



ECOLOGYSOLUTIONS

Part of the ES Group

LAND OFF SOLENT ROAD,
HAVANT

Biodiversity Net Gain Assessment

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CONTENTS

1	INTRODUCTION	1
2	BIODIVERSITY METRIC 4.0	2
3	RESULTS AND DISCUSSION OF METRIC	3
5	EVALUATION	13
6	SUMMARY AND CONCLUSIONS	16

PLANS

PLAN ECO1	Baseline Habitats
PLAN ECO2	Post-Development Habitats
PLAN ECO3	Retention and Loss

APPENDICES

APPENDIX 1	Landscape Layout Drawing No. 892.10.02. Revision B
APPENDIX 2	Metric 4.0 (Provided Separately)

1. INTRODUCTION

1.1. Background & Proposals

- 1.1.1. Ecology Solutions was commissioned in May 2023 by SLR Consulting Limited on behalf of Portsmouth Water to establish that the proposed development delivers a long-term net gain for biodiversity through the application of the Biodiversity Metric 4.0 Calculation Tool.
- 1.1.2. The proposals are for the construction of a new office building with associated infrastructure and landscaping.
- 1.1.3. The site was most recently surveyed in May 2023 based on extended Phase 1 survey methodology¹, as recommended by Natural England, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail.

1.2. Site Characteristics

- 1.2.1. The site is located adjacent to the north of the Solent Road, within the southwest of Havant. It is bounded to the south, east and west by existing industrial and residential development. Two large ponds and open green space associated with the Portsmouth Water buildings are present to the north, with residential development beyond.
- 1.2.2. The site comprises a field of modified grassland. An area of hardstanding, previously used as a tennis court, is present in the northeast of the site, with surrounding scrub. Tree lines form the southern and western boundaries. A stream is present on the northern boundary.

1.3. Biodiversity Net Gain Report

- 1.3.1. This document assesses the level of Biodiversity Net Gain within the site. This report has been prepared with due consideration to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)²³ in relation to Biodiversity Net Gain. This assessment is based on the results of the habitat surveys completed, as set out in the Ecological Assessment.

¹ Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.

² CIEEM (2019). *Biodiversity Net Gain. Good Practice Principles for Development, A Practical Guide*.

³ CIEEM, CIRIA, IEMA (2016). *Biodiversity Net Gain: Good Practice Principles for Development*.

2. BIODIVERSITY METRIC 4.0

- 2.1. The Biodiversity Metric 4.0 was released on 24 March 2023 and uses habitat features as a proxy measure for capturing the value and importance of nature. It uses calculations to assess the importance of each habitat based on its size, ecological condition and location.

2.2. Methodology

- 2.3. Measurements for habitats pre-development were calculated using QGIS. Assessments regarding the habitats present, as well as their condition, were based on information gathered during survey work.
- 2.4. Measurements for the post-development situation were calculated using the 'Site Plan As Proposed' DWG. NO 23002 – TP – 003. Rev L. (14/10/2020) red line provided by Cornish Architects, in addition to the 'Planting Layout" Plans DWG NO 892-19-02 B South, DWG NO 892-29-02 B West, and DWG NO 892-39-02 B East.

3. RESULTS AND DISCUSSION OF METRIC

3.1. This section should be read in conjunction with the Biodiversity Metric calculation tool which has been provided separately.

3.2. Baseline Habitat (Pre-Development)

3.2.1. Table 3.1 below summarises the habitats present on site pre-development. A baseline total of 3.78 habitat units and 1.67 hedgerow units are present within the site pre-development (see Plan ECO1).

3.2.2. Habitats were classified based on their conformity to UK habitat classifications⁴ and condition assessments were completed for habitats, hedgerows identified within the site. A River Condition Assessment (RCA) was not completed for this site with the watercourse to be unaffected by the proposed scheme.

3.2.3. The Biodiversity Metric 4.0 User Guide⁵ and Technical Annex 1⁶, in addition to professional judgment were used to inform the habitats' condition criteria.

⁴ Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). *UK Habitat Classification – Habitat Definitions V1.1* at <http://ukhab.org>.

⁵ Natural England (2023). *The Biodiversity Metric 4.0, User Guide*, Natural England Joint Publication JP039.

⁶ Natural England (2023). *The Biodiversity Metric 4.0 – Technical Annex 1: Condition Assessment Sheets and Methodology*, Natural England Joint Publication JP039.

