5.4 Amenity Play and Activity Provision

Activity Areas

- The NEAPs must meet the generic requirements detailed above plus also possess the following specific characteristics and features
- Activity zones (1000m² ha each) surrounded by a buffer zone extending at least 30m from its edge to the boundary of the nearest dwelling. This buffer zone can include small access roads, pavements etc. The two zones together are at least 0.4 ha in size
- Designed in partnership between a landscape architect and a play equipment company to provide high amenity value.
- Separate zones for younger and older children, possibly within the same activity area, or by means of two distinct activity areas in close proximity at the same location.
- A clearly recognisable boundary to the activity area (or to each separate activity area if separated). This created through planting, ground formations etc. zone, then the activity area must be enclosed by a sturdy fence.
- Provide a minimum of 2 activities designed for older children and adults - such as table tennis or boule.
- Provide two large little bins suitably located on the perimeter of the activity zone, close to access points.
- Provision for cycle parking positioned in beside a number of well used pedestrian routes.

Lawn

Play wall

Playful bleachers and loungers

Play huts

~~linear water play~~

Water feature play

Natural play features

Amenity spaces - seating / tables / BBQ

Community Play Area

Water Play

Doorstep Play

Activity Areas

5.5 Biodiversity

Biodiversity

The scheme aims to be a positive asset to the wider RBC GI of green spaces / tree cover.
The development proposals should enhance biodiversity and contribute to urban greening. The landscape proposals should be developed to provide meaningful and multi-functional green infrastructure which benefits both the site and the wider local area in conjunction with an ecology consultant. The proposed development should include a number of avoidance, mitigation and biodiversity enhancement measures which will be detailed within a Ecological Assessment Report.

Measures include:

- Increased number of proposed trees and canopy cover
- Creation of large areas of new areas of species-rich wild-flower meadows and succulents at roof level;
- Creation of intensive green roofs over podium including a rich mix of species including pollinator friendly species;
- Climbing species trained on strained wire systems to create living walls;
- Installation of bird and bat boxes, and log piles for invertebrate species; and
- Improved lighting sensitivity designed to take into account bats (subject to ongoing bat surveys).

The above measures have been considered to improve existing habitats and create new habitats to result in positive gains for biodiversity and meeting of the 10% BNG target under the Environment Act 2021.

Principles

Ecological enhancements should:

- *Protect retained habitats and species.*
- *Create new opportunities for local wildlife on the site*
- *Where possible retain existing trees along the eastern, and northern boundaries.*
- *Use predominantly native tree species in proposed planting to boundaries*
- *Provide a network of tree avenues and new planting to create ecological corridors and connectivity through the site for the benefit of foraging birds, commuting bats, and other wildlife.*
- *Plant fruit and flower bearing trees to provide a valuable food resource for bees and other wildlife*
- *Create small log piles to provide habitat for invertebrates within the existing tree line using any dead wood from tree removal and ongoing maintenance.*
- *Pollinator and nectar rich planting must be incorporated into the landscape design proposals*
- *Bat boxes must be located on southern and eastern aspects where they will experience partial shade. They must be set 3-10m from the ground and be away from prevailing winds and rain. They must be positioned with free flight paths and away from high level lighting such as lamp posts.*
- *Include biodiverse roofs to 50% of roofscapes subject to accompanying P.V and ASHPs as required by the energy strategy*
- *Provide interpretation to habitats and trails to engage community with nature*

5.5 Biodiversity

Green Infrastructure

- Plummery Rain Gardens + Mix of Street trees + retention of TPO trees: 30% Landscape / 70% Hard
- Courtyard & Terraces Amenity Spaces: 50% Landscape / 50% Hard
- Square Amenity Spaces: 30% Landscape / 70% Hard
- Green Street: 50% Landscape / 50% Hard
- Biodiversity Roofs: 50% Landscape / 50% Hard
- Threshold Spaces: 60% Landscape / 40% Hard
- Infrastructure: Native hedge and tree planting to supplement existing

5.6 Tree Planting

The tree planting for the development will be an important component which should to respond the Reading Borough Council Tree Strategy published in March 2021.

