

Biodiversity Net Gain Assessment

Tesco Bognor (2101) – Decked Car Park Flood Risk Mitigation Scheme

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Biodiversity Net Gain Assessment

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1 SUMMARY

Arcadis Consulting (UK) Limited was commissioned by Tesco Stores Ltd (hereafter 'the client') to undertake a Biodiversity Net Gain (BNG) assessment of an area of land within and adjacent to the Tesco Supermarket carpark in Bognor Regis. This area of land is hereafter referred to as the 'site'. Tesco are proposing to modify an existing area of hardstanding currently a carpark with a single storey raised carpark deck to mitigate flood risk from the adjacent watercourse (Aldingbourne Rife). The proposals also include drainage work including an outfall into the adjacent Rife.

A Preliminary Ecological Appraisal (PEA) of the site was carried out which included an extended Phase 1 habitat and corresponding UK Habitat Classification survey on 30 July 2025 which included a series habitat condition assessments. Habitats recorded on site included 16 scattered broadleaved trees (urban trees), introduced shrub (urban – introduced shrub) and hardstanding (urban – developed land; sealed surface). Note: the habitats within parentheses are those used in the biodiversity metric, those without are the Phase 1 habitat types. The full BNG assessment of the pre and post habitats was undertaken using the latest UK Government statutory metric.

The development will result in the loss of all habitats within the main car park area, except for a single tree (T4) which will be retained. The proposed landscaping for the site will comprise areas of introduced shrub, 36 broadleaved trees and semi-improved grassland (using a suitable seed mix).

From a biodiversity perspective, the baseline status of the site, when assessed using the latest statutory metric is valued at 0.34 habitat units. The proposed development will result in an overall increase of 0.31 habitat units resulting in an increase in net gain of 91.36%.

The Aldingbourne Rife (watercourse - river) also runs parallel to the eastern boundary of the site but is outside the survey area and ownership boundary. The only impact to the Rife is a single 150mm outfall that will be installed. Considering the negligible impact from the proposed works upon the Rife, a full River Condition Assessment was not conducted. The metric is not designed to assess such minimal works and a more holistic approach that delivers real world improvements was considered more appropriate. A meeting to discuss not including the Rife in the BNG metric was held on the 29 October 2025 with Arun District Council's Ecology Officer, Jonathan Best. The result of this call was an agreement that the approach proposed (to undertake a holistic approach in collaboration with Western Sussex River Trust) was more appropriate to achieve tangible improvement to the watercourse through a suitable partnership. This approach is proposed to be undertaken with the Western Sussex River Trust and is currently in discussion, as per an initial conversation on the 1 December 2025 with Aimee Felus (CEO) and Louise Barnetson (Water Champion). This approach will be subject to local planning approval. It is recommended that the LPA condition a suitable agreement as part of the planning approval.

2 INTRODUCTION

2.1 Background

Arcadis Consulting (UK) Limited was commissioned by Tesco Stores Ltd (hereafter 'the client') to undertake a Biodiversity Net Gain (BNG) assessment to support proposed flood mitigation works to the Tesco Superstore in Bognor Regis. This area of land is hereafter referred to as 'the site'. Tesco is looking to submit a planning application to modify an existing area of hardstanding to a single storey raised carpark deck to mitigate flood risk from the adjacent watercourse (Aldingbourne Rife River).

2.2 Site Location and Setting

The site comprises a tarmac and concrete carpark, scattered broadleaved trees and areas of introduced shrub located within the site at Tesco Superstore off Shripney Road in Bognor Regis; central ordnance survey grid reference SU938005 (nearest postcode: PO22 9ND). The site boundary is shown on Figure 1 in Appendix A. Adjacent to the main site, two small areas for drainage improvements are also identified. One of these small areas is a reed area immediately adjacent to Aldingbourne Rife, where a single 150mm outfall is proposed.

The surrounding land use comprises a mixture of residential housing and areas of commercial property located primarily to the west. A caravan park can be found on the northern and eastern aspects of the site, and the Aldingbourne Rife River runs along the eastern boundary.

2.3 Scope of Work

The scope of this report includes a full pre and post development BNG assessment of the site to achieve a 10%, or greater, net gain.

2.4 Proposals

The proposed development comprises flood mitigation works, including the installation of a single storey raised car park deck together with site alterations, car park reconfiguration, new access into car park, drainage alterations, creation of new drainage outfall, landscaping and other associated works. These measures are designed to ensure the store can safely remain operational during a flood event.

3 LEGISLATION AND POLICY

3.1 Legislation

In England, the Environment Act 2021 (HM Government, 2021) places an obligation on developers to ensure that new developments achieve a minimum of 10% BNG. The necessary instruments for enacting this came into effect in February 2024.

The primary legislation is set out under Schedule 7A (Biodiversity Gain in England) of the Town and Country Planning Act 1990 (HM Government, 1990), which was inserted into the legislation via Schedule 14 of the Environment Act 2021. Under the statutory framework for BNG, the biodiversity gain objective is for developments to achieve a minimum of 10% increase in BNG. This can be delivered through on-site habitat creation and enhancement, registered off-site biodiversity gains or statutory biodiversity credits.

3.2 Policy

Under Section 17.4.1 of the Arun District Council adopted local development plan (Arun District Council, 2025) the following is stated:

“All developments should enhance the biodiversity of the site and the surrounding area by creating habitats or improving existing ones. In certain circumstances, a new resource should be provided which is of at least equivalent value, where possible, to a site or feature which is lost as a result of development.”