Baseline habitat / Hedgerow	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score		Condition	Condition Notes	After Works
Modified Grassland	2.33	Grassland Low Distinctiveness.		Poor (6 / 7 condition criteria passed = Moderate) Failure of A which is essential for moderate condition therefore maintain at Poor level	Rough grassland has developed where amenity grassland has been left unmanaged. This habitat has a lack of species diversity to qualify as being of grassland of higher distinctiveness. Fails criteria A therefore cannot meet moderate condition. The proposals will result in the loss of some of the grassland, with the rest to be enhanced with wildflower mix.	1.02 units lost.
		A – 6-8 species per m ² .	Fail			
		B – Sward height is varied.	Pass			
		C – Scrub accounts for less than 20% of area.	Pass			
		D – Physical damage evident in less than 5% of total area.	Pass			
		E – Cover of bare ground between 1% and 5% of total area.	Pass			
		F – Cover of Bracken less than 20%.	Pass			
		G – Absence of invasive non-native species.	Pass			
Modified Grassland	0.53	Grassland Low Distinctiveness.		Moderate (6 / 7 condition criteria passed = Moderate)	This includes areas of amenity grassland and small area of poor semi-improved grassland on site which have been left unmanaged. Habitat also contains frequent or occasional undesirable species such as White Clover <i>Trifolium repens</i> , Creeping Thistle <i>Cirsium arvense</i> and Spear Thistle <i>Cirsium vulgare</i> .	0.18 units lost.
		A – 6-8 species per m ² .	Pass			
		B – Sward height is varied.	Fail			
		C – Scrub accounts for less than 20% of area.	Pass			
		D – Physical damage evident in less than 5% of total area.	Pass			
		E – Cover of bare ground between 1% and 5% of total area.	Pass			
		F – Cover of Bracken less than 20%.	Pass			

Baseline habitat / Hedgerow	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score		Condition	Condition Notes	After Works
		G – Absence of invasive non-native species.	Pass			
Bramble Scrub	0.56	No Assessment Required		N/A	Areas of Bramble scrub associated with the former tennis court and boundary features. This habitat is currently considered to be of low value comprising unmanaged Bramble. This habitat will be lost and replaced with a new native scrub mix which will offer improve diversity and offer greater opportunities for wildlife.	0.36 units lost
Ruderal / Ephemeral	0.04	Tall Ruderal -		Poor (2 / 4 condition criteria passed = Poor)	This small area of ruderal vegetation is predominately Common Nettle. It is associated with the offsite tree line along the south-western boundary.	N/A
		A – The appearance and composition of the vegetation closely matches characteristics of the specific sparsely vegetated habitat type (see UKHab definition linked above). Indicator species for the specific sparsely vegetated habitat type are very clearly and easily visible.	Fail			
		B- Cover of bracken, scrub and trees less than 25%.	Pass			

Baseline habitat / Hedgerow	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score		Condition	Condition Notes	After Works
		C - There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition1 make up less than 5% of vegetated ground cover.	Pass			
		D - Vegetation cover of vascular and non-vascular plants between 5 and 50%.	Fail			
Built Linear Features	0	N/A				N/A
Vacant or derelict land	0.12	Urban – Vacant or derelict land		Poor (0/3 condition criteria passed = Poor)	Area of hardstanding formerly a tennis court.	0.12 units lost
		A – Varied vegetation structure, providing opportunities for insects, birds, bats to live and breed. No single ecotone accounts for 80% or more of total habitat.	Fail			
		B – Diverse range of flowering species that are beneficial to wildlife.	Fail			
		C – Invasive non-native species cover less than 5% of total vegetated area.	Fail			
Individual Trees	0.2	Individual Trees		Poor	The trees to be lost are associated with the former tennis court.	0.15 units lost.
		A – The tree is a native species.	Pass			
		B – The tree canopy is predominantly continuous.	Fail			

Baseline habitat / Hedgerow	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score		Condition	Condition Notes	After Works
		C – The tree is mature or veteran.	Fail	(2 / 6 condition criteria passed = Poor)	All trees fail on several criteria such as not having a continuous canopy and not being mature or veteran trees.	
		D – There is little to no evidence of adverse impacts as a result of anthropogenic activities.	Pass			
		E – Micro-habitats for birds mammals and insects are present.	Fail			
		F – More than 20% of the tree canopy is oversailing vegetation beneath	Fail			
Native Hedgerow	1.35			Good	A native hedgerow in the southeast of the site. The hedgerow is dominated by Hawthorn <i>Crataegus monogyna</i> . The hedgerow is to be lost to the development.	1.35
		A1 - >1.5 m average along length	Pass	No more than 2 failures in total; AND no more than 1 in any functional group.		
		A2 - >1.5 m average along length	Pass			
		B1 - Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	Pass			
		B2 - Gaps make up <10% of total length and No canopy gaps >5 m	Pass			
		C1 - >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and - is present on one side of the hedge (at least)	Pass			