The RBC 2020 Tree Strategy has the following objectives:

1. Tree Stock – protect, retain, manage and plant trees to ensure an increased canopy cover of healthy trees resistant to pest and diseases and climate change and to reduce air pollution.
2. Climate adaptation – increase the diversity of the tree stock (family, genus and species) to provide resistance to climate change; plant large canopy species wherever feasible; maintain and keep trees healthy in order that they can achieve their full potential thus ensuring that Reading's Urban Forest is resilient to the impacts of climate change and provides the maximum role in mitigating its effects.
3. Tree planting – plant at least 3,000 'standard' trees by 2030 on Council land.
4. Canopy cover – increase overall canopy cover to 25% by 2030; ensure that all wards have at least 12% canopy cover by 2030; and target priority areas for tree planting based on canopy cover, air pollution, treed corridors, green links, areas of high landscape value and ensure RBC and planting on development sites considers these.
5. Protection of private trees – the Local Planning Authority will continue to use its powers under the Town & Country Planning Act 1990 to make Tree Preservation Orders and to retain and protect trees on development sites in line with good arboricultural practice.
6. RBC will engage with partners, public and landowners and work with key partner volunteer groups to raise awareness of the Tree Strategy aims and good arboricultural management practices.
7. Improve biodiversity across the Borough by; selecting trees that are either native or of wildlife value, particularly in semi-natural areas; by ensuring that tree planting does not compromise or adversely affect other habitats; by use of natural regeneration where practicable; and by protecting ancient woodlands and ancient/veteran trees.
8. Identify all areas suitable for street trees and other planting on Council land initial study to be completed by 2022, with continued updates.
9. Funding – continue to secure funding for tree planting through government and other funding streams and partners.
10. Biosecurity – continually review RBC purchasing and working practices to ensure RBC are working to good arboricultural practice to minimise the chance of introducing and/or spreading pests, diseases or invasive species within the Borough.
11. Trees & Development – tree retention, protection and planting within development sites will be in accordance with the aims of the Tree Strategy and Local Plan policies.
12. Monitor progress – record and report net tree gain on an annual basis and reassess canopy cover in 2030."

Existing Trees

- *The development should retain the existing trees on the northern boundary subject to constraints of easements and Network Rail requirements.*

- *All trees and vegetation to be retained must be protected in accordance with the approved Arboricultural Method Statement.*

- ***Final design must ensure no impact on the long term health of retained trees and ensure surrounding features and structures do not create conflict such that their sustainable retention is impacted.***

Within the protected areas;

- *No vehicles are allowed to enter*
- *No stockpiling of materials, topsoil, subsoil, rubbish, debris, rocks or other extraneous material*
- *No storage of fuel, chemicals, or construction materials*

5.6 Tree Planting

Proposed Trees

- *The development should achieve the following minimum tree 5-10% overall tree canopy cover at completion of development 10-15% overall tree canopy cover at year 10 post completion 15-20 % overall tree canopy cover at year 20 post completion 25% overall tree canopy cover at year 25 post completion.*

- *The development should deliver robust and diverse mix of proposed trees.*

A diverse mix of tree planting as set out in the RBC Tree Strategy, March 2021

When designing tree pits, landscape proposals must ensure sufficient rootable soil volume and soil quality is provided for healthy and sustainable establishment of trees and must be suitable to species size. If necessary, structural soils or cellular systems may be used to achieve rooting volumes, particularly in areas of hard surfacing.

Mature canopy size of trees must be considered to determine spacing of trees and their set back from building façades.

Set back distances from façades and road edges will be subject to detailed tree specification at RMA stage and must be determined on a species-by-species basis.

