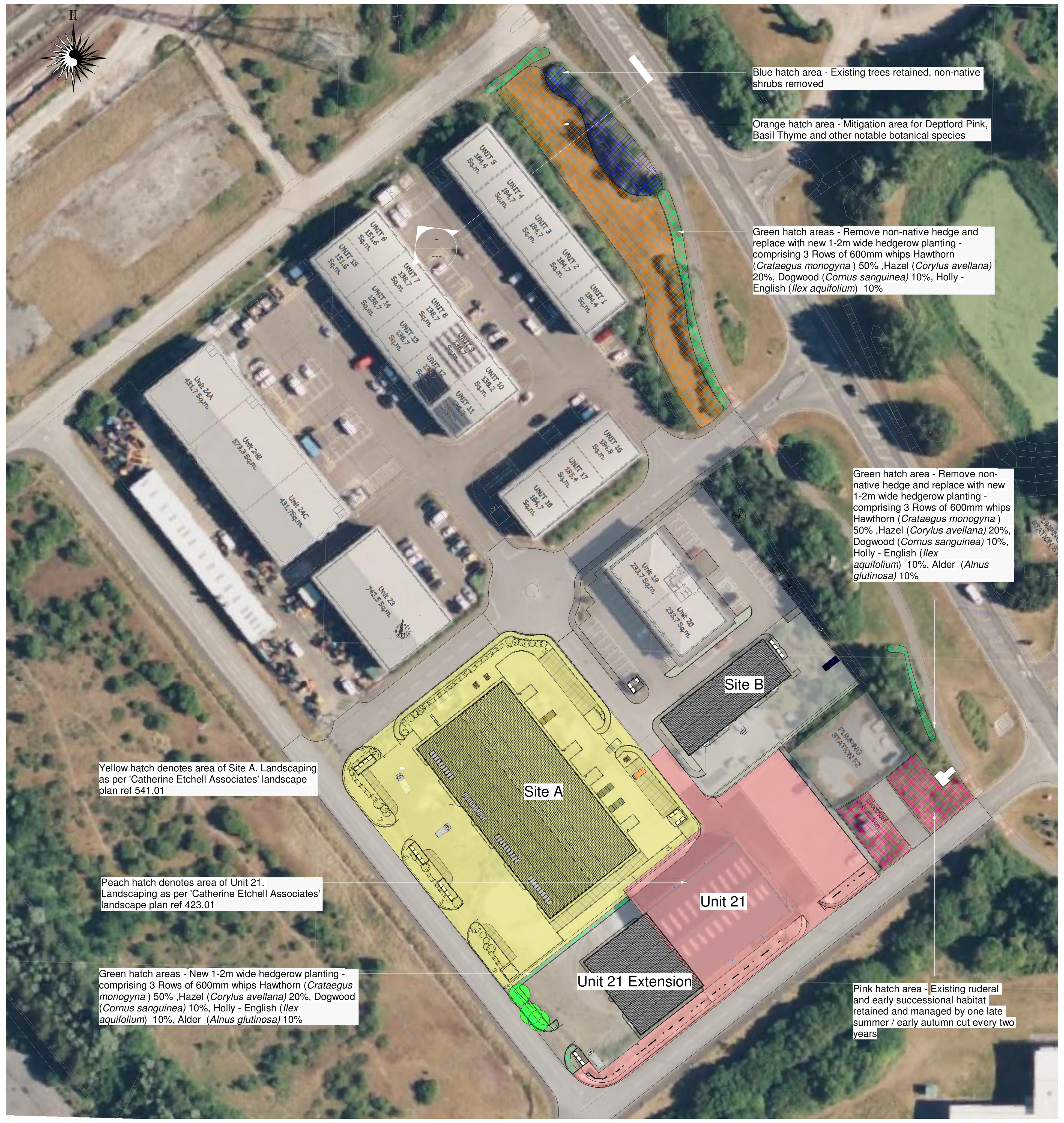
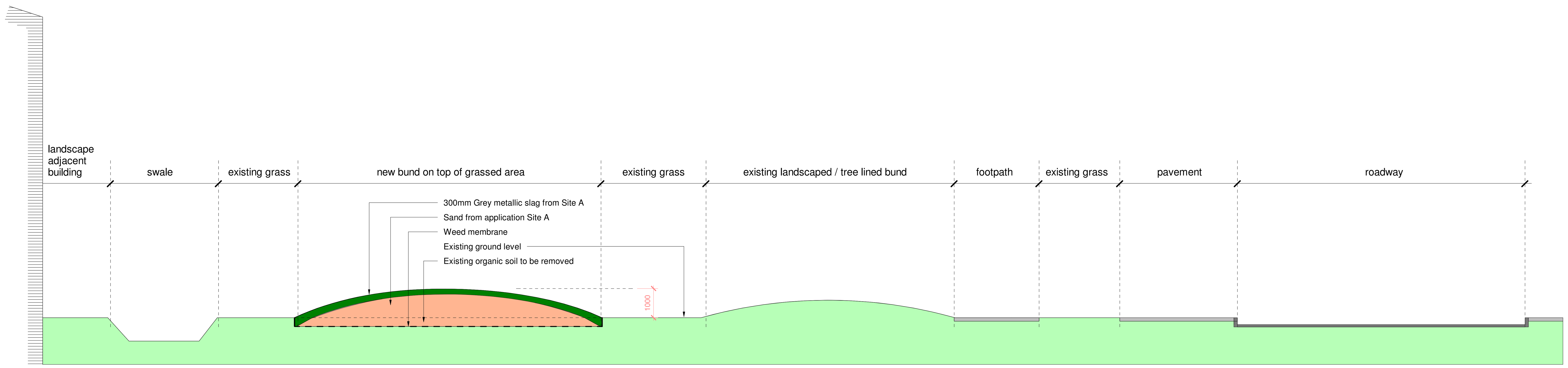