Baseline habitat / Hedgerow	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score		Condition	Condition Notes	After Works
		C2 - Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	Fail			
		D1 - >90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Pass			
		D2 - >90% of the hedgerow or undisturbed ground is free of damage caused by human activities	Pass			
Ecologically valuable line of trees	0.32	Ecologically valuable line of trees		Poor (1/5 condition passed = Poor)	The Tree line is located along the southern boundary. It is dominated by Silver Birch. Ash, Wild Cherry Norway Maple, Leyland Cypress and Horse-chestnut were recorded rarely. The tree line is broken in places with large stands of Bramble scrub. The majority of the tree line will be retained, with new native tree species planted as well as new native mixed scrub will be planted beneath the tree line to improve the structure and diversity of the green infrastructure along the boundary of the site.	0.07 hedgerow units lost
		A – More than 70% native species.	Fail			
		B – The tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide.	Fail			
		C – Includes one or more mature or veteran tree.	Pass			
		D – There is an undisturbed naturally vegetated strip of at least 6m on both sides to protect the line of trees from farming and other anthropogenic operations.	Fail			

Baseline habitat / Hedgerow	Baseline Biodiversity Units	Condition Criteria / Pass or Fail / Indicator Score		Condition	Condition Notes	After Works
		E – At least 95% of the trees are in healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests, disease or human activity.	Fail			

Table 3.1 Summary of baseline habitats and hedgerows.

3.3. Post-Development

- 3.3.1. Table 3.2 below summarises the habitats that will be present on-site post-development. The information included within this table is based on information and plan provided (see Appendix 1). The table is split into two sections: the first section are habitats that will be created; and the second section relates to existing habitats that will be enhanced.
- 3.3.2. Overall, there is an increase of 2.52 biodiversity units which results in a gain of +66.76% for habitat units.
- 3.3.3. There is also a linear gain for hedgerow habitats of 1.32 units which results in a gain of +78.69% for hedgerow units.
- 3.3.4. The targeted conditions for proposed habitats will be achieved through appropriate management undertaken during the operational phase of the proposals. This will ensure that the proposed habitats continue to offer biodiversity benefit in the future.

Trading Rules

- 3.3.5. The proposed development satisfies all trading rules meeting all requirements for habitats of varying distinctiveness from pre- and post-development.

Created Habitats				
Proposed Habitat	Landscape Plan Habitat	Target Condition	Biodiversity Units Delivered	Target Condition Notes
Other Neutral Grassland	Wildflower and Grass Mix	Moderate	0.22	A small area of grassland will be lost and subsequently replaced with Wildflower and Grass Mix. It is considered that a proposed condition of Moderate is appropriate. The grassland will be a good representation of Other Neutral Grassland and comprise a varied sward length. There will be no bare ground, nor bracken present within this habitat and the combined cover of species indicative of sub-optimal condition and physical damage will account for less than 5% of the area. This will result in at least 4/6 condition criteria being satisfied, including essential criterion A, thus meeting Moderate condition.
Introduced Shrub	Plant Bed	Condition Assessment N/A	0.22	These areas of introduced shrubs are situated within the immediate surroundings of proposed development.
Heathland and shrub	Mixed Scrub	Moderate	0.21	Mixed scrub created near to the southern treeline. It is considered that a proposed condition of Moderate is appropriate. Five woody native species will be planted. There will be no invasive non-native species. There will be a good age range with new planting interspersed within existing scrub and mature trees. It will satisfy at least 3/5 of the condition criteria.
Developed Land; Sealed Surface	N/A	N/A	0	This area includes the proposed building and associated hardstanding.
Urban Tree	Semi-Mature Tree Planting	Poor	0.55	A total of 29 small native trees including Field Maple, Alder, Hornbeam, Bird Cherry, Rowan, Small-leaved Lime, Beech and 19 small non-native trees including River Birch, Tulip-tree, Flowering Cherry Tree, Caucasian Walnut, Hungarian Oak, Cardinal Royal Rowan will be planted throughout the site.
Created Hedgerows				
Proposed Habitat	Landscape Plan Habitat	Target Condition	Biodiversity Units Delivered	Target Condition Notes
Native Hedgerow with trees	Hedgerow	moderate	0.32	New Native Hedgerows with Trees are proposed close to the development. Beech with Hornbeam/Field Maple trees.