Furthermore, under Policy ENV DM5 ‘Development and biodiversity’, the following is stated:

“Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement”.

4 METHODOLOGY

An extended Phase 1 habitat survey of the site was undertaken on 30 July 2025 by Senior Ecologist George Cope BSc (Hons) ACIEEM. The survey was completed following the standard Joint Nature Conservation Committee (2010) and the Chartered Institute of Ecology and Environmental Management (2017) guidelines with data recorded onto a GPS enabled digital device. The corresponding UK Habitat Classification (UKHab) Version 2.0 (UKHab Ltd, 2023) for each Phase 1 habitat type was also noted, along with the condition of habitats present within site according to the latest statutory metric guidelines (HM Government, 2025) to determine the baseline BNG for the site.

4.1 Biodiversity Net Gain

The BNG calculations in this report were undertaken according to the statutory metric calculator issued by the UK Government (HM Government, 2025). Data is entered into the metric using the UKHab typologies (UKHab, 2025). The statutory metric assesses area-based habitat (i.e. woodland, grassland etc) and linear features (i.e. hedgerows and rivers) separately, but through broadly similar methodologies.

4.1.1 Unit Calculation

To calculate the biodiversity units for the site as a whole, the unit for each of the habitat types is calculated and the multiplied by the size of the habitat. The unit number is based on the habitat's distinctiveness, condition, and strategic significance. For non-linear habitats, such as woodland and grassland, the area of the habitats is used to assess its size in hectares (ha), whereas a measure of length (in km) is used for linear habitats, such as hedgerows and rivers. The biodiversity unit numbers of area-based habitats and linear hedgerows and/or rivers are separate and cannot be summed, and as such they should be evaluated separately. Area based habitats and hedgerows are largely assessed in the same way and any differences highlighted below.

4.1.2 Habitat Size

The size of the habitat was calculated using a Geographical Information System (GIS) platform based on the baseline habitat data collected during the survey. The area taken up by scattered trees within the site was calculated by inputting the number of scattered trees identified during the survey into the 'Tree Helper' tool included in the metric spreadsheet. Post-intervention habitat size would be calculated after considering the feasibility of interventions and the most appropriate option for biodiversity unit enhancement.

4.1.3 Habitat Distinctiveness

The metric assigns a pre-defined distinctiveness band to each of the habitats and linear features. As per the unit guide (HM Government, 2025), this assessment is based on 'species richness, rarity (at local, regional, national, and international scales), and the degree to which a habitat supports species rarely found in other habitats.

4.1.4 Habitat Condition Assessments

The condition of the habitat is defined as 'the biological 'working order' of a habitat type judged against the perceived ecological optimum for the particular habitat' (HM Government, 2025). This provides a measure of variation in the quality of areas of the same habitat type.

4.1.5 Area Based Habitats, Hedgerows and Line of Trees

A habitat condition assessment sheet is provided for each habitat type which is used to assign each habitat parcel to each of the categories detailed in Table 1 below. Each condition sheet is composed of a list of pass/fail criteria. The ratio of 'passes' to 'fails' is used to determine the habitat condition.

4.1.6 Strategic Significance Assessment

Strategic significance assesses the value of the habitats from the point of view of environmental objectives and preferred locations for biodiversity. Local and national policy was reviewed to quantify the strategic significance of each habitat area. Strategic significance categories and multipliers are given in Table 1 below based on Table 7 found in the user guide (HM Government, 2025).

Table 1 Strategic Significance Categories and Multipliers

Category	Description	Multiplier
High	This category can be applied when: - The location of the habitat parcel has been mapped in the local Habitat Map as an area where a potential measure has been proposed to help deliver the priorities of the Local Nature Recovery Strategy (LNRS); and - The intervention is consistent with the potential measures proposed for that location.	1.15
Medium	This category cannot be applied.	1.10
Low	Applied where the definitions for high strategic significant are not met.	1

4.1.7 Baseline Calculations

The number of biodiversity units provided by each habitat present within the site is calculated by multiplying the values of distinctiveness, condition, strategic location, and the size of each habitat in hectares (ha). Hedgerows and rivers are evaluated in the same way, but based on their length (in km), rather than area. This value represents the baseline condition of the site, in terms of biodiversity units. Further details can be found in the statutory metric user guide (HM Government, 2025).

4.1.8 Post-intervention Calculations

The site is reassessed for the condition that will be present after the intervention actions are implemented. Details of the post intervention action typologies are outlined in the associated BNG calculation. The number of biodiversity units provided by each habitat within the site is calculated in the same way as the baseline habitats, but with the additional multipliers which are based on difficulty of creation and/or enhancement and temporal and spatial risk. Further details in relation to these risk multipliers are provided in Table 2 below.

Table 2 Risk Components included in Post-intervention Calculations

Risk Factor	Description
Difficulty of creation or enhancement	The creation and enhancement multipliers represent the uncertainty in the effectiveness of techniques to create or enhance habitats. The biodiversity metric automatically assigns the delivery risk and score for each habitat, based on its habitat intervention category.