ECOLOGY PLAN

1 : 1000

TREE — Common Alder *(Alnus Glutinosa)* Rootballed - refer to approved drawing ref: 423.01 for Unit 21 for planting detail

PLANTING KEY



SECTION

1 : 100

Planting Specification

• Tree locations are subject to confirmation of engineering and foundation details. Foundations shall comply with guidelines set by structural engineering consultants, and shall accommodate immediate and future impact of tree or shrubs on buildings and their foundations.

• The landscape contractor is to make him/herself aware of any underground services prior to planting.

• Any proposed substitutions, whether species, cultivar, pot size or other specification, must be approved by landscape architect prior to planting;

• Any significant layout changes necessitating revised details (such as new retaining walls casting shade on planting beds) should be reported to the landscape architect;

• All container grown stock to be in peat-free compost;

• All native stock to be of local provenance;

• All Nursery Stock to comply with BS3936 Part 1:1992 and all subsequent amendments;

• All Landscape operations to comply with BS4428:1989 and all subsequent amendments;

• All soils to be site-won. All topsoil and subsoil to be stored in separate, non-overlapping mounds and topsoil should be stripped from any areas used for subsoil storage. The minimum amount of compaction should be applied when forming soil storage mounds, they should not be driven across. Topsoil mounds should be no greater than 2m in height and subsoil mounds should be no higher than 3m;

• The protection of topsoil and subsoil for planting areas should accord with the Construction Code for the Sustainable Use of Soils on Construction Sites (DEFRA, 2009), BS 3882:2015 and BS 8545:2014;

• Great care must be taken to preserve existing soil quality and integrity. The planting beds will be tyne-ripped to relieve any compaction due to construction works and to ensure the substrate to receive the subsoil is free draining;

• Hedge planting areas to be spread with topsoil to a depth of 300mm for planting beds, above 300mm subsoil; topsoil allowed to settle prior to planting;

• Tree planting areas to be spread with topsoil to a depth of not less than 300mm above 700mm subsoil; topsoil allowed to settle prior to planting;

• Tree pits to be excavated to minimum 1m x 1m x depth of rootball. In sloping ground, maintain horizontal bases and vertical sides with no less than minimum depth throughout. Break up bottoms of pits to a depth of 150mm and scarify sides.