Minimum planting sizes for different tree characters must be as follows:

Tree size	*Mature height*
Small trees	*Up to about 8 metres (25 ft)*
Medium trees	*About 8–15 metres*
Large trees	*Over 15 metres*

- *Large feature tree planting: min.6-7m height, 35-40cm, min. 2.2m clear stem.*
- *Medium size semi-mature tree planting: min. 5-6m height, 25-30cm, 2.2m clear stem.*
- *Small trees / multistem trees: 2-3m within soft landscaped areas.*

Tree rooting volumes must be:
- *Minimum 14m³ or greater for Small sized trees.*
- *Minimum 20m³ or greater for Medium sized trees.*
- *Minimum 25m³ or greater for Large sized feature trees.*

Plant species and stock selection must have regard to biosecurity measures to mitigate against disease risks.

Root barriers must be used to safeguard below ground services and building foundations where necessary.

Tree pit accessories such as aeration / irrigation pipes / watering bags and drainage inspection pipes must be provided for all street trees to support successful establishment and to facilitate monitoring.

Tree planting to comply with:
BS 5837:2012: Trees in Relation to Design, Demolition and Construction – Recommendations.

BS 8545:2014+A1:2026Trees: from nursery to independence in the landscape -Recommendations'

Podium loading will be 20 kN/m2 - 1000mm depth soil profile.

Base Landscape

The provision of robust base landscape materials are as follows:

Soils to comply with:
- *BS 3882:2015 Specification for topsoil*
- *BS 8601:2013 Specification for subsoil and requirements for use*
- *BS 8545:2014+A1:2026 Trees: from nursery to independence in the landscape -Recommendations*
- *BS 8616:2019: Specification for performance parameters and test methods for green roof substrates lightweight growing medium*
- *Podium loading will be circa 20 kN/m2 - 1000mm depth soil profile*
- *Biodiversity roof will be circa 4 kN/m2 - 200mm depth soil profile*

5.6 Tree Planting

Tree Planting

- TPO Trees retained
- Large scale trees / rain gardens
- Medium mature height tree
- Medium mature height trees to reflect pioneer woodland character landscape
- Small growing, medium to ornamental and semi-native trees. Spring flowering and autumn colouring

5.7 Planting

The planting strategy has been developed to ensure that the proposed development fits seamlessly into the host landscape, by enhancing and building upon existing site features, the landscape characteristics of the surrounding area and the existing plant species native to the area.

Wherever possible existing trees and hedges to the north and eastern boundaries have been retained and incorporated into proposed planting areas.

Planting should seek to provide:

- Instant impact in key locations through the use of larger growing trees and larger stock size at time of planting
- Seasonal interest
- Enhanced biodiversity opportunities across the site
- Edible and productive landscapes to engage the community with the living world.

The planting strategy proposes the following typologies:

- Existing vegetation to be retained
- Plummery Gardens - rain garden planting & avenue trees
- Eastern Square - herbaceous garden planting
- Western Square - herbaceous garden planting
- Woodland Garden - woodland
- Green Streets - pioneer planting
- Infrastructure boundary - native hedge tree planting

Existing Vegetation to be retained:
Retained vegetation will include TPO trees along Kenavon Drive and selected trees to north and west boundary. All of the remaining existing vegetation will need to be removed in order to facilitate the proposed buildings.

Plummery Gardens:
Rain gardens including flowering perennials will provide a dynamic element with seasonally changing colour.

Western Courtyard:
Where the terrace benefits from greater sunlight, the planting design will echo species-rich meadows with a mix of grasses and perennials. And transition to shady understory in darker areas. A scattering of flowering perennials will provide a dynamic element with seasonally changing colour.

Central Garden:
The planting reflects a shady native woodland character with a mix of ferns and grasses forming a verdant evergreen understorey. A scattering of flowering perennials will provide a dynamic element with seasonally changing colour.

