Designing Rain Gardens: A Practical Guide
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London’s drainage infrastructure is a piped network, with few soft infrastructure measures. Considering the age of the city’s drainage system and other pressures such as population growth, climate change and densification, it is easy to understand that the network is reaching the limit of its capacity. A long-term view and alternative approaches are needed to avoid exceeding capacity or the cost of completely replacing the network.

The purpose of this document is to provide a practical guide to designing and installing rain gardens in an urban environment. Rain gardens are a type of Sustainable Drainage System (SuDS) that capture rainfall before it enters the piped network and either releases it slowly into the network or allows it to infiltrate into the ground. Rain gardens can help improve surface water management whilst performing a range of other functions such as amenity, reduced pollution and improved biodiversity.

This guide is intended to provide you with information on how to design a rain garden in an existing street, and tips on how to avoid common mistakes. The document takes you through the six simple steps involved in designing a rain garden:

1/ Choose the right location  
2/ Composition of a rain garden  
3/ Calculate the size and depth  
4/ Consider infiltration  
5/ Manage flows  
6/ Select the planting

Source: The SuDS Manual 2015, CIRIA, p6
What are Rain Gardens?

Rain gardens are shallow landscaped depressions that reduce rainfall runoff and mitigate the impact of pollution. They can be used to enhance the capacity of the surface water piped drainage network by capturing and storing rainfall, allowing it to soak into the ground or release it slowly back into the piped network. Rain gardens are flexible in design and are excellent examples of how SuDS components can be integrated into a streetscape without negatively impacting on the primary function of our streets and spaces.

The performance of a rain garden can be enhanced by engineering the sub-base to include a gravel layer that helps to filter pollutants and provides more storage capacity for rainwater. These ‘engineered’ rain gardens are often referred to as bioretention systems, however in practice there is no clear distinction between rain gardens and bioretention systems.

Please refer to the SuDS Manual under Resources (p41) for additional information about SuDS and bioretention systems.
The Vauxhall Walk rain gardens are part of ‘The Missing Link’ scheme, a broader commitment to improve walking and cycling connections between Vauxhall and Nine Elms, through a series of connecting pocket parks and promenades.

Rain gardens should be designed to help reduce flood risk and improve water quality, biodiversity and public amenity within the available budget. They can be planted with a wide variety of species depending on the context and demands of the site.

Rain gardens can be implemented wherever space is available. They should not only be considered in areas at risk of flooding as flood risk will be reduced by introducing a rain garden upstream of flood risk areas, as long as they share the same catchment area.

Installation costs can be significantly reduced by integrating rain gardens into public realm projects and can provide substantial added value.

**SuDS Benefits**

1. Improves public health and wellbeing
2. Increases amenity space
3. Aesthetic improvements
4. Improves air quality
5. Reduces urban heat island effect
6. Enhances wildlife habitat for biodiversity
7. Reduces flood risk
8. Filters pollution and improves water quality

Vauxhall Walk, LB Lambeth

Walthamstow Village Square, LB Waltham Forest
Designing your Rain Garden

The following chapter sets out the six simple steps involved in designing your rain garden.

1/ Choose the right location
   The first step is to determine the location of your rain garden. Rain gardens are best located at low points where surface water will flow to. However, where rain gardens are being created as part of a larger scheme the overall layout may determine the most suitable location, so some flexibility is required.

2/ Composition of a rain garden
3/ Calculate the size and depth
4/ Consider infiltration
5/ Manage flows
6/ Select the planting

The next step is to calculate the catchment area that drains into your rain garden. The catchment area is defined by location and topography. Some information on levels is usually required but in many cases a visual assessment will be adequate to determine your rain garden’s catchment area.

Existing gullies are usually located at local low points. Locating the rain garden at an existing gully, either by incorporating the gully into the footprint of the rain garden or constructing the rain garden just ‘upstream’ of the gully, provides an in-built overflow.

Compton Road, LB Enfield
A series of enhanced public spaces were created as part of the Cycle Enfield scheme. Different rain gardens were incorporated into the works at Compton Road to make the junction more pedestrian friendly.
A minimum depth of 300mm of topsoil is recommended for shrubs and herbaceous plants. A shallower depth of 200mm can be considered for rain gardens that will be turfed or seeded with wildflowers.

You should seek advice from a horticulturist, landscape architect or grounds maintenance specialist when specifying your topsoil.