• Tree supply, planting and aftercare must accord with BS 8545:2014. All non-biodegradable wrappings, cages etc. to be completely removed on planting. Biodegradable wrappings also to be removed, but may, where root-ball collapse is a concern, be cut and peeled back to no less than one-third root-ball height;

• Containerised trees to be staked with short double stakes, maximum height one quarter the height of the tree, secured with biodegradable hessian tree ties'

• All rootballed trees to be anchored underground with Greenleaf Rootball Fixing System;

• All trees to be planted with Greenleaf 'Root Rain Urban' watering pipes, fitted according to manufacturer's instructions;

• All planting to receive Green-Tech Mycorrhiza Rootgrow, either as dry granule (container planting areas) or root dipping gel (bare root planting). Application according to manufacturer recommendation;

• All planting beds (but not tree pits) to receive peat-free compost during cultivations at a rate of 1m3 to 20m2 and slow release fertiliser (e.g. Ficote 140) at rate of 25g/plant; beds to be thoroughly watered following planting and before mulching

• Native hedges to be planted in double staggered rows at 5/linm; all hedges to be planted a minimum of 400mm from adjacent kerb line or wall foundations.

• All soils allowed to settle for at least one week prior to planting, and then topped up as necessary;

• Settled soils to have a slightly raised profile in centre of bed, with gentle falls towards kerbs of paving;

• Hedgeline to be mulched. Bark mulch to be dark brown mixed conifer bark of particle size 8-35mm and pH range 5.0-7.0 to BS PAS 100:2005; mulch to be laid to 75mm (settled) depth;

• Watering to continue as required throughout first growing season following planting;

• Excessive concrete haunching to kerbs or excessive concrete to wall foundations to be reported to site manager for removal prior to planting.

• Any poor site or soil preparation or conditions to be reported to site manager for remediation prior to planting.

Aftercare of proposed planting

Aftercare during establishment and prior to start of Maintenance Contract (Refer to Morgan Henshaw Management Plan):

Operations shall include:
• Litter clearance;
• Watering;
• Control of insects, fungus and other diseases;
• Control of weeds;
• Pruning and trimming;
• Mowing;
• Refirming and other operations necessary for proper growth; and
• Regular checking and repair / removal of tree guys/stakes and ties as necessary.

number of visits to site
Sufficient visits must be made to site over the maintenance period and at the appropriate time in order to achieve the standard of maintenance described. A minimum of 24 visits will be required per year, with additional visits during drought or after strong winds or other disturbances.

health & safety legislation
All operations must comply with relevant sections of the following legislation:
• Health and Safety at Work Act 1974;
• Control of Pollution Act 1974;
• Food and Environment Protection Act 1985;
• The Wildlife and Countryside Act 1981; Schedule 9 Section 14 makes it an offence for anyone to knowingly introduce Japanese Knotweed into the wild.
•The Control of Pesticides Regulations 1986; these regulations require all those who handle or use pesticides (including herbicides) to hold approved Certificates of Comptetence. Only approved pesticides as covered under this Act may be used.
• The Environmental Protection (Duty of Care) Regulations 1991; these regulations require all producers, carriers and disposers of waste to follow a Code of Practice and keep records. Any material contaminated with Japanese Knotweed is a 'waste' unless treated for re-use.
• The Health and Safety (First Aid) Regulations 1981; and
• Guidance notes produced by the Health and Safety Executive with respect to safe working practices.

generally

REINSTATEMENT
Reinstate disturbance to soil structure, mulch or planting to original condition

CONTROL OF PESTS
Combat any attack by mammals/fungus/insect/other pests.
Submit proposals for control method to CA for approval

WATERING
Supply: Potable mains water.
Quantity: Draw back mulch and wet full depth of topsoil.
Application: Do not damage or loosen plants.
Compacted soil: Loosen or scoop out, to direct water to root zone.
Frequency: as often as necessary to maintain healthy plant growth.