				It is considered that a proposed condition of Moderate is appropriate. The hedgerows will be greater than 1.5m in width along length. There will be continuity of canopy. Once planted, the base of the hedgerow will be undisturbed. There will be no invasive or neophyte species. At least 95% of hedgerow trees are in a healthy condition, unhealthy or dead trees will be replaced. No more than five failures in total and does not fail both attributes in more than one functional group.
Ecologically valuable line of trees	Line of trees	Moderate	0.09	New trees will be added along the existing tree line along the southern boundary.
Non-native and ornamental hedgerow	Hedgerow	Poor	0.04	Species proposed include: Juneberry, Ivy, Holly, Osier, Wayfaring-tree, Cherry Laurel 'Rotundifolia', and Garden Privet.
Species-rich native hedgerow with trees	Hedgerow	Moderate	2.89	Two hedgerows will be in parallel to one another along the length of the car park and access road. These two hedgerows will be distinct and managed separately. Species proposed include: Hazel, Hawthorn, Holly, Blackthorn, Guelder Rose and Buckthorn with Oak, Alder, Field Maple and Bird Cherry Standards. It is considered that a proposed condition of Moderate is appropriate. The hedgerows will be greater than 1.5m in width along length. There will be continuity of canopy. Once planted, the base of the hedgerow will be undisturbed. There will be no invasive or neophyte species. At least 95% of hedgerow trees are in a healthy condition, unhealthy or dead trees will be replaced. No more than five failures in total and does not fail both attributes in more than one functional group.

Table 3.2. Summary of post-development habitats and hedgerows.

4. EVALUATION

4.1. The Principles of Evaluation

Biodiversity Net Gain – Good Practice Principle for Development

- 4.1.1. CIRIA, CIEEM and IEMA have developed principles of good practice to achieve Biodiversity Net Gain. These principles provide a framework that helps improve the UK's biodiversity by contributing towards strategic priorities to conserve and enhance nature through sustainable development. There are ten principles in total, and all principles must be applied together as one approach. The ten principles are set out below.
- 4.1.2. **Principle 1. Apply Mitigation Hierarchy.** Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision makers where possible, compensate for losses that cannot be avoided. If compensation for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.
- 4.1.3. **Principle 2. Avoid losing biodiversity that cannot be offset by gains elsewhere.** Avoid impacts on irreplaceable biodiversity; these impacts cannot be offset to achieve no net loss or net gain.
- 4.1.4. **Principle 3. Be inclusive and equitable.** Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to net gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.
- 4.1.5. **Principle 4. Address risks.** Mitigate difficulty, uncertainty and other risks to achieving Net Gain. Apply well accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.
- 4.1.6. **Principle 5. Make a measurable net gain contribution.** Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.
- 4.1.7. **Principle 6. Achieve the best outcomes for biodiversity.** Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly-justified choices when:
- Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses.
 - Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation.
 - Achieving net gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels.
 - Enhancing existing or creating new habitat.

- Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity.

4.1.8. **Principle 7. Be additional.** Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).

4.1.9. **Principle 8. Create a net gain legacy.** Ensure net gain generates long-term benefits by:

- Engaging stakeholders and jointly agreeing practical solutions that secure net gain in perpetuity.
- Planning for adaptive management and securing dedicated funding for long-term management.
- Designing net gain for biodiversity to be resilient to external factors, especially climate change.
- Mitigating risks from other land uses.
- Avoiding displacing harmful activities from one location to another.
- Supporting local-level management of net gain activities.

4.1.10. **Principle 9. Optimise sustainability.** Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.

4.1.11. **Principle 10. Be transparent.** Communicate all net gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

Lawton's Principle

4.1.12. Principles for enhancing England's wildlife sites were developed as part of the Lawton Review⁷. Across the UK, these principles can be used to design Biodiversity Net Gain activities to boost wildlife sites. They are:

- Improving the quality of wildlife sites;
- Increasing the size of the wildlife sites;
- Enhancing connections between, or joining up wildlife sites;
- Creating new wildlife sites; and
- Reducing pressure on wildlife sites.

4.2. Post-Development Evaluation

4.2.1. The site's contribution to Biodiversity Net Gain has been assessed with due regard to the principles outlined and discussed above.

4.2.2. The landscape strategy includes a variety of species-rich habitats and will comprise urban trees, native hedgerows, species-rich grassland and ornamental planting closer to the proposed building and facilities. Provision of these new habitats will mitigate for the losses of habitats within the site and provide net benefit and new opportunities for wildlife.

⁷ Department for Environment, Food and Rural Affairs (2010). *Making Space for Nature: A Review of England's Wildlife Sites*, DEFRA.

Site Baseline	Habitat Units	3.78
	Hedgerow Units	1.67
Post-intervention	Habitat Units	6.31
	Hedgerow Units	2.99
Total Net Unit Change	Habitat Units	2.52
	Hedgerow Units	1.32
Total Net Percentage Gain	Habitat Units	+66.76%
	Hedgerow Units	+78.69%

Table 4.1. Summary of Biodiversity Net Gain results.