A layer of mulch should be added to planted rain gardens to help suppress weeds and reduce competition for water and nutrients whilst the planting becomes established.

#### 3/ Sub-base

The sub-base should be 100-500mm deep.

The depth of sub-base will vary depending on the required storage capacity and budget. A deeper sub-base will help store more water. Typically the sub-base will be 100-500mm deep, and a minimum depth of 100mm is recommended in most instances. In the instance where the sub-soil is free draining or the catchment area is small it may be considered appropriate to eliminate the sub-base layer entirely.
In some cases it may be preferable to reconfigure the make-up of the rain garden by including a gravel filled trench as well as, or instead of, a gravel layer. This option has the potential to improve the drainage capacity of the rain garden by increasing hydraulic connectivity between the surface and the sub-soil. However, as this may lead to reduced water treatment it is recommended that you provide at least one metre between the rain garden inlets and the gravel trench is provided to act as a filter strip.

Buried services can have an impact on the design of your rain garden. Rain gardens can still be installed where utilities such electricity, gas and water are located within the proposed construction depth; however, one of the following options will need to be employed:

1/ Hand digging
Hand digging around utilities can enable you to create your rain garden at the desired depth, however it is time consuming and can lead to significantly increased cost.

2/ Stop digging
Reducing the construction depth of the rain garden at locations where buried services are present is a cost effective method. However this will reduce the performance of your rain garden.

3/ Dig deeper
In some cases it may be possible to retain the overall volume of sub-base by increasing the depth where there are no services, to compensate for reduced excavation where services are present. This will minimise digging around services whilst maintaining the desired storage capacity.

The available budget and the required performance will determine which of these options are best for your rain garden.

Proposed construction depth
Buried services
Depth increased
Gravel filled trench
Infiltration

Cross section illustrating how the construction depth can be increased locally to account for services

Cross section of a rain garden with a gravel filled trench
3/ Calculate the size and depth

Making a rain garden bigger (and therefore storing more water) increases the flood risk management benefit, however this needs to be balanced against cost and availability of space. A typical highway gully drains a catchment area of around 200m². As a general rule a rain garden should be 5-10% of the catchment area hence, 10-20m² for a rain garden drains the same area as a typical gully.

A good aim is to store the first 20mm of rainfall – in London this is the estimated depth of rainfall for an hour storm with an annual probability of 1 in 5. Storing this amount of water contributes to reducing flood risk. Storing more water is even better, if there is adequate space to do so. The table below describes the amount of expected rainfall for a range of design standards.

<table>
<thead>
<tr>
<th>Design Standard</th>
<th>Depth of Rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>First flush</td>
<td>5 mm</td>
</tr>
<tr>
<td>1 in 5 year event</td>
<td>20 mm</td>
</tr>
<tr>
<td>1 in 100 year event</td>
<td>50 mm</td>
</tr>
</tbody>
</table>

Rainfall design events, based on a 60 minute duration storm in the London area

The first 5mm of rainfall carries most of the pollution, such as silt and oil from road runoff, and is often known as the ‘first flush’.
Here is a worked example:  
/ Area of Rain Garden = 20 m²  
/ Catchment Area = 200 m²  
/ Depth of Freeboard = 0.1 m  
/ Depth of Sub-base = 0.3 m

In this example a 20 mm 1 in 5 year event is exceeded but only just. Increasing the freeboard by a small amount would provide the additional storage required to accommodate this amount of rainfall.

A revised freeboard depth of 0.15 m will provide a Volume of Storage of 4.8 m³ which will accommodate a 1 in 5 year event as shown below:

<table>
<thead>
<tr>
<th>Design Standard</th>
<th>Depth of Rainfall</th>
<th>Volume of Rainfall</th>
<th>Volume of Storage</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>First flush</td>
<td>5 mm</td>
<td>1 m³</td>
<td>3.8 m³</td>
<td>Okay</td>
</tr>
<tr>
<td>1 in 5 year event</td>
<td>20 mm</td>
<td>4 m³</td>
<td>3.8 m³</td>
<td>Exceeded</td>
</tr>
<tr>
<td>1 in 100 year event</td>
<td>50 mm</td>
<td>10 m³</td>
<td>3.8 m³</td>
<td>Exceeded</td>
</tr>
</tbody>
</table>

In this example a 20 mm 1 in 5 year event is exceeded but only just. Increasing the freeboard by a small amount would provide the additional storage required to accommodate this amount of rainfall.