Risk Factor	Description
Time to target condition	The temporal risk multiplier represents the average time lag between the start of the habitat creation or enhancement works and the target outcome. This is referred to as the 'time to target condition'.
Spatial risk	The spatial risk multiplier (SRM) reflects the relationship between the location of on-site biodiversity loss and the location of off-site habitat compensation. It affects the number of biodiversity units provided to a project by penalising proposals where off-site habitat is located at distance from the impact site.

4.1.8.1 'Pseudo' Double Counting of Areas

The total area input into the spreadsheet can be greater than the total area of the site. This is due to the three-dimensional nature of certain habitats. For example, the area covered by a tree is approximately the area covered by the canopy, but if an area of grassland is underneath, both would be included within the metric. As such, the area of the tree canopy is 'counted' twice which can result in the area in the metric being larger than the area of the site.

4.1.8.2 Calculations of Gains or Losses

The net change in habitat or hedgerow/river biodiversity units on the site is calculated within the toll by subtracting the baseline units from the post intervention units. The overall net change is the sum of the change in units within the site. The percentage of net gain is calculated by dividing the overall net change by the number of baseline units within the site, as shown in the equation below:

$$\text{overall percentage net gain} = \frac{\text{change in units on site} + \text{change in units off site}}{\text{baseline units on site}} \times 100$$

4.1.8.3 Changes in Broad Habitat Type Calculations

The UKHab system is hierarchical in structure, so specific habitat types can be grouped into broad habitat types. The changes in area and biodiversity units associated with each of these broad habitat types will be calculated using the base and post intervention data.

4.1.8.4 Areas Excluded from Assessment

The metric is not designed to assess the impacts to habitats within statutory designated sites or 'irreplaceable' habitats, as defined in Baker et al (2016). There are no irreplaceable habitats, such as ancient woodland, or statutory designated sites within the site boundary, therefore all habitats were assessed.

4.2 Limitations

The details of this report will remain valid for a period of 18 months, in accordance with CIEEM guidance (CIEEM, 2017). Beyond this point, if works have not been undertaken, it is recommended that a further review of the ecological conditions is undertaken by an ecologist to provide an update on the current condition of the site.

The Aldingbourne Rife (river) runs along the eastern boundary of the site but is outside the survey area and ownership boundary. As such the Rife was not surveyed in detail but was viewed from the adjacent land.

5 BIODIVERSITY NET GAIN ASSESSMENT

5.1 Exclusion of Watercourse from the BNG Assessment

The Aldingbourne Rife will not be impacted by the proposed raised car park as it is located circa ~10 m from the Rife on existing hardstanding habitat and separated by an existing road. A small outfall pipe (~150 mm) is to be installed as part of the drainage solution in a small area of existing reedbed into the Rife; which will drain into the Rife. The drainage proposal will introduce petrol interceptors to improve the quality of the surface water runoff entering the river, this will be a betterment in comparison to the existing scenario. The drainage strategy provides further detail on the management of surface water runoff on site (Fairhurst, 2025). The pipe installation will temporarily impact a small area (approximately 0.000057m²) dominated by Common Reed (*Phragmites australis*) which was associated with the Aldingbourne Rife River on the eastern aspect. This habitat corresponds to the UKHab typology of 'Weland – reedbeds' and was assessed as being in a poor condition due to the water table and quality and overall cover of scrub and scattered trees. This area will be temporarily impacted and will rapidly regrow.

The only impact to the Rife is the outfall that will be installed. Considering the negligible impact from the proposed works upon the Rife, a full River Condition Assessment was not conducted. The metric is not designed to assess such minimal works and a more holistic approach that delivers real world improvements was considered more appropriate. A meeting to discuss not including the Rife in the BNG metric was held on the 29 October 2025 with Arun District Council's Ecology Officer, Jonathan Best. The result of this call was an agreement that the approach proposed (to undertake a holistic approach in collaboration with Western Sussex River Trust) was more appropriate to achieve tangible improvement to the watercourse through a suitable partnership. This approach is proposed to be undertaken with the Western Sussex River Trust and is currently in discussion, as per an initial conversation on the 1 December 2025 with Aimee Felus (CEO) and Louise Barnetson (Water Champion). This approach will be subject to local planning approval. It is recommended that the LPA condition a suitable agreement as part of the planning approval.

5.2 On-site Baseline Habitats

Figure 2 in Appendix B shows the on-site habitats and Appendix C provides the proposed landscaping which includes details of the additional habitat creation. The details of the baseline are provided below with a summary including area coverage and condition for the habitats given in Table 3.

Table 3 On-site Baseline

Phase 1 Habitat Type	UKHab Type	Condition	Area (Ha)	Units
Scattered Broadleaved Trees	Urban Trees	Poor	0.065	0.26
Introduced Shrub	Urban – Introduced Shrub	N/A	0.04	0.08
Hardstanding	Urban – Developed Land; Sealed Surface	N/A - Other	0.89	0.00

5.2.1 Scattered Broadleaved Trees (Urban Trees)

A total of 16 scattered broadleaved trees were recorded within the site consisting of Sugar Maple (*Acer saccharum*), Common Whitebeam (*Sorbus aria*), Silver Birch (*Betula pendula*), Alder (*Alnus glutinosa*) and Box (*Buxus sempervirens*) (see T4 to T16 on Figure 2 in Appendix B). The total tree canopy covered approximately 0.065ha.