Green Streets:
The north south green streets will include a mixture of pioneer tree species, grasses and herbaceous perennials to reflect the character of regenerating railway sidings.

Eastern Courtyard:
At the upper level where the terrace benefits from greater sunlight, the planting design will echo species-rich meadows with a mix of grasses and perennials. The overall effect will be light and airy with a naturalistic aesthetic.

Infrastructure:
Native hedge planting to be provided to the northern and eastern boundaries, to reinforce existing trees and vegetation there these can be retained.

Biodiversity Roofs:
The biodiversity roofs will be designed to support a combination of both sedums and wildflower plugs. A diverse mix of wildflowers together with other ecological interventions, such as log piles and bird/bat boxes will provide an extensive area of valuable habitat which will support local wildlife and contribute towards sustainability criteria.

Sustainability Requirements:
Planting plans will be developed during early Stage 3 to enable Stantec's Project Ecologist to measure Biodiversity Net Gain and advise the team where the project stands in relation to BREEAM LE credits.

5.7 Planting

Principles

- *A variety of planting palettes should be provided to reinforce the hierarchy of community spaces within the development.*
- *Avenue tree planting to be provided to Forbury Road to reflect the historic avenue in this location.*
- *Existing hedgerows to north and east boundaries to be managed for wildlife benefit, and viable wildlife corridors.*
- *New hedges should be of predominantly native species to reinforce the existing network of hedgerows across the site.*
- *Tree and shrub species selection to areas adjacent to water attenuation areas/rain gardens should be tolerant of a variety of soil conditions - from dry to wet.*
- *Trees in strategic locations to provide 'instant impact' to the scheme from the outset.*
- *Trees along primary roads to be planted to ensure positive visual impact from the outset. Large growing trees, to be selected. Trees not to be planted as single trees, but as a minimum of 2 together.*
- *Tree planting will be coordinated with all potential conflicts, including lighting, services, bin & cycle stores and visibility splays.*
- *Trees along secondary roads to be planted to ensure positive visual impact from the outset. Medium growing trees, preferably native species, to be selected. Trees should be planted as 2 no trees together as a minimum.*
- *Tree planting to tertiary roads and plots should be provided to, planted in groups of no less than 2 wherever possible.*
- *Blackthorn and elder should form only a minor component of hedgerow mixes (5% or less of mix), as these species spread rapidly, and require extensive maintenance.*
- *Species selection to include native plants that provide biodiversity benefits including pollinators, fruit, nut and nectar bearing species.*
- *With reference to the supply of trees and plants - Suppliers must not knowingly purchase any plants from regions where the disease Xylella is known to exist.*
- *All plants for this project must be UK grown or spend a minimum of a full growing season in a British nursery to ensure plant health and non infection by foreign pests and diseases.*
- *Native shrub planting mixes should include species which will grow more than 1.5m in height, or which cannot be coppiced to maintain the lower height, to allow for intervisibility between spaces.*
- *Due to the seasonal nature of plant material, planting works must be undertaken at an appropriate time of year.*
- *Soils to comply with BS3882: 2015 soil specification for topsoil, and BS8601: 2013 Specification for subsoil and requirements for use.*

5.7 Planting

Soft Landscape

- Plummery Garden: Rain Gardens + Mix of Street trees + retention of TPO trees
- Green Street: Pioneer woodland/grasses character understory + Mix of tree species + productive landscape areas
- Squares, Yards & Terraces - herbaceous grasses with seasonal colour and variety
- Biodiversity Roof: Kings Meadow character
- Infrastructure: Native Hedge and wildflowers

5.7 Planting

Green Infrastructure

- Plummery Rain Gardens + Mix of Street trees + retention of TPO trees: 30% Landscape / 70% Hard
- Courtyard & Terraces Amenity Spaces: 50% Landscape / 50% Hard
- Square Amenity Spaces: 30% Landscape / 70% Hard
- Green Street: 50% Landscape / 50% Hard
- Biodiversity Roofs: 50% Landscape / 50% Hard
- Threshold Spaces: 60% Landscape / 40% Hard
- Infrastructure: Native hedge and tree planting to supplement existing

5.8 Materials

Materials

The furniture and materials should seeks to strengthen the sense of place by referencing the history of the site, the former railway sidings, and also the wider town centre to ensure continuity and legibility with the wider setting of Reading. A hierarchy of materials is proposed at this stage, but further selection and detail should be provided at RMA stage.