- 4.2.3. Havant Borough Council require developments to deliver at least a 10% gain as set out in the Environment Act 2021, a threshold which is expected to become mandatory in November 2023. The Biodiversity Net Gain Assessment concludes that the net gain for the proposed development is above this for habitat units and hedgerow units.
- 4.2.4. The level of habitat gain demonstrates that the proposals have incorporated significant landscaping, thereby improving the biodiversity value of the site. The creation of the double hedgerow will offer an increase in the diversity of habitats within the site, improve green infrastructure and enhance connectivity to existing open green space to the north of the site.
- 4.2.5. The site proposals deliver opportunities for bats, birds and invertebrates through the provision of new species-rich wildflower grassland, trees and native and ornamental scrub, delivering net gains.
- 4.2.6. In addition to the landscaping, it is recommended that a number of bat boxes and bird boxes are installed on suitable retained trees across the site to increase nesting / roosting opportunities offering further enhancements that are not taken account of through the Biodiversity Metric.

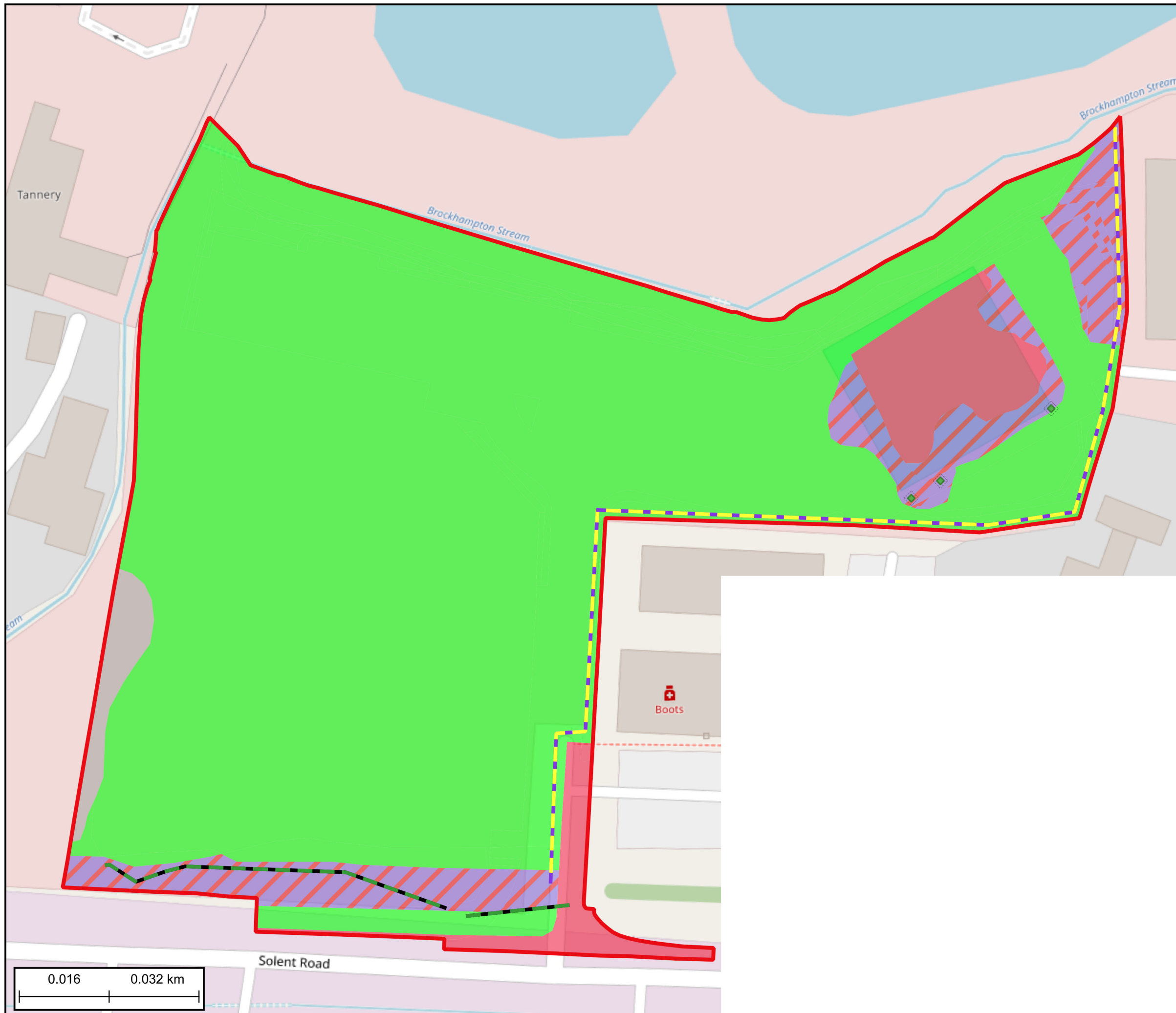
5. SUMMARY AND CONCLUSIONS

- 5.1. Ecology Solutions was commissioned in May 2023 by SLR Consulting Limited on behalf of Portsmouth Water to establish that the proposed development delivers a long-term net gain for biodiversity through the application of the Biodiversity Metric 4.0 Calculation Tool.
- 5.2. The proposals are for the construction of a new office building with associated infrastructure and landscaping.
- 5.3. The Biodiversity Metric 4.0 was used to calculate the pre-development baseline units. A total of 3.78 baseline habitat units and 1.67 hedgerow units are present pre-development on-site. The proposed development will achieve an increase of 66.76% in habitat units and an increase in hedgerow units of 78.69%.
