



Ecological Mitigation, Enhancement and Management Plan

Port Control Centre & Alexandra House, Kent, Gravesend, DA12 2BG

Port of London Authority

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Arbtech Consultant's Contact Details:

Nicole Gullan BSc (Hons) MRSB TechArborA
Senior Ecological and Arboricultural Consultant

Email: [REDACTED]

<https://arbtech.co.uk>

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

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1.0 Introduction

Arbtech Consulting Limited was instructed by Port of London Authority to produce an Ecological Mitigation, Enhancement and Management Plan for Port Control Centre & Alexandra House, Kent, Gravesend, DA12 2BG (hereafter referred to as “the site”).

The plan was required to inform a planning application for the demolition of an external stairwell, construction of a new single story roof space, improvements to the exterior facades, internal refurbishment and new landscaping to provide a level access to London River house and the Port Control Centre (PCC). The existing link between the PCC and grade II listed Royal Terrace Pier will be enhanced, and repaving works is proposed in the forecourt area of the listed pier and the removal and relocation of the radar mast (hereafter referred to as “the proposed development”). As part of the overall development proposals, this includes a comprehensive landscaping proposal, which includes additional planting, together with retention of all associated trees.

A plan showing the proposed development is provided in Appendix 1.

The aim of this plan is to outline mitigation measures required to minimise impacts on biodiversity as well as to outline habitat creation and enhancement opportunities and long-term management which will ensure that a net gain in biodiversity is achieved and maintained on the site, in accordance with the National Planning Policy Framework (NPPF).

This plan has been informed by a Preliminary Ecological Appraisal and Preliminary Roost Assessment (“PEA/PRA”; Arbtech Consulting Ltd, November 2023).

2.0 Site Context and Survey Information

2.1 Site Location and Landscape Context

The site is located at National Grid Reference TQ 65109 74419 and has an area of approximately 0.4ha comprising four buildings (B1, B2, B3 and B5) and a pier (B4) with associated carpark and landscaping. It is directly surrounded by the River Thames estuary to the north, scattered residential and industrial buildings with urban landscaping including roads to the east, west and south. The wider landscape comprises a recreation ground ~120m south-east, with the town of Gravesend directly to the south, east and west. The pier provides access between Gravesend and Tilbury, ~800m north over the estuary. A site location plan is provided in Appendix 2.

2.2 Ecological Information

Table 1 summarises the survey findings for the site and outlines any potential impacts as a result of the proposed development along with recommendations and biodiversity enhancement opportunities, as detailed in the PEA/PRA (Arbtech, November 2023).

Table 1: Summary of baseline survey information, potential impacts, recommendations and biodiversity enhancement opportunities for the site (PEA/PRA; Arbtech, November 2023) **NOW SUPERCEDED BY TABLES 2 AND 3**

Feature	Survey Results Summary	Impact Assessment	Recommendations	Biodiversity Enhancement Opportunities ¹
Designated sites	There is one statutory site within 2km of the site, the closest being South Thames Estuary and Marshes SSSI located ~1980m south-east of site. The presence of non-statutory designated sites within 2km of the site cannot be established without data from Kent and Medway Biological Records Centre (KMBRC). The estuary directly to the	No direct impacts to any designated sites will occur as a result of the proposed development. However, due to the possible presence of non-statutory designations in the vicinity, indirect effects such as pollution or tree damage could occur during construction.	Best practice measures to minimise the possibility of pollution must be implemented during construction.	None.