Floorscape:
The floorspace materials should respond to the proposed and existing architecture with pennant stone slabs that reflect the primary frontage to Plummery Gardens/Linear Park and the Eastern Square and a finer grain to the streets. Granite kerbs and rills will be used along Plummery Garden, providing a high quality interface with the wider setting of Forbury Place, Forbury Gardens, Abbey, Prison and Huntley Wharf. Pennant grey tumbled pre cast concrete blocks will define the shared space for pedestrians, cyclists and cars and a more informal resin bonded gravel surfacing will mark the route of the woodland garden paths and the Western Courtyard. High quality pre-cast concrete kerbs will be used for internal roads with weathered steel edging providing a neat edging between planting, lawns and areas of brick paving.

Walls, Stairs and Structures:
The site should be accessible with options between stepped or graded access routes and entrances to buildings and amenity spaces and gardens.

Use of pennant stone on the stepped access points along key routes will help provide a high quality floorscape that respects the wider setting. Key thresholds and some private boundary treatments will be defined by brickwork walls to tie in with the language of the architecture, some of these will be detailed with railings, referencing the ironworks heritage of the locality. Subtle changes in level will be taken up with stepped stone seating and localised sections of timber decking will protect areas beneath existing trees, adding variety and interest to new amenity spaces.

Furniture:
The street furniture should be robust and aesthetic, the seating elements will comprise robust timber elements evoking the aesthetic of timber sleepers, with standard and platform scale benches and large scale timber feasting benches to encourage social interaction and community activity.
The inclusion of metalwork detailing to balustrades, tree grilles, threshold details and gates will reference the former railway heritage, adding interest and helping to promote a local sense of place.

Water Feature:
The development should deliver water into the public realm in the form of a rill to Plummery Gardens to re-imagine the former Plummery Ditch and a playable dry/wet water feature grid in the Eastern Square as part of the place making, play value and summer cooling.

Surface Materials Principles:

- *A hierarchy of materials is proposed to reflect the status of the various areas, with flags and setts used in the central areas and softer materials used in the residential fringe areas.*
- *Materials should be selected to reinforce a hierarchy of spaces, and routes,*
- *Use of simple, restrained and uncluttered palettes of materials, with key elements and materials in common.*
- *Subtle variations in surface materials, in terms of colour, mix, dimensions, laying pattern and finish, should be used to reflect different character areas and local vernacular.*
- *Consideration should be given to the materials supply, durability, longevity and ease of replacement or replication.*
- *Materials colours must be muted and of natural tones to complement rather than detract from the adjacent buildings and landscape setting.*
- *The landscape and public realm materials should be selected to have the highest regard to sustainable procurement.*
- *A range of appropriate adoptable materials should be used in order to reinforce the street hierarchy and create a safe, comfortable neighbourhood identity.*
- *The materials palette must also adapt to accommodate an evolving SuDS strategy, where permeable or pervious surface materials may be required to parking courts, or roadways, or surrounding tree pits, where the underlying geology allows.*
- *Materials should be related to each other - colour,*

5.8 Materials

texture and size and it should complement adjacent materiality.