This habitat corresponds to the UKHab typology of 'Individual trees – urban tree'. The trees were classified in poor condition based on level of maturity, evidence of adverse impacts and the presence or otherwise of ecological niches. The condition assessments are shown in Appendix D. Fifteen of these trees will be removed during the development including T16, T15, T14, T13, T11, T10, G9#1, G9#2, G9#3, G9#4, G9#5, T9, T8 and T7. Only T4 will be retained within the redline.

5.2.2 Introduced Shrub (Urban – Introduced Shrub)

The site contained several areas of introduced shrub associated with amenity planting within the carpark (approximately 0.04ha). The areas were heavily managed and comprised several shrub species including Portuguese Cherry Laurel (*Prunus lusitanica*), Box, Bindweed (*Convolvulus* Sp.) and Firethorn (*Pyracantha* Sp.).

This habitat corresponds to the UKHab typology of 'Urban – introduced shrub' which has a pre-determined condition of 'N/A' within the metric. These areas of introduced shrub will be removed during the development.

5.2.3 Hardstanding (Developed Land; Sealed Surface)

The site contained three areas of hardstanding comprising the tarmac and concrete carpark (approximately 0.89ha). Hardstanding corresponds to the UKHab typology 'Urban – developed land; sealed surface' which has a pre-determined condition of 'N/A other' within the metric. This area will be removed in its entirety during the development.

5.3 On-site Post Development Habitats

5.3.1 On-site Retained Habitats

A single tree will be retained during the development, T4 (approximately 0.004ha).

5.3.1.1 On-site Created Habitats

5.3.2 Scattered Broadleaved Trees (Urban Trees)

A total of 36 broadleaved trees (approximately 0.15ha) will be planted within the site which will match the UKHab typology of 'Individual trees – urban tree' which will be managed to a moderate condition. The species mix will comprise Upright Hornbeam (*Carpinus betulus* 'Fastigiata'), Italian Alder (*Alnus cordata*) and Rowan (*Sorbus aucuparia* 'Fastigiata').

5.3.3 Semi-improved Grassland (Grassland – Other Neutral Grassland)

Several areas of semi-improved grassland (approximately 0.024ha) will be planted within the site boundary. For planting, the Emorsgate Seeds EM8 seed mix will be used which will comprise a wildflower to grasses ratio of 20% to 80% respectively. The mixture will contain species outlined in Table 4 below.

Table 4 Emorsgate Seeds EM8 Species Mixture

Forbs (20%)	Grasses (80%)
Yarrow (<i>Achillea Millefolium</i>)	Common Bent (<i>Agrostis capillaris</i>)
Agrimony (<i>Agrimonia eupatoria</i>)	Star Sedge (<i>Carex echinata</i>)
Wild Angelica (<i>Angelica sylvestris</i>)	Crested Dog's-tail (<i>Cynosurus cristatus</i>)

Forbs (20%)	Grasses (80%)
Betony (<i>Betonica officinalis</i>)	Red Fescue (<i>Festuca rubra</i>)
Common Knapweed (<i>Centaurea nigra</i>)	Meadow Barley (<i>Hordeum secalinum</i>)
Meadowsweet (<i>Filipendula ularia</i>)	Smaller Cat's-tail (<i>Phleum bertolonii</i>)
Hedge Bedstraw (<i>Galium album</i>)	Smooth Meadow-grass (<i>Poa pratensis</i>)
Lady's Bedstraw (<i>Galium verum</i>)	-
Meadow Vetchling (<i>Lathyrus pratensis</i>)	-
Rough Hawkbit (<i>Leontodon hispidus</i>)	-
Oxeye Daisy (<i>Leucanthemum vulgare</i>)	-
Bird's-foot Trefoil (<i>Lotus corniculatus</i>)	-
Greater Bird's-foot- trefoil (<i>Lotus pedunculatus</i>)	-
Black Medick (<i>Medicago lupulina</i>)	-
Ribwort Plantain (<i>Plantago lanceolata</i>)	-
Cowslip (<i>Primula veris</i>)	-
Selfheal (<i>Prunella vulgaris</i>)	-
Meadow Buttercup (<i>Ranunculus acris</i>)	-
Yellow Rattle (<i>Rhinanthus minor</i>)	-
Common Sorrel (<i>Rumex acetosa</i>)	-
Great Burnet (<i>Sanguisorba officinalis</i>)	-
Ragged Robin (<i>Silene flos-cuculi</i>)	-
Dandelion (<i>Taraxacum officinale</i>)	-
Tufted Vetch (<i>Vicia cracca</i>)	-

The species mix will match the UKHab typology for 'Grassland – other neutral grassland' and will be managed to a 'moderate' condition.

5.3.4 Introduced Shrub

Several areas of introduced shrub (approximately 0.0114ha) will be planted within the site boundary associated with the carpark. Planting will include a mixture containing Common Ivy (*Hedera helix*), Firethorn, Fortune's Spindle (*Eunymus fortunei*), Buckthorn (*Rhamnus cathartica*), Dog Rose (*Rosa canina*), Wild Cherry (*Prunus avium*), Field Maple (*Acer campestre*), Bramble (*Rubus fruticosus* agg.), Field Rose (*Acer campestre*), Honeysuckle (*Lonicera periclymenum*), Old Mans Beard (*Clematis vitalba*), Hawthorn (*Crataegus*

monogyna), Blackthorn (*Prunus spinosa*), Guelder Rose (*Viburnum opulus*), Privet (*Ligustrum vulgare*), Holly (*Ilex aquifolium*) and Box (*Buxus* Sp.).