A revised freeboard depth of 0.15 m will provide a Volume of Storage of 4.8 m³ which will accommodate a 1 in 5 year event as shown below:

<table>
<thead>
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<th>Depth of Rainfall</th>
<th>Volume of Rainfall</th>
<th>Volume of Storage</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>First flush</td>
<td>5 mm</td>
<td>1 m³</td>
<td>4.8 m³</td>
<td>Okay</td>
</tr>
<tr>
<td>1 in 5 year event</td>
<td>20 mm</td>
<td>4 m³</td>
<td>4.8 m³</td>
<td>Okay</td>
</tr>
<tr>
<td>1 in 100 year event</td>
<td>50 mm</td>
<td>10 m³</td>
<td>4.8 m³</td>
<td>Exceeded</td>
</tr>
</tbody>
</table>

Please note that this is a simplified design calculation that can be used to determine the indicative performance of a rain garden. It does not account for factors such as interception losses, infiltration or storm duration that can also have an impact on overall performance.
4/ Consider infiltration

Rain gardens should be designed to maximise the amount of water that can infiltrate into the sub-soil as this relieves pressure on the piped drainage network, replenishes groundwater and supports the baseflow in rivers.

The simplest way to ensure that your rain garden drains effectively is to provide an under-drain. This is a perforated pipe installed in the sub-base that connects to the piped surface water drainage network. It is important that rain gardens can drain down within a reasonably short time period to ensure that they do not become water-logged and have enough storage capacity available for the next storm event. The SuDS Manual guidance on bioretention systems suggests a half-drain time of 48 hours.

To ensure your rain garden attenuates inflow effectively and does not drain down too quickly an orifice control should be provided. If the rain garden drains too quickly it could increase pressure on the drainage system rather than relieving it.

Restricting the size of the outfall to a 25mm diameter hole will reduce flows to less than 1 litre/second. Normally an orifice of this size would be at risk of blockage, however in this case the risk is negligible because the water passing through the orifice has already been filtered by the rain garden sub-base and the perforations in the pipe itself.

An alternative discharge control method is to modify a solid pipe instead of using a standard perforated pipe – cutting a small number of slots, or drilling holes, in the pipe will allow it to drain effectively but not too quickly (as an example twenty five 5mm diameter holes is equivalent to one 25mm hole).

Raising the level of the under-drain above the base of the sub-base, as shown in the diagram on the right, will allow partial infiltration to occur before the drainage system is activated. This is recommended for soils that are considered suitable for partial infiltration. It should also be considered in clay soils because, even though infiltration may be negligible during storm events, it is good practice to encourage rehydration of clay soils which can be prone to shrinkage during dry spells.

This approach also permits future uptake of water by deeper rooted shrubs and trees. The pipe does not have to extend the full length of the rain garden as water can slowly flow through the gravel drainage layer.

If the land is contaminated it will be necessary to line the rain garden with a waterproof membrane to ensure that the contaminants are not mobilised. As this prohibits infiltration it will be necessary to include an under-drain in these situations.

It is essential to ensure that water stored in the rain garden cannot adversely affect the adjacent road construction. This can be achieved by providing a waterproof barrier between the rain garden and the road – an easy way to do this is to extend the depth of the concrete haunching supporting the carriageway kerb.

<table>
<thead>
<tr>
<th>Design</th>
<th>Depth of Rainfall</th>
<th>Drainage Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full infiltration</td>
<td>Gravelly or sandy soils</td>
<td>Additional drainage features not required</td>
</tr>
<tr>
<td>Partial infiltration</td>
<td>Soils that are a mixture of clay and gravel, or other components, may be suitable for partial infiltration</td>
<td>Some of the water stored in the rain garden will soak into the ground but additional drainage features will be required to ensure water-logging does not occur</td>
</tr>
<tr>
<td>No infiltration</td>
<td>Clay soils, as found in many parts of London, are not suitable for infiltration</td>
<td>Additional drainage features required</td>
</tr>
</tbody>
</table>

Infiltration capacity can be classed in three broad categories as outlined in the table above:
5/ Manage flows

Overflows are required to safely manage surface water runoff from the rain garden when its design capacity is exceeded.

In most cases where rain gardens are being retrofitted into an urban landscape existing drainage features such as gullies can be retained as overflows. There are two ways to achieve this and ensure that the rain garden still functions effectively:

1/ Incorporate an existing gully into the rain garden – constructing a rain garden around an existing gully will ensure that when the rain garden is full, but only when it’s full, water will flow down the gully in exactly the same way that it would have done previously.