- *High quality p/c kerbs to be used to highways, and footways in built up areas*
- *Flush p/c kerbs to be laid flat to civic spaces as necessary to define changes in materials*
- *Raised tables - where used to slow traffic - should be either quality p/c block in colours to match adjacent pathways or buildings or imprinted safety surface to represent block paviours in colour similar to adjacent pathways.*

Primary Streets and Spaces

Floorscape:
Pennant Stone Slabs and Setts
Granite Kerbs

Walls and Edges:
Brickwork to match the buildings

Furniture:
Robust FSC European Hardwood, Siberian Larch, Douglas Fir

Secondary / Tertiary Streets and Spaces

Floorscape:
High quality precast concrete block
High quality precast concrete kerbs
Permeable resin bound aggregate

Walls and Edges:
Galvanised steel metal edges
Galvanised Steel / Weathered Steel Planters
Brickwork to match the buildings

Furniture:
Robust FSC European Hardwood, Siberian Larch, Douglas Fir

Surface finishes to comply with:
BS 7533-101:2021 Pavements constructed with clay, concrete or natural stone paving units

Natural stone material to comply with:
BS EN 1341:2012 Slabs of natural stone for external paving
BS EN 1342:2012 Setts of natural stone for external paving

Concrete surface material tO comply with:
BS EN 1338:2003 Concrete paving blocks
BS EN 1339:2003 Concrete paving flags
BS EN 1340:2003 Concrete kerb units

5.8 Materials

Street Furniture Principles:

- *Ensure that palettes of street furniture are developed which reflect the character of the site.*
- *Street furniture products should be selected to suggest a family of products, which have similar materiality and design references.*
- *Where products are selected from different suppliers, the emphasis should be on selection of products with similar design aesthetic and materiality.*
- *Street furniture elements should be of similar scale to each other. That is, the scale of litter bins, and other street furniture elements should reflect each other and the space they sit in.*
- *Street furniture products must be sourced from established suppliers with a consistent proven supply chain, to ensure a reliable procurement and replacement process.*
- *Street furniture products should be selected from sustainable sources, and accredited hardwood timber suppliers.*
- *Street furniture positions should be considered from the outset to ensure an uncluttered streetscape, with litter bins located close to seats, and away from pedestrian and cycle routes.*
- *Street furniture should be selected which has a contemporary rather than a pastiche aesthetic without being overtly urban. The following principles must apply across the development to the street furniture palette*
- *Street furniture kept to a minimum through good design to reduce street clutter.*

Seating, Benches & Picnic Sets should:

- *Be selected to reinforce the character of host public realm -*
- *Be provided at regular intervals of approximately every 100m to provide inclusive design for all ages and abilities. Seating should allow opportunities for integration of wheelchair users and shall include armrests and back support.*
- *Allow for ease of maintenance and be resistant to vandalism.*
- *Use concealed recessed ground fixings should be used.*

Litter/Dog Bins should be:

- *Provided along streets, pedestrian routes and within public open spaces in association with seats, and picnic benches.*
- *Located near bus stops and key gateway thresholds.*
- *Robust, functional rat and fire proof.*
- *Dog bins must be located at the beginning and end of the greenways, one bin provided a the approach to significant open space areas Match the seating materiality relevant to the location.*

Cycle Stands should be:

- *Provided at, or close to the entrance to key spaces.*
- *Sheffield style in black cast iron or powder coated*
- *Installed using concealed recessed ground fixings*
- *Installed as a minimum in ranks of no less than 5 number at spacings of 1m minimum, on a hard surface appropriate to the location.*

Tree Grilles & Tree Guards:

- *Trees in hard standing, should be planted with a Steel Tree Guard - Furnitubes ' Greenwich Radial Flat Bar Tree Guard' or similar approved 1800mm high.*
- *Trees over 16-18cm girth, in greenways, play areas, and all other open spaces areas should be staked in accordance with the landscape specification.*
- *Tree grilles should be provided to trees in hardstanding to match the tree guards.*

Bollards should:

- *Be selected to reinforce the character of host public realm and seating palette*
- *Be provided in a variety of sizes to suit location and use.*
- *Be provided in a variety of specifications to suit use - drop down to allow maintenance/vehicle access, with reflective strips adjacent to waterways or swales.*