This mix will match the UKHab typology for 'Urban – introduced shrub' which will have a condition of 'N/A' within the metric.

5.3.5 Hardstanding

The new site infrastructure will comprise three areas (approximately ha 0.89ha in total) of hardstanding comprising the tarmac and concrete carpark road and pavement network. These areas will correspond to the UKHab typology of 'Urban – developed land; sealed surface' which will have a preassigned designated of 'N/A – other' within the metric.

5.4 Changes in Broad Habitat Types

The proposed development will result in changes to the habitats within the site. The UKHab Classification system used within the metric contains a tiered system, grouping similar habitats into 'Broad habitats' and more specific 'Habitats types'. For example, 'Grassland' is a 'Broad habitat', that can contain 'Modified Grassland' and 'Other neutral grassland' among others. The area and biodiversity unit changes in these broad habitat types on-site are shown in Table 5 below.

Table 5 On-site Change in Broad Habitat Types in the Total Area and Biodiversity Units

	Baseline		Post-development		Change	
Habitat Group	On-site Existing Area (ha)	On-site Existing Value (units)	On-site Proposed Area (ha)	On-site Proposed Value (units)	On-site Area Change (ha)	On-site Unit Change
Grassland	0.00	0.00	0.02	0.16	0.02	0.16
Urban	0.93	0.08	0.91	0.02	-0.02	-0.06
Individual Trees	0.065	0.26	0.15	0.45	0.085	0.19

The area covered by grassland will increase by 0.16 units as a result of planting an area of relatively 'species rich' semi-improved grassland (other neutral grassland). Although fifteen trees will be lost during the development, a total of 0.45 units will be created through the planting of 36 trees. Overall, as illustrated in Image 1 below, there will be a net change of 0.29 units.

5.5 Trading Rules

Medium Distinctiveness Habitats

To satisfy the BNG trading rules for medium distinctiveness habitats, those lost must be replaced by the same broad habit type or a higher indistinctness habitat. Under the current proposals this trading rule is satisfied with a 0.36 project wide unit increase. See Table 7 below for a summary.

Table 6 Medium Distinctiveness Habitats Trading Summary

Habitat Group	On-site Unit Change	Off-site Unit Change	Project Wide Unit Change
Grassland – Other Neutral Grassland	0.216	0.00	0.16
Individual Trees – Urban Tree	0.20	0.00	0.20
Total	0.41	0.00	0.36

Low Distinctiveness Habitats

To satisfy the rules for low distinctness habitats, any low distinctiveness habitats lost on-site should be replaced with a habitat of the same distinctiveness or higher. Although there will be a -0.06 project wide unit loss in low distinctiveness habitats (introduced shrub), the rule is satisfied because there will be 0.49 surplus units overall as a result of tree and grassland planting. See Table 8 below for a summary.

Table 7 Low Distinctiveness Habitats Trading Summary

Habitat Group	On-site Unit Change	Off-site Unit Change	Project Wide Unit Change
Urban – Introduced Shrub	-0.06	0.00	-0.06
Total	-0.06	0.00	-0.06

5.6 Summary of Results

A summary of the latest statutory metric calculator tool is presented below in Image 1, with the full calculator provided separately. Under the current proposals a 91.36% increase in area biodiversity units (i.e. a generation of 0.31 units overall) is predicted and the trading rules are met.

Image 1 Headline Results from the Statutory Biodiversity Metric Tool

On-site baseline	Area habitat units	0.34	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Area habitat units	0.65	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site net change (units & percentage)	Area habitat units	0.31	91.36%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Off-site baseline	Area habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Area habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	Area habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%

6 CONCLUSIONS

The site contains the carpark comprising an area of tarmac and concrete hardstanding interspersed with parcels of introduced shrub and 16 trees. The development will lead to the loss of fifteen trees and the total loss of the introduced shrub and hardstanding. The development will result in the planting of 36 trees (retaining 1 existing tree, T4) along with areas of semi-improved grassland (other neutral grassland) and native introduced shrub.

The Aldingbourne Rife (watercourse - river) also runs parallel to the eastern boundary of the site but is outside the survey area and ownership boundary. The only impact to the Rife is a single 150mm outfall that will be installed. This will require a small area of reedbed removal temporarily, the reedbed will be allowed to naturally recolonise. Considering the negligible impact from the proposed works upon the Rife, a full River Condition Assessment was not conducted. The metric is not designed to assess such minimal works and a more holistic approach that delivers real world improvements was considered more appropriate. A meeting to discuss not including the Rife in the BNG metric was held on the 29 October 2025 with Arun District Council's Ecology Officer, Jonathan Best. The result of this call was an agreement that the approach proposed (to undertake a holistic approach in collaboration with Western Sussex River Trust) was more appropriate to achieve tangible improvement to the watercourse through a suitable partnership. This approach is proposed to be undertaken with the Western Sussex River Trust and is currently in discussion, as per an initial conversation on the 1 December 2025 with Aimee Felus (CEO) and Louise Barnettson (Water Champion). This approach will be subject to local planning approval. It is recommended that the LPA condition a suitable agreement as part of the planning approval.

The baseline BNG generates 0.34 units, and the proposed development will result in an overall increase of 0.31 units (91.36%) as the results of the planting of 36 trees along with areas of grassland, introduced shrub and the natural regeneration and colonisation of the reedbed.