2/ Locate the rain garden upstream of an existing gully – similarly this option ensures that the rain garden captures most of the surface water runoff, only when it is full will water spill over into the gully as it would have done before the rain garden was installed.

If there is a gully immediately upstream of the proposed rain garden it may be necessary to block, raise or re-locate it to ensure that water can still get to the rain garden.
Inlets

In many cases an upstand kerb between the carriageway and the rain garden will be considered necessary to reduce the risk of vehicles entering the rain garden; however, in some cases there may be justification for omitting this detail. Where an upstand kerb is provided it can be challenging to provide an adequate amount of haunching concrete behind the kerb, especially where the freeboard depth is significant – in these cases it may be necessary to use deeper kerbs to achieve the required support.

The direction of water entering your rain garden will determine the appropriate type of inlet to employ:

- **Longitudinal fall along carriageway gutter inlet** should be at least 300mm wide, constructed either as a gap in the kerb or using drop-kerbs.

- **Transverse fall across the carriageway**. Lots of small gaps between kerbs may be preferred.

- **Transverse fall across the footpath**. A raised kerb is not required, consequently runoff can drain directly into the rain garden.

As seen above (Parking Cheeseman Terrace, LB Hammersmith & Fulham) when raised kerbs are used it is important to leave gaps in the kerb at low points and regular intervals to allow water to enter the rain garden. There are numerous ways to design an inlet that will collect some of the silt before it enters the rain garden. Don’t forget to consider how the inlet will be cleaned and maintained.

Don’t forget to consider how the inlet will be cleaned and maintained.
The scheme consists of a series of rain gardens, footpaths and cycle ways. Image credit: Sheffield City Council

Talgarth Road, LB Hammersmith & Fulham

This scheme aimed to reduce the exposure to harmful vehicle emissions for pedestrians and cyclists, attempting to improve air quality and the general feel of the place.

Selborne Road, LB Waltham Forest

Air quality improvement scheme aimed at limiting pedestrians and cyclists’ exposure to harmful vehicle emissions. The selected plants are relatively tall-growing, up to two meters to provide a barrier between pavement and road.

Grey to Green, Sheffield

The scheme consists of a series of rain gardens, footpaths and cycle ways. Image credit: Sheffield City Council
6/ Select the planting

Rain gardens can be planted with a wide range of different plants. These can be selected from the following broad categories:

- **Shrubs** – plants with a woody structure and roots that enhance soil stability.
- **Perennial flowering plants** – long-lived plants that bloom each year and die back in winter.
- **Grasses** – these range from standard turf to taller ornamental grasses that can be particularly effective at filtering pollutants from highway runoff.
- **Wildflower seed** – comprises meadow species that contain perennial and annual flowers, often mixed with grasses; these are a relatively low cost option that can thrive in low nutrient and free draining soils.
- **Marginal plants** – such as reeds, rushes and sedges, these are suited to damp or waterlogged conditions.

This planting scheme was designed, and is cared for, by the Walthamstow Village Residents’ Association. The plants were chosen for their biodiversity qualities and relatively low maintenance, hence a prairie-like specification was selected.

Plants include: Achillea yellow, Verbena bonariensis and grasses such as Cespitosa.

This scheme aimed to reduce vehicle speeds by narrowing the road. The main objective for the planting was to create a more aesthetic and a friendlier place for pedestrians. The scheme includes a high number of herbaceous flowering species, here are a few listed:

- **Purple flowers**: Aster herveyi
- **Pink**: Geranium
- **Grass**: Sesleria autumnalis
Different planting specifications provide a range of different benefits. There are a number of factors to consider when planting a rain garden:

/Location
Busy locations such as town centres may suit a more detailed and colourful planting scheme that is likely to be more expensive to plant and maintain but will have a greater impact in terms of public realm improvements.

/Seasonality
For rain gardens where aesthetics are a high priority it may be desirable to provide colour throughout the season with a mix of plants that flower at different times. Visual interest can also be increased by using unusual tropical plants. It is important to consider their tolerance of cold temperatures during the winter.

/Sunlight
Exposure to sunlight can also affect what types of plants may be appropriate for a rain garden. Plants that can tolerate shade should be considered in areas shaded by trees, bridges or buildings.