- 5.4. The landscape scheme has been designed to ensure that gains for biodiversity are achieved. Proposals will increase the floristic diversity across the site, which in turn will attract a greater diversity of invertebrates, nesting and foraging opportunities for bats, and an increase of foraging and dispersal opportunities for birds. The landscape proposals will improve the green infrastructure running through the site.
- 5.5. The Biodiversity Net Gain Assessment concludes that the net gain for the proposed development is in excess of 10% for habitat units and hedgerow units and hence complies with planning policy and emerging legislation.

PLANS

PLAN ECO1

Baseline Habitats



KEY:

- RED LINE BOUNDARY
- BRAMBLE SCRUB
- BUILT LINEAR FEATURES
- MODIFIED GRASSLAND
- RUDERAL/EPHEMERAL
- VACANT OR DERELICT LAND
- ECOLOGICALLY VALUABLE LINE OF TREES
- NATIVE HEDGEROW
- SMALL TREE



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11527: LAND OFF SOLENT ROAD,
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PLAN ECO1: BASELINE
HABITATS

Rev: A
Aug 2023

PLAN ECO2

Post-Development Habitats

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- KEY:**
- RED LINE BOUNDARY
 - NON-NATIVE AND ORNAMENTAL HEDGEROW
 - ECOLOGICALLY VALUABLE LINE OF TREES
 - NATIVE HEDGEROW
 - SPECIES-RICH NATIVE HEDGEROW
 - DEVELOPED LAND; SEALED SURFACE
 - INTRODUCED SHRUB
 - MIXED SCRUB
 - OTHER NEUTRAL GRASSLAND
 - RUDERAL/EPHEMERAL
 - PROPOSED SMALL URBAN TREE

Based on Terry Anderson
Landscape Architects Drawing:
Havant Landscape Layout
892-10-02B



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PLAN ECO2:
POST-DEVELOPMENT HABITATS

Rev: A
Aug 2023

PLAN ECO3

Retention and Loss



KEY:

 SITE BOUNDARY

HABITAT RETENTION

 ENHANCED

 RETAINED

 LOST

HEDGEROW RETENTION

 ENHANCED LINE OF TREES

 LOST HEDGEROW



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PLAN ECO3:
RETENTION AND LOSS