7 REFERENCES

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Appendix A

Site Location and Boundary

Figure 1 Site Location and Boundary



N

Legend

Red Line Boundary

Survey Area

Notes

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01	12/4/2025	INITIAL ISSUE	MB	GC	BM
Rev	Date	Description	Drawn	Check	Approv

Client:

PROJECT:
TESCO BOGNOR (2102) –
DECKED CAR PARK FLOOD
RISK MITIGATION SCHEME

Site

Tesco superstore: Bognor
Costa, Shipney Road,
Bognor Regis,
North Bersted, Arun,
West Sussex, PO22 9ND
UK

Client

Tesco Stores Ltd
Shire Park
Welwyn Garden City,
Hert AL7 1TW
UK

Registered office:
80Fen
80 Fenchurch Street
London
EC3M 4BY

Coordinating Office:
Charter House
62-68 Hills Road
Cambridge
CB2 1LA

www.arcadis.com

Title:

Figure 1
Site Location Plan

Designed	G. Cope	Date 27 NOV 25	Signed
Drawn	M. Bargal	Date 27 NOV 25	Signed
Checked	G. Cope	Date 27 NOV 25	Signed
Approved	B. Murray	Date 27 NOV 25	Signed
Scale:	1:1,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	S2	Project Number:	30268440

Suitability Description:

For Information

Drawing Number:
30268440-ARC-EGN-XX-TR-CW-00001

Revision:
P01

Print Date: 04-12-25 10:16:21

C:\Users\bargalm2433\OneDrive - ARCADIS\30268440 - Other_Tesco Abingdon and Bognor Phase 2 - 05 Project execution\02_Bognor\Working folder\00_GDV\01 Aprx\30268440-ARC-EGN-ZZ-DR-ZZ-00001-S2-P01-Site Location Plan.aprx

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Appendix B

Phase 1 Habitat Survey Map

Figure 2 Phase 1 Habitat Survey Map



N

Legend

Red Line Boundary

Survey Area

Broadleaved Parkland/scattered trees

Buildings

Building: Car Parking

Introduced shrub

Other Habitats: Reed Bed

Notes

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LEC Airfield

South Bersted

B2259

A29

01	1/5/2026	INITIAL ISSUE	MB	DS	BM
Rev	Date	Description	Drawn	Check	Approv

Client:

TESCO

PROJECT:
TESCO BOGNOR (2102) –
DECKED CAR PARK FLOOD
RISK MITIGATION SCHEME

Site

Tesco superstore: Bognor
Costa, Shripney Road,
Bognor Regis,
North Bersted, Arun,
West Sussex, PO22 9ND
UK

Client

Tesco Stores Ltd
Shire Park
Welwyn Garden City,
Hert AL7 1TW
UK

ARCADIS

Registered office:
80Fen
80 Fenchurch Street
London
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Coordinating Office:
Charter House
62-68 Hills Road
Cambridge
CB2 1LA

Title:

Figure 2
Phase 1 Habitat Map and Target

Designed	G. Cope	Date 05 JAN 26	Signed
Drawn	M. Bargal	Date 05 JAN 26	Signed
Checked	D. Sarkar	Date 05 JAN 26	Signed
Approved	B. Murray	Date 05 JAN 26	Signed
Scale:	1:1,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	S2	Project Number:	30268440

Suitability Description:

For Information

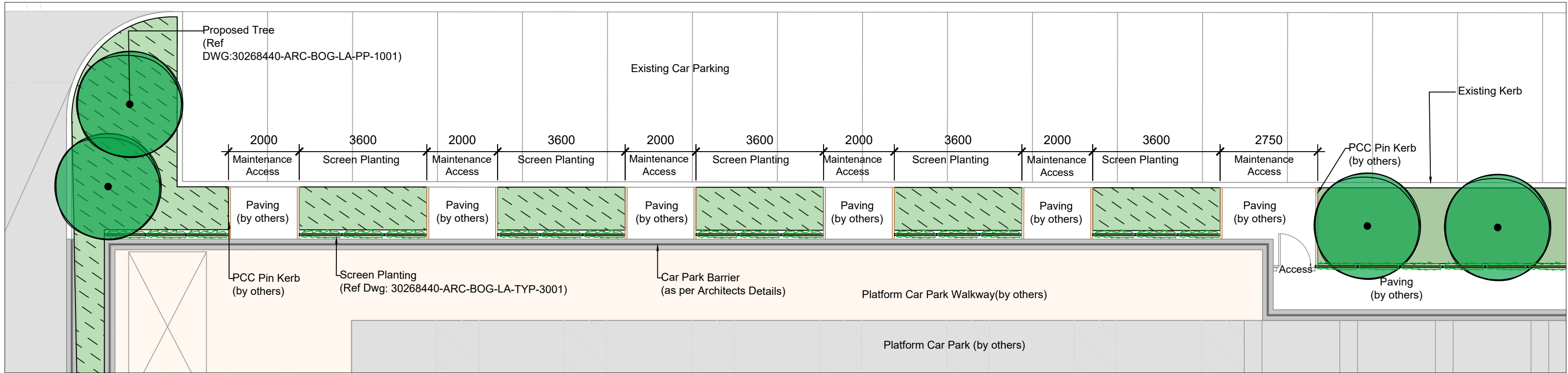
Drawing Number:
30268440-ARC-EGN-XX-TR-CW-00002