/Soil Moisture Content
Depending on the depth of topsoil and how freely it drains it may be necessary to select plants that can tolerate dry conditions as well as occasional water-logging. Plants in certain parts of the rain garden may be exposed to different conditions than others. For example, plants near the inlets of the rain garden will be irrigated more frequently than plants located in the middle which may experience drier conditions.

/Trees
Rain gardens are a good place to plant street trees as they provide a good growing environment with more irrigation and un-compacted soil. During the establishment period, it is good practice to have a no-planting zone around the tree so it can be watered and mulched. This also discourages other plants from competing with the tree for nutrients and water.

As with other plants, there are some tree species, such as Alders, that can tolerate dry and wet conditions better than others. An arboriculturalist should be consulted to provide advice on the types of trees that will be suitable for rain gardens.
Checklist

1/ Is the rain garden at the lowest local point?  
Check that there aren’t localised low spots near the rain garden, if these cannot drain effectively puddles will form every time it rains.

2/ Can water get into your rain garden?  
Check the inlets are wide enough and that they are at the correct levels.

3/ Are there signs of erosion?  
If erosion of topsoil is an issue it may be necessary to enhance erosion protection measures.

4/ Is there enough freeboard?  
Check that topsoil is not blocking inflowing water, it should be at least 50mm below the carriageway at the inlets and at least 100mm below in the middle of the rain garden.

5/ Does your rain garden drain freely?  
If it’s still contains standing water 24 hours after rainfall then it is not draining adequately.

6/ Are there any gullies upstream of your rain garden that prevent water getting to it?  
If there are these may need to be re-located.

7/ Is there an overflow and is it at the correct level?  
If the overflow is too low it could be activated before the rain garden is fully utilised.

8/ Are the plants looking healthy?  
If they are showing signs of stress it is likely that they haven’t been watered recently.

9/ Are there any weeds?  
These need to be dealt with as they compete the other plants.

Cost
Your planting specification will be influenced by your budget. Using larger, more established plants can be expensive but will provide an instant visual impact compared to smaller plants that may have a long establishment period. Seeding rain gardens with wildflowers is one of the least expensive planting options.

Your rain garden planting plan should be approved by a specialist such as a landscape architect or grounds maintenance manager.

Identifying who will be responsible for future maintenance is critical. Whether they are the local authority’s ground maintenance team or a local community group, they should be consulted with in advance of construction to ensure that an agreed maintenance regime and budget are in place. Guidance should also be sought from landscape architects and aboricultural officers.

They will be able to advise on the location, layout and construction detailing of your rain garden. They can also advise on the planting specification and the relevant British Standards.

Hertford Road, LB Enfield
A Ginkgo biloba tree was planted as part of a public realm improvement scheme to a prominent junction on Hertford Road (a local high street for the Enfield Wash area). The tree was planted using the Stockholm tree pit method – this involves providing layers of granular fill and top soil in the root zone to improve drainage capacity and storage. Rainfall filters through to the roots via the surrounding permeable paving and rain gardens.

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They will be able to advise on the location, layout and construction detailing of your rain garden. They can also advise on the planting specification and the relevant British Standards.
Public Engagement

It is important for the community to understand why installing rain gardens and undertaking other alternative drainage solutions is necessary and beneficial for the area. Invest time and effort into the initial engagement; inform people about the issues involved in flood water management and how measures such as rain gardens, can help alleviate these risks. If the community is aware and engaged, and has a sense of ownership of the scheme, it is more likely to be successful and they are more likely to welcome future measures. Involving the community should be considered an investment in the future success of the scheme. The benefit of spending more money on the initial engagement is that it could save you time and effort in the long-run. If the community is informed and supportive of rain gardens and their benefits, you are more likely to garner support from the councillors and other stakeholders making implementation easier.

It is important to remember, however, that the level of public consultation and engagement should be appropriate to the size of the scheme. Community engagement can significantly improve the overall impact of a scheme but it may only be justified for larger schemes.

A good way to raise awareness is to organise a community planting event. There may also be opportunities to involve people in ongoing maintenance activities assuming the rain garden is in a safely accessible location. This approach can help to strengthen a sense of community, bringing people together and providing social interaction across age groups and cultures. It can also help to relieve pressure on Council resources for things like litter picking, watering and weeding.

Working with a third sector organisation (such as Thames21, Groundwork or local wildlife trust) to help with community engagement for large schemes is useful as they can provide awareness and endorsement for these types of measures, as well as supporting community volunteers, local businesses and schools who may want to plant and maintain these features