Signage:

- *Should be of high quality design.*
- *Street nameplates to be attached to walls, railings, fencing, buildings as default.*
- *Signage should be designed to use a consistent style and typography, and reflect the materiality of the palette of street furniture for the location.*

5.8 Materials

Surface Materials Strategy

- High quality EU sourced natural stone paving with permeable provision laid in staggered bond - random sizes
- Infrastructure road: High quality concrete permeable block
- High quality permeable block provision in various sizes
- Terrace : High quality porcelain tiles on joist system
- Vehicular thresholds
- Play areas saftey surface
- Gravel margin to biodiversity roofs

5.9 Surface Water Drainage SUDS

A site-wide approach to water management has been developed on a holistic basis, and seeks to maximise the opportunities and benefits from surface water management in line with the guiding principles established within the Ciria SuDS Manual (C753).

A Site Wide Drainage Strategy should be developed in more detail at the RMA stage.

The proposed system will be designed to manage a 1 in 100 year rainfall event with an appropriate allowance for increase in rainfall intensities to take account of the predicted effects of climate change, thereby managing the on-site risk.

The following Suds features are to be provided:

- *Rain gardens*
- *Permeable paving over natural ground*
- *Soft Landscape areas*
- *Biodiversity roof / green roof/ blue roof / attenuation tank below ground.*

A summary of the key points are set out below:
Surface water arising from a developed area should as far as practicable, be managed in a sustainable manner to reduce surface water flows arising from the site to below the level prior to the proposed development, reducing the flood risk on the site itself and elsewhere, taking climate change into account.

Where SuDS features are vegetated, planting must be selected to be tolerant of flood and drought within the SuDs.

Design of SuDS features should:

- *Ensure management of these can be carried out in a sustainable way and should explore opportunities to re-use harvested water.*
- *SuDS features should be designed to contribute to RMA drainage strategies and to habitat creation and include a proportion of native species.*
- *Permeable paving should be used in hard landscaped public realm areas where appropriate as part of detailed drainage strategy prepared for future RMAs.*

The SuDS strategy should:

- *Provide SUDs features that appear to be an integral and natural element within the landscape areas*
- *Provide multifunctional SuDS that are sensitively incorporated into the Green Infrastructure , providing sustainable quality amenity spaces, and attractive interface to housing .*
- *Provide SUDs features that are designed to avoid the need for safety fencing to water edges through the use of appropriate contouring (max 1in3 slopes), planting including emergent plants to waters edge, and dry/wet benches above and below permanent water level of min 1.5m width.*
- *Contribute to varied and enhanced biodiversity for the site*
- *Integrate engineering and landscape elements from the outset to minimise over engineered solutions to SUDs infrastructure*
- *Assessments will be undertaken at the Detailed Design stage to ensure attenuation features meet Rospa and all other safety criteria and guidance in terms of safety at inland water sites.*