Revision:
P01

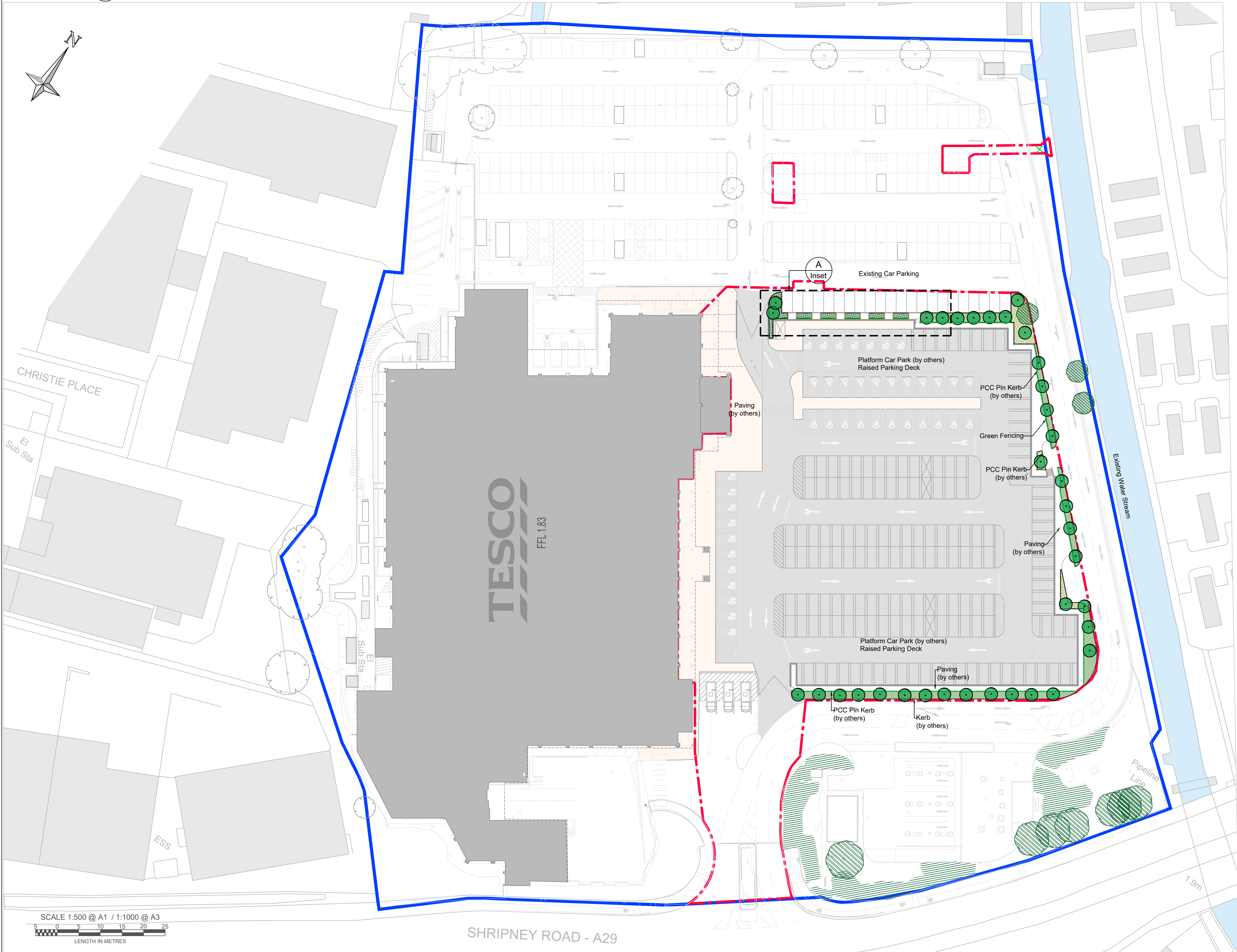
Appendix C

Proposed Landscaping within the Site

Figure 3 Proposed Landscaping within the Site



A Enlargement Plan- Green Screen /Planting Buffer Area
Inset Scale: 1:100



Key:

Proposed Soft Landscape

- Proposed Trees
- (NS) Native Shrubs, Herbaceous, Grasses and Fern Planting
- (TNS) Tall Native Shrubs (>1.1m)
- (FRP) Flood Resilient Planting
- Green Screen
- Recolonised Reedbed - 5.1 x 10 - 9ha

Existing Soft Landscape

- Existing Trees to be retained
- Existing Trees and Vegetation to be retained, thinned and managed

Hardscape - By Others

- Parking Area - (paving by others)
- Paving by others
- Red Line Boundary (RLB)
- TESCO Boundary

- NOTES:**
- Do not scale from this drawing.
 - This drawings must be read in conjunction with all other relevant drawings.
 - This document should not be relied on or used in circumstances other than those for which it was prepared and for which ARCADIS was commissioned. ARCADIS accepts no responsibility for this document to any other party other than the person by whom it was commissioned.
 - Always work to noted dimensions. All dimensions are in millimeters unless otherwise stated.
 - The dimensions of all materials must be checked on site before being laid out.
 - This drawing must be read with the relevant specifications clauses and detail drawings.

6	19-12-25	Final for planning	JL	CB	BF	BF
6	11-12-25	Final for review	JL	CB	BF	BF
5	09-12-25	Final for review	JL	CB	BF	BF
4	19-11-25	Final	JL	CB	BF	BF
3	27-10-25	Draft	JL	BF	BF	-
2	02-10-25	Draft	JL	BF	BF	-
1	12-09-25	Draft	JL	BF	BF	-
0	29-08-25	Draft	SS	BF	BF	BF
Rev	Date	Description	Prod.	Chk.	Rev.	App.

TESCO

Project: **TESCO - BOGNOR (2102)**
DECKED CAR PARK FLOOD RISK MITIGATION SCHEME

Site: **TESCO SUPERSTORE, SHRIPNEY ROAD, BOGNOR REGIS, PO22 9ND**
Client: **TESCO STORES LTD**

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Drawing Title: **LANDSCAPE GENERAL ARRANGEMENT PLAN**

Designed: JL	Signed: JL	Date: 11-12-25
Produced: JL	Signed: JL	Date: 11-12-25
Checked: CB	Signed: CB	Date: 11-12-25
Reviewed: BF	Signed: BF	Date: 11-12-25
Approved: BF	Signed: BF	Date: 11-12-25

Design Stage: **PRELIMINARY**

Original Size: A1	Grid: GRID	Datum: NA
Status Code: FINAL	Scale: 1:500	Project Number: 30268440

Status Description: **FINAL**

Security Classification: **NA**

Drawing Number: **30268440-ARC-P01-XX-DR-LA-00004**
Revision: **7**

Appendix D

Habitat Condition Assessment Sheets

Table 8 Habitat Condition Assessment Sheets

Condition Sheet: INDIVIDUAL TREES Habitat Type

[illegible]

[illegible]

Condition Sheet: REEDBEDS Habitat Type

On-site or off-site, site name and location	On-site. On-site, Tesco's Carpark Bognor Regis (PO22 9ND).	Survey date and Surveyor name	30 July 2025 George Cope
Limitations (if applicable)	None noted.	Survey reference (if relating to a wider survey)	N/A
Grid reference	SU 93892 00666	Habitat parcel reference	N/A
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
Core Criteria - must be assessed for all wetland habitat types:			
A	The water table is at, or near the surface throughout the year - this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above. Note - this criterion is essential for achieving Good condition.	N	
B	The parcel represents a good example of its specific habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present. ¹	Y	
C	The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	N	
D	Cover of scrub and scattered trees are less than 10%.	N	
E	Cover of bare ground is less than 5%.	Y	
F	There is an absence of invasive non-native plant species ² (as listed on Schedule 9 of WCA ³) and species indicative of suboptimal condition ⁴ make up less than 5% of ground cover.	Y	
Additional Criterion - must be assessed for Fen and Purple moor grass and rush pasture habitats only:			
G	No more than 25% of the habitat area has a continuous cover of litter (such as dead vegetation) preventing regeneration.	N/A	

Additional Criterion - must be assessed for Bog habitats only:			
H	Sphagnum moss <i>Sphagnum</i> spp. and cottongrasses <i>Eriophorum</i> spp. are at least Frequent ⁵ . Cover of ericaceous dwarf shrubs ⁶ is less than 75%.	N/A	
Additional Criterion - must be assessed for Reedbed habitats only:			
I	The reedbed has a diverse structure with between 60% and 80% reeds <i>Phragmites australis</i> . Other areas may include open water (at least 10%), species-rich fen ⁷ and or wet woodland.	N	
Additional Criterion - must be assessed for Floodplain wetland mosaic and CFGM only:			
J	All ditches recorded within the habitat achieve Good condition as assessed using the Ditch condition sheet.	N/A	
Essential criterion achieved (required for Good condition) Yes or No:			N
Number of criteria passed			3
Condition Assessment Result	Condition Assessment Score	Score Achieved ×/√	
Results for habitats requiring assessment of 6 criteria (Depression on peat substrates (H7150) and Oceanic valley mire [1] (D2.1)):			
• Passes 5 or 6 core criteria, including criterion A.	Good (3)	N/A	
• Passes 3 or 4 core criteria; OR • Passes 5 core criteria but fails criterion A.	Moderate (2)	N/A	
• Passes 2 or fewer core criteria.	Poor (1)	N/A	
Results for habitats requiring assessment of 7 criteria - core criteria and additional criterion specified for habitat type - all habitat types except Depression on peat substrates (H7150) and Oceanic valley mire [1] (D2.1):			
• Passes 5 or 6 core criteria including criterion A; AND • Passes additional criterion G, H, I or J (choose the one specified for the habitat type).	Good (3)		
• Passes 4 or 5 of 7 criteria; OR • Passes 6 of 7 criteria but fails criterion A or additional criterion G, H, I or J (choose the one specified for the habitat type).	Moderate (2)		
• Passes 3 or fewer criteria.	Poor (1)	X	

Appendix E

Aldingbourne Rife – Arun District Council Agreement

Image 2 Arun District Council Agreement Via Email To Aldingbourne Rife Mitigation Approach

Hi George,

Following on from our discussion and your email.

I have spoken to our planning officers, and they are agreeable to the approach of providing enhancement/mitigation of the rife in lieu of undertaking a watercourse assessment.

I hope this helps with taking the development forward.

Regards,

Jon

Jonathan Best MCIEEM

Ecology Officer, Planning Policy

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