Rev: A
Aug 2023

APPENDICES

APPENDIX 1

Landscape Layout Drawing No. 892.10.02. Revision
B



PLANT SCHEDULES

TOTAL TREES	SIZE (girth)	FORM	SUPPORT	TREEPIT
19 Acer campestre	16-18	Clear Stem	Single	1.0x1.0x0.75m deep
7 Alnus glutinosa	30-35	Clear Stem	Triple	1.5x1.5x0.9m deep
5 Betula nigra	3.0-3.5m ht	Multistem	Oblique	1.0x1.0x0.75m deep
10 Carpinus betulus	18-20	Clear Stem	Triple	1.2x1.2x0.9m deep
8 Fagus sylvatica	16-18	Feathered	Oblique	1.0x1.0x0.75m deep
1 Liriodendron tulipifera	20-25	Clear Stem	Triple	1.2x1.2x0.9m deep
2 Prunus avium "Plena"	20-25	Clear Stem	Triple	1.2x1.2x0.9m deep
8 Prunus padus	16-18	Clear Stem	Single	1.0x1.0x0.75m deep
6 Pterocarya fraxinifolia	3.5-4.0m ht	Multistem	Oblique	1.2x1.2x0.9m deep
5 Quercus frainetto	16-18	Clear Stem	Single	1.0x1.0x0.75m deep
7 Quercus robur	14-16	Feathered	Oblique	1.0x1.0x0.75m deep
2 Sorbus "Cardinal Royal"	18-20	Clear Stem	Triple	1.2x1.2x0.9m deep
2 Sorbus aucuparia	12-14	Clear Stem	Single	1.0x1.0x0.75m deep
1 Tilia cordata	16-18	Clear Stem	Single	1.0x1.0x0.75m deep
TOTAL SHRUBS	SIZE (cm)	POT (litre)	COMMENTS	
25 Amelanchier lamarckii	60-80	3.0	Minimum 5 basal breaks	
30 Brachyglottis "Sunshine"	40-60	5.0		
6 Cornus alba "Sibirica"	60-80	5.0	Minimum 5 basal breaks	
10 Cotinus coggygia "Grace"	60-80	10.0	Bushy plants to ground level	
40 Cotoneaster salicifolius "Gnom"	30-40	3.0		
80 Euonymus "Emerald n'Gold"	30-40	5.0		
90 Geranium mac "Ingwersens Variety"	-	2.0		
158 Hebe "Great Orme"	30-40	3.0		
66 Hebe "Mrs.Winder"	30-40	3.0		
550 Hedera helix	40-60	2.0	Minimum 3 basal breaks	
524 Hypericum dummeri "Peter Dummer"	30-40	3.0		
50 Ilex "JC Van Tol"	60-80	10.0	Fully furnished with laterals	
381 Ilex aquifolium	40-60	2.0	Fully furnished with laterals	
284 Lonicera "Maygreen"	30-40	3.0		
20 Pinus sylvestris	60-80	Rootballed	2 x transplant	
60 Potentilla "Elizabeth"	30-40	3.0		
306 Prunus "Cherry Brandy"	30-40	3.0		
23 Prunus cistena	60-80	5.0	Minimum 5 basal breaks	
22 Prunus lauro. "Rotundifolia"	60-80	5.0	Hedge plants	
156 Rosa "Kent"	-	2.0		
10 Sambucus porphyrophylla "Eva"	60-80	5.0	Bushy plants	
212 Spiraea thunbergii	30-40	2.0		
30 Tamarix gallica	60-80	5.0	Bushy plants	
10 Taxus baccata	30-40	2.0	Fully furnished with laterals	
TOTAL TRANSPLANTS	SIZE (cm)	TYPE	COMMENTS	
350 Acer campestre	60-80	1+1	All transplants to be fully furnished with laterals or grown as Bushy plants	
135 Alnus glutinosa	60-80	1+1		
40 Betula pubescens	60-80	1+1		
645 Corylus avellana	40-60	1+1		
590 Crataeus monogyna	60-80	1+1		
45 Euonymus europaeus	40-60	1+1		
234 Fagus sylvatica	60-80	1+1	Hedge Plants	
126 Ligustrum ovalifolium	60-80	0/2		
170 Ligustrum vulgare	60-80	1+1		
125 Prunus cerasifera	60-80	1+1		
330 Prunus spinosa	60-80	1+1		
30 Quercus petraea	60-80	1+1		
20 Rhamnus alnus	40-60	1+1		
405 Rhamnus cathartica	40-60	1+1		
20 Salix caprea	60-80	0/1		
105 Salix tetandra	60-80	0/1		
215 Salix viminalis "Yelverton"	60-80	0/1		
15 Sambucus nigra	60-80	1+1		
150 Sorbus aria	60-80	1+1		
70 Viburnum lantana	40-60	1+1		
420 Viburnum opulus	40-60	1+1		

REFER TO 3No. DETAILED PLANTING LAYOUTS: 892.19.02B, 29.02B & 39.02B

OUTLINE SPECIFICATION

Refer to schedules for plant sizes, form, support and treepit dimensions

Treepit dimensions: Formation depth as schedules
300mm depth topsoil over 450/ 600mm depth free draining subsoil

Plant Beds: 300mm depth topsoil over 400mm depth of subsoil

Turf and Amenity Grass Areas: Do not disturb existing grass areas/ 150mm depth topsoil over 400mm depth of subsoil.

Wildflower & Grass Areas: Cultivate for seeding directly onto subsoil. Do not spread imported or stockpiled topsoil. The CA to inspect and approve areas where topsoil can be placed directly onto undisturbed clean site subsoil.

Subsoil shall be sourced from soils below the topsoil layer with minimal organic matter and consist of a mix of clay and stone. No construction fill shall be evident in this layer.

Imported topsoil shall be in accordance with BS3882:2015. "Multi-Purpose" grade as supplied by Freeland Horticulture or otherwise approved. Tel:01322-619161

Remove objects greater than 75mm in size from the topsoil and cart away.

Provide an analysis of imported/ stockpiled topsoil with recommendations for making good any deficiencies. Provide details of the source and a 1Kg sample of imported topsoil for approval by the Landscape Architect.

TREES

Tree Inspection
Trees to be selected by the Landscape Architect at the grower's nursery.