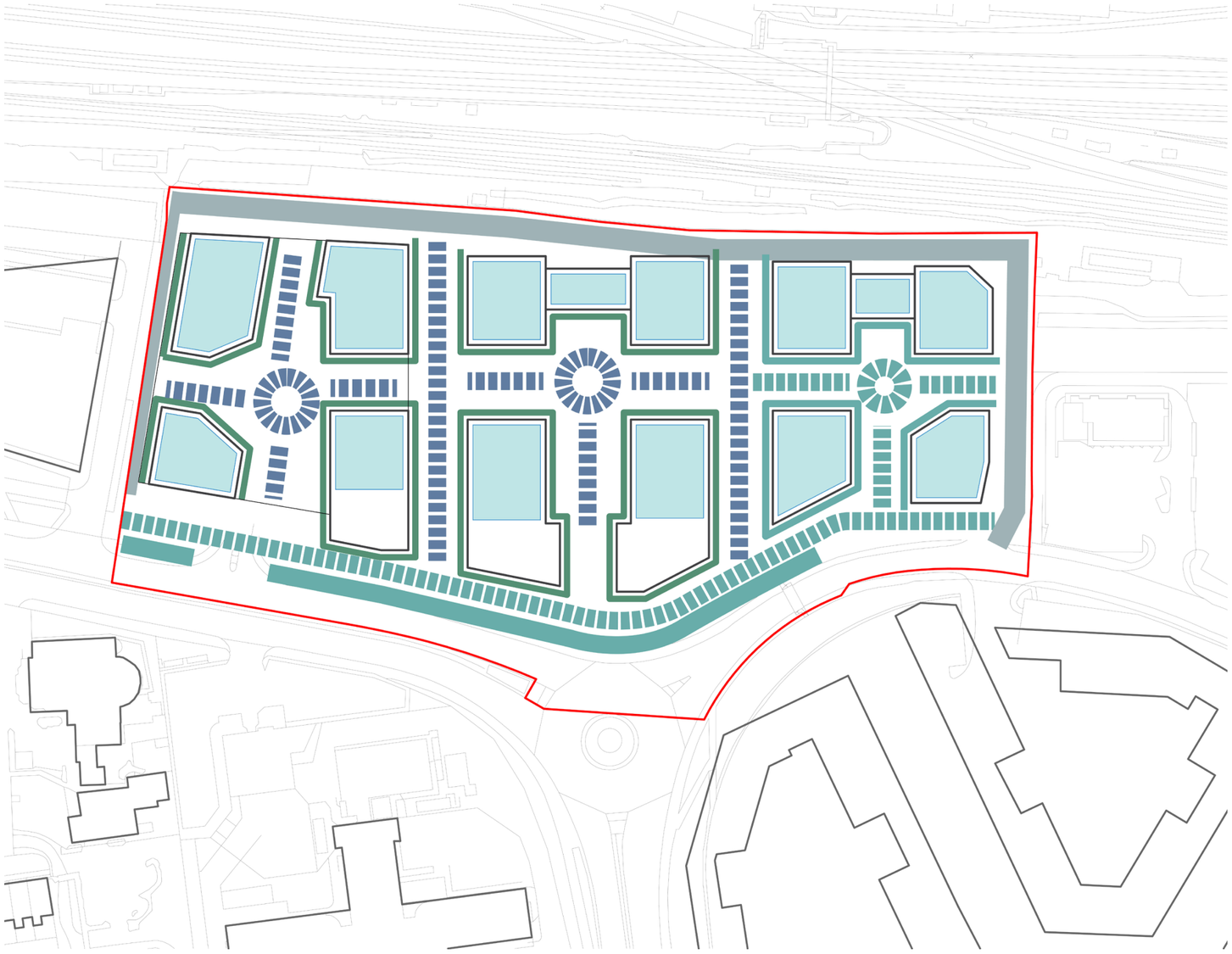
Design proposals should make reference to best practice guidance and documents as follows:

- *The SuDS Manual - CIRIA -2015 CIRIA C753*
- *Health and safety principles for SuDS: Framework and checklists CIRIA RP992 The SuDS Manual Update*
- *National Planning Policy Framework (February 2017) and associated online guidance*
- *Water Framework Directive 2017*
- *Flood and Water Management Act (2010)*
- *National Standards for Sustainable Drainage 2015*
- *RoSPA Safety at inland water sites 2019*

Particularly regarding biodiversity:

- *Sustainable drainage systems: Maximising the potential for people and wildlife (WWT and RSPB)*
- *Delivering biodiversity benefits through green infrastructure 3011 CIRIA C711.*

5.9 Surface Water Drainage SUDS

Water & Drainage

- Permeable Paving over natural ground
- Planting areas:
- Rain Gardens
- Permeable surfacing to links
- Permeable Infrastructure landscape
- Blue roofs