DISPOSAL OF ARISINGS
Remove from site to approved tip.
Compostable material to be removed to Local Authority recycling collection point.

LITTER/TIPPED MATERIALS
Collect and remove from site.

INVASIVE SCRUB
Consider ecological value and only remove if unsuitable location

KNOTWEED
Appearance of knotweed should be reported to CA for instruction.

PROTECTION OF PAVED AREAS
Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on paving.

CLEANLINESS
Soil and arisings: Remove from hard surfaces.
Leave the works in a clean, tidy condition at completion and after any maintenance operations.

PEDESTRIAN ACCESS
Wherever works impede pedestrian or vehicular access the Contractor shall provide and maintain safe alternative routes alongside the affected work area trees and shrubs

REFIRMING OF TREES AND SHRUBS
Timing: After strong winds, frost heave and other disturbances.
Refirming: Tread around the base until firmly bedded.
Collars in soil at base of tree stems, created by tree movement: Break up by fork, avoiding damage to roots. Backfill with topsoil and refirm.

Ensure trees are vertical and adjust tree guys, stakes or ties as necessary.

Ensure that stakes are self supporting and reduce in height by one third each year to complete removal at end of third year. Adjust tie and spacer to top of stake. Ensure stakes do not come into contact with tree directly. If sufficient anchorage has not been established at the end of the third year then tree is to be replaced.

Loosen off tree ties regularly to accommodate new growth.

WATERING
During establishment and for duration of maintenance period ensure that sufficient water is applied using a hose to maintain healthy growth. During very dry summer spells, trees to be watered at rate of 10L per plant per week during establishment. Where watering tube is not fitted, draw back mulch and water with hose. Do not use sprays or sprinklers as these just wet the top of the mulch and do not penetrate the root zone.

PRUNING
In accordance with good horticultural and arboricultural practice and at appropriate season for the type of plant. Prune to remove dead, dying or diseased wood and to promote healthy growth.
Removing branches: Do not damage or tear the stem.
Wounds: Keep as small as possible and cut cleanly back to sound wood.
Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
Disease or fungus: Give notice if detected.
Growth retardants, fungicide or sealant: Do not use unless instructed.
Compostable material to be removed to site composting location; excess material removed to Local Authority recycling collection point.
co
FORMATIVE PRUNING OF YOUNG TREES
Time of year: Do not prune during the late winter/early spring sap flow period.
Young trees up to 4 m high:

• Crown prune by removing dead branches and reducing selected side branches by one third to preserve a well balanced head and ensure the development of a single strong leader.

• Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.

FAILURES OF PLANTING: Plants which have failed to thrive, which are apparent during the maintenance period,may be made good by replanting at discretion of the CA. Review the reason for failure to inform consideration of selecting alternative species, location or replacement soil as directed by CA.

HORTICULTURAL CHEMICALS
Use to be resisted. Seek approval for use from CA. Are to be used strictly in accordance with the manufacturer's latest written instructions and current government regulations and shall only be used by persons holding the relevant NPTC certificate of competence.

HEDGES
• New hedge to be cut in late winter/early spring to promote a strong and well-balanced framework, encouraging A-shaped profile, cutting the current seasons growth. Hedge to be allowed to grow to 1.5m before receiving a first light trim; sides to be trimmed to encourage upward growth.

Tall, thick hedgerows are of more value to wildlife than low overly-managed hedges, and provide better screening and softening of the built landscape.

Once mature, hedges are to be cut only once every three years in rotation i.e. no more than one third of hedges in any one year.

Such hedges will produce larger flower and fruit crops.