Triple staking: 3No. 75mm diam. x 1800mm long stakes set equidistant around the tree rootball. Top of stake 800mm above ground level. Tree tied to each stake with 25mm wide neoprene straps and 300mm long plastic sleeves.

Oblique staking: Single 75mm diam. x 1800mm long stake set at 45 degrees in North East direction and fixed to stem with single spacer and 38mm wide neoprene strap

Single Staking
Single 75mm diam. x 1800mm long stake fixed twice with neoprene straps and rubber spacers

Root Preparation
Trees to be rootballed for planting between November and March inclusive.
All trees to be container grown or containerised for planting between April to October inclusive.

Install 75mm diameter land drain to completely surround the rootball of each tree with one end exposed above the mulch.

SHRUB SELECTION

Do not deliver onto site any substitution of species, cultivar, plant size or container volume other than described in the Plant Schedules without prior approval from the Landscape Architect. The Contractor shall submit a list of possible alternatives beforehand for agreement by the Landscape Architect.

SHRUB PLANTING
Refer to schedules for container grown or bareroot shrubs. Bareroots to be planted between November and March inclusive. For all shrubs and transplants, backfill 300 x 300 x 300mm deep plant pit with 1 part Green-Waste compost and 5 parts topsoil thoroughly mixed before backfilling.

BAREROOT / TRANSPLANT PLANTING
Bareroot plants only to be planted between November and March inclusive. Substitute for container grown stock if planted outside the planting season.

Shrubs planted into graded and cultivated subsoil within 30 x 30 x 30cm deep plant pits backfilled with imported/ stockpiled topsoil mixed with an approved Green-Waste compost at a rate of 3Kg per cu.m. Conditioner must be mixed with topsoil prior to backfilling plant pits.

All bareroot trees and shrubs to be dipped in mycorrhizal fungi slurry as Mycorrhiza Rootgrow Professional supplied by Green-Tech (www.green-tech.co.uk), or similar approved. Mix 2 sachets of Root Dipping Gel with 60-80 litres of water and add granules as instructions. Dip whole root system prior to planting. Allow for suitable containers to be located close to the planting areas.

MULCH

50mm thick 35-75mm size bark mulch cover to all exposed topsoil within plant beds. 14% maximum wood content permitted. Provide a sample to the Landscape Architect prior to delivery.

GRASS AREAS

Turf and Amenity Grass Seed:
A general pre-seeding fertiliser shall be applied to the soil between 3 and 5 days before laying turf or sowing seed and incorporated into the top 25mm of tilth at a rate of 70gms/sq.m

Seed Grass: Grade "A19", as supplied by Germinal, sown at a rate of 35 grams per sq.m (01522-868714/ www.germinal.com)

Turf Grass: Lay ornamental quality turf grass. Turves shall be in accordance with BS3969, "Recommendations for turf for general landscape purposes".

Wildflower & Grass Mix:

No pre-seeding fertiliser to be applied.
"EM2" Meadow Grass Mixture sown at a rate of 5 grams per sq.m, as supplied by Emorsgate Seeds (01553-829028 / www.wildseeds.co.uk)

WATERPOINTS

2No. Waterpoints to be installed to meet the local Water Authority requirements: 25mm coupling set 300mm above ground level within lockable galvanised metal box on concrete foundation, separated from water supply with break valves.

MAINTENANCE

Defects Period for 52 weeks following Practical Completion. Allow for 17 maintenance visits for watering, cutting, weeding, pruning and litter collection.

PROTECTION OF EXISTING TREES

Provide temporary protective fencing to be erected following treeworks and prior to demolition and construction works. To be removed on completion of paving construction. No materials to be stored within the fenced area.
1.8m high weldmesh panels fixed by clamps to 2.4m long scaffold tubes rammed into the ground between each panel

RESPONSE TO THE CONSULTATION DOCUMENT
ISSUED BY THE ECOLOGY TEAM, HAMPSHIRE COUNTY COUNCIL
RECEIVED JANUARY 2022

- Inappropriate or invasive species have been substituted (*Hypericum androsaemum* and *Hippophae rhamnoides* replaced)
- Minimum 7.0m wide buffer zone between any planted area and the watercourse to be treated as follows:
Area to be wildflower & grass seeded.
The specification for this zone beside the watercourse requires sowing direct onto subsoil. Topsoil, fertiliser or any other nutrient shall not be applied as part of either the planting operations or the Landscape Management.

SOLENT ROAD, HAVANT

LANDSCAPE LAYOUT

Scale 1:500 @ A1 Date JULY 2023

Drawing 892.10.02 Revision B

TALA TERRY ANDERSON LANDSCAPE ARCHITECTS
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