¹ The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021).

	north is likely to contain features qualifying it for non-statutory designation.			
Habitats and flora	There are no notable habitats within the site but four habitats are present within 2km of the site, the closest being Mudflats, which is located directly adjacent to the north of site. Habitats within the site, such as hard standing and common tree species, are common and widespread and have low ecological value. No invasive, protected or notable plant species were recorded during the survey.	No direct impacts to any notable habitats will occur as a result of the proposed development. However, due to the proximity of the site to Mudflats, indirect effects such as pollution could occur during construction. The proposed development will result in the external and internal refurbishments of B2 and B3, which include demolition and re-building of a stairwell on the eastern elevation of B3, plus an additional floor extension to B3 and the relocation of the mast from B3 to B5. Landscaping and re-paving of the southern side of site will also occur. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitats. As part of the overall development proposals, this includes a comprehensive landscaping proposal, which includes additional planting, together with retention of all associated trees.	A Construction Environmental Management Plan (CEMP) will be required, outlining best practice measures delineate the construction zone and to minimise the possibility of pollution and tree damage during construction. Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012).	The following habitat creation and enhancement opportunities could be incorporated into the proposed development: Planting native trees and shrubs. Species-specific enhancement opportunities are detailed later in this table.
Amphibians and Reptiles	The site is not suitable for common amphibians and reptiles due to the lack of suitable habitat on site. The site is also located between the estuary and urban landscape, such as roads, buildings and towns, meaning it is very unlikely that common amphibian and reptiles are present on site and within the wider landscape.	No impacts are anticipated on common amphibians and reptiles, including great crested newt, as a result of the proposed development as this species is considered to be absent from the site.	None.	None.

Roosting bats (buildings and trees)	B1-5 and the trees on site have negligible value for roosting bats due to a lack of potential roost features.	Bats are very unlikely to be roosting within the buildings or trees and as such, there are not anticipated to be any impacts on roosting bats as a result of the renovations and extensions to the buildings.	In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.	The installation of one bat box at the site will provide additional roosting habitat for bats. The bat boxes will be installed on a retained building or tree. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
Foraging and commuting bats	The trees on site could be used by local bat populations for foraging and commuting, although provides very low habitat value. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats: Planting of native tree, shrub and hedgerows to increase foraging opportunities.
Badger	There are no badger setts within 30m of site or on site. The site or wider landscape does not provide habitats which badgers use. It is possible for urban badgers to commute through site, however, there are very limited foraging opportunities.	No impacts are anticipated on badgers as a result of the proposed development.	None.	None.
Hazel dormouse	The site is not suitable for dormice due to the lack of habitat on site which dormice typically use. The	No impacts are anticipated on hazel dormice as a result of the proposed development.	None.	None.

	site is not connected to suitable habitats within the wider landscape.			
Hedgehog	The site does not provide habitats which hedgehogs can use for seeking shelter, foraging or hibernating. The site is open and can be used by commuting hedgehogs.	The south of site will be impacted by landscaping and re-paving during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of commuting urban hedgehogs, if present.	A precautionary working method will be implemented during construction, including the following measures: - Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. - The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. - If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.	None.
Otter and Water Vole	The site is not suitable for otters and water voles due to the lack of habitats on site. The surrounding landscape is not suitable for water voles due to the lack of water courses which they typically use and urban location. The estuary could be used by otters, although there are no habitats which could be used for holt creation.	No impacts are anticipated on otters and water voles as a result of the proposed development.	None.	None.

Birds	The site offers limited suitability for nesting and foraging birds, which is restricted to the trees to the south of site and small section of introduced shrubs. The buildings do not provide nesting opportunities. The site is not suitable for wintering or ground nesting birds, or barn owls.	The trees will be retained, however, the introduced shrubs will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally. However, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.	Vegetation removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.	The installation of four bird boxes at the site will provide additional nesting habitat for birds. The bird boxes will be installed on retained buildings or trees. General purpose bird boxes should be positioned 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Species-specific bird boxes should be installed in line with manufacturers specifications.
Invertebrates	The site offers limited suitability for common invertebrate assemblages, which is restricted to the trees to the south of site and small section of introduced shrubs.	The trees will be retained, however, the introduced shrubs will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for invertebrates: - Planting native trees and shrubs. - Installation of insect boxes.

3.0 Ecological Mitigation Measures

Table 2 summarises the mitigation measures that will need to be undertaken to ensure that the development does not have a detrimental impact on protected species and habitats.

Table 2: Ecological Mitigation Measures

Works	Specification
Construction Ecological Management Plan	Due to the site being adjacent to a priority habitat (mudflats), a Construction Environmental Management Plan (CEMP) will be required, outlining best practice measures to delineate the construction zone and to minimise the possibility of e.g. pollution (dust, noise, light) and damage during construction.
Persons Responsible	The Biodiversity Champion will be responsible for the provision of the new landscaping and species-specific enhancements. The occupier of the proposed development (i.e. the landowner or managing agent) will be responsible for the management of these features post development. The Port of London Authority have an internal technical ecological expertise that can be utilised if any unforeseen issues arise during the development.
Management Term	The management prescriptions outlined within this table must be implemented over a period of at least 30 years.
Tree Protection	The trees on site will be retained. Retained trees – particularly their roots, but also the stems and canopies - could be impacted by construction works if precautionary measures are not followed. A Tree Protection Plan must be produced and strictly adhered to throughout the construction works. This will involve temporary ground protection measures to protect tree roots, where encroachment into the theoretical root protection area (RPA) of the retained trees is unavoidable.
Nesting Birds	The trees will be retained, however, the introduced shrubs will be removed during construction. This could result in the destruction or the disturbance and subsequent abandonment of active bird nests. Vegetation removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.
Other Protected Species	In the unlikely event that a bat, reptile, newt, badger, dormouse, or Schedule 1 bird species is discovered on site during the works, all works must stop and a licensed ecologist must be contacted for further advice.

4.0 Provision of New Landscaping and Species-Specific Enhancements and Management Measures

Table 3 outlines the habitat creation and enhancement opportunities and long-term management which will ensure that a net gain in biodiversity is achieved and maintained on the site, in accordance with the National Planning Policy Framework (NPPF).

Table 3: Provision of New Landscaping and Species-Specific Enhancements

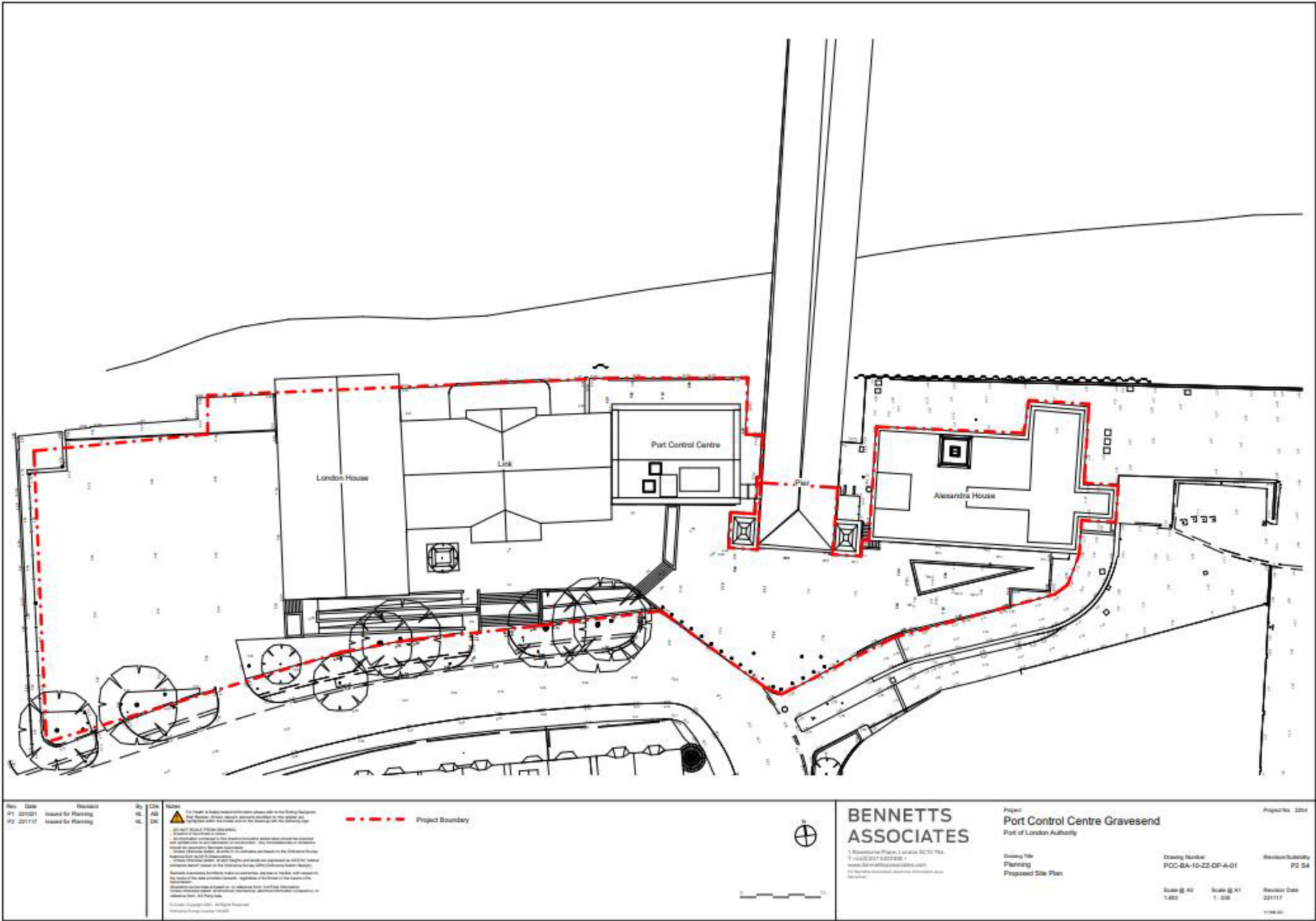
Works	Specification
Bat Boxes	Four bat boxes will be installed on the retained tree line on the southern site boundary. Bat boxes specification: - The recommended bat boxes will be constructed of woodcrete/ woodstone. Boxes of this construction are designed to require no maintenance and have a lifespan of 25 years plus. 2x General Purpose Bat Boxes (or similar alternative brand) are recommended on the trees, as shown in Figure 1. - Bat boxes should be positioned 3-5m above ground level facing in a south, southeast, or southwest aspect with a clear flight path to and from the entrance, away from artificial light. Figure 1: General Purpose Bat Box (image credit https://www.nhbs.com/convex-wood-concrete-bat-box) Recommended Management: The proposed bat boxes are designed to require no management or maintenance. Furthermore, preventing physical disturbance of bat boxes will increase the chances of occupation by roosting bats. However, it is recommended that the bat boxes are inspected annually for the first five years outside of the typical active season for bats (May to September inclusive) following installation. Bat boxes must be replaced if they are damaged, removed, or have fallen from their recommended location.

Bird Boxes	Two bird boxes will be installed on the retained tree line along the southern site boundary. <i>Bird box specification:</i> • The recommended bird boxes will be constructed of woodcrete/ woodstone. Boxes of this construction are designed to require no maintenance and a lifespan of 25 years plus. • 2x Woodstone Nest Boxes (or a similar alternative brand) with 28mm entrance holes are proposed on the trees, as shown in Figure 2. A photograph of a green and white Woodstone Nest Box mounted on a tree trunk. The box has a green gabled roof and a white front panel with a circular entrance hole. It is secured with two screws on the sides. Figure 2: Woodstone Nest Box (image credit arkwildlife.co.uk) <i>Recommended Management:</i> The proposed bird boxes are designed to require no management or maintenance. Furthermore, preventing physical disturbance of bird boxes will increase the chances of occupation by nesting birds. However, it is recommended that the bird boxes are inspected annually for the first five years outside of the typical nesting bird season (March to September inclusive) following installation. Bird boxes must be replaced if they are damaged, removed, or have fallen from their recommended location.
Insect Box	An insect box will be installed on a retained tree on the southern site boundary (Figure 3). An insect box suitable for the site (or a similar alternative brand) can be found here: https://www.nhbs.com/national-trust-apex-insect-house



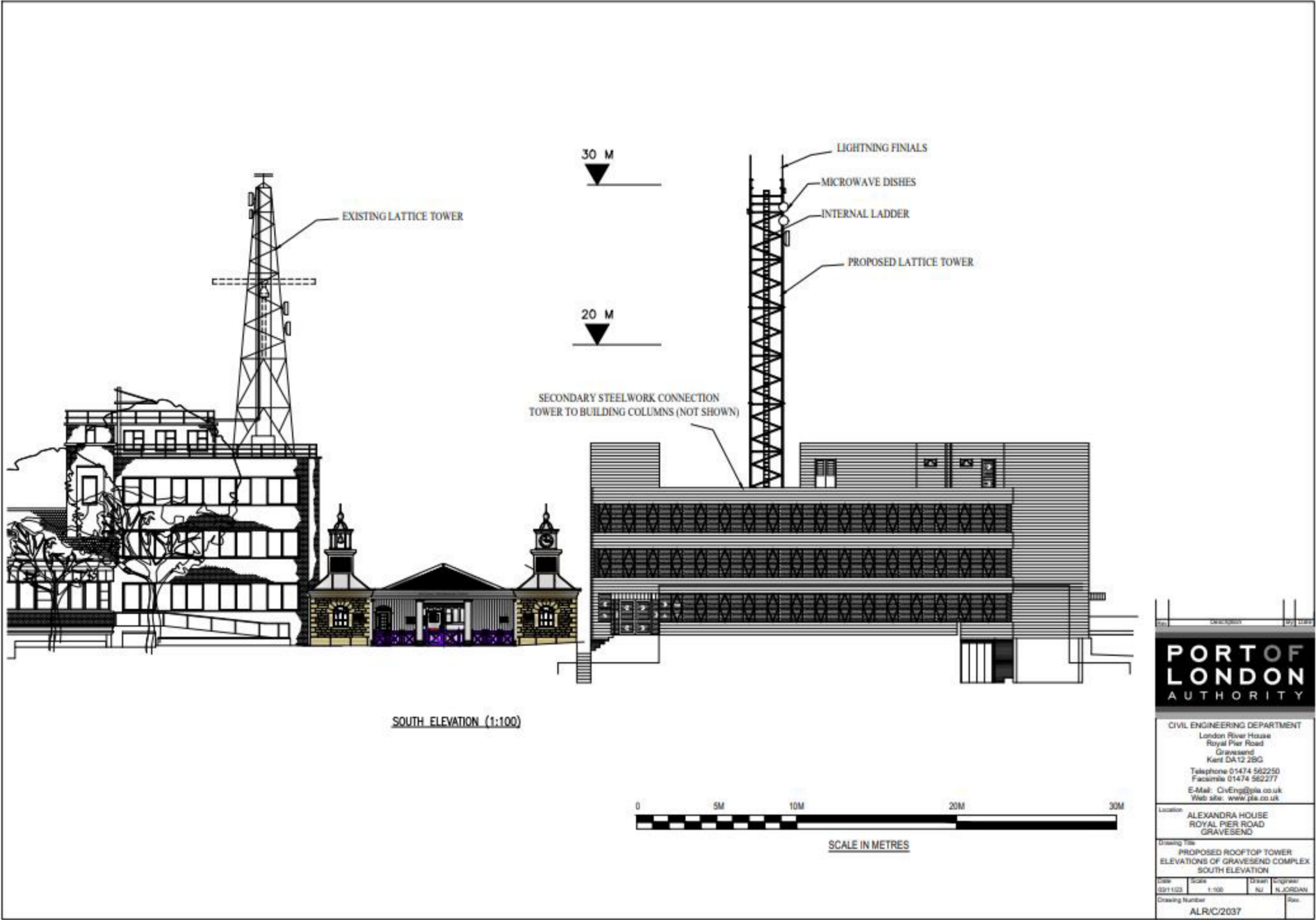
Figure 3: Insect box (image credit <https://www.nhbs.com/national-trust-apex-insect-house>)

Appendix 1: Proposed Development Plan









Appendix 2: Site Location Plan



Appendix 3: New Landscaping and Species-Specific Enhancements Plan