Retain outgrowths of bramble or field rose clumps at the side, as they provide excellent cover and nesting opportunity, and are a good food source. Manage edges of clumps so that they do not invade adjacent footpaths or compromise boundary treatments.

wildlife habitat
Wildlife-friendly practices are to be encouraged as part of a developing ecological balance to support interconnected communities of birds, water creatures, insects and mammals. The site has the potential to provide a complex variety of food and shelter opportunities such as pollen and nectar, seeds and berries, nesting sites in undergrowth and habitat under stones, winter cover including for example ornamental seed head and stems left on through the winter, of value to overwintering insects. The self-colonising areas iare to be allowed to develop naturally with minimum intervention. Natural succession is to be allowed to occur with area permitted to scrub over in initial years.

compost heaps
Cut plant material is to be used to form compost heaps and habitat piles behind the hedge. This provides ideal habitat for a variety of reptiles and other creatures. Excess quantities larger than can be accommodated are to be removed to Local Authority Collection Point.

Ecology mitigation strategy and maanagement summary

Refer to Ecology Report for full proposals

Summary of mitigation and compensatory options to reduce the impact include the following:

• Creation of an appropriate mitigation area that will enable those rare and protected species listed to be safeguarded, notably Deptford Pink and Basil Thyme. It is essential that a suitable substrate is created in order to provide favourable conditions for these and associated species. It is recommended that translocation of the existing surface substrate along with its established vegetation is translocated to suitable receptor areas with a similar base substrate (i.e. very low nutrient status slag with minimal organic matter). Seed of key species should be sown onto the area in the appropriate season. Note that a licence will be required to affect any works associated with the legally protected Deptford Pink.

• Retention and management of bunds and creation of new low level, flat-top and curved-top bunds requiring an annual cut no earlier than 1st August, with the removal of all arisings.

• Habitat enrichment for Section 7 bumblebee species and the Small Blue butterfly by planting up conservation areas with key forage species, e.g. Kidney Vetch, Narrow-leaved Everlasting-pea, Black Horehound, etc.

• Periodic scrub control and removal of arisings will be essential to maintain species-rich grassland habitats.

• A destructive search for amphibians and reptiles must be undertaken during topsoil stripping with any animals encountered removed safely to retained habitats under the same landownership.

• The presence of wall cotoneaster Cotoneaster horizontalis – an invasive non-native species is considered a threat to the biodiversity of the site which will require appropriate management during re-development of the site.

1. Deptford Pink - licensing advice is being sought from NRW; speciailist contractor will collect and/or supply suitable seed

2. Basil thyme, kidney vetch and other forage species. It is proposed to scrape existing substrate that will hold seed for these species. The substrate will then be translocated to newly created low level bunds. It is expected that this procedure should suffice in terms of stock regeneration, however, plug plant transplants of the key species can be planted as a contingency if required.

3. Twiggy Mullein. Specialist contractor to collect seed from this plant on site for storage and re seeding for the project when required.

4. Sharp rush. Stands of this plant can be translocated to the new drainage swales between the existing and new low level bunds, where they should regenerate.

NOTE:
'THE PLANTING SCHEDULE' AND 'AFTERCARE OF PROPOSED PLANTING' TEXT ADJACENT HAS BEEN REPRODUCED FROM THE PREVIOUSLY APPROVED LANDSCAPE PLANS FOR UNIT 21 AND SITE 'A'

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE 'TRANSLOCATION METHOD STATEMENT: RARE AND PROTECTED PLANTS AT MARDON PARK, BAGLAN, PORT TALBOT. BARRY STEWART, SWANSEA 2023

Rev	Description	Date

STATUS | PURPOSE OF ISSUE

i.m. Design Studio
Chartered Institute of Architectural Technologists Registered Practice
27 Park Avenue, Skewen, SA106RU

PROJECT
Mardon Park
Baglan Energy Park,
South Wales

TITLE
Ecological Enhancement / Landscape Plan

CLIENT
GBV Properties Ltd

DRAWN BY	CHECKED BY	DATE
JM	-	08-07-23

SCALE (@ A1)	PROJECT NUMBER
As indicated	Project Number

DRAWING NUMBER	REV
A1 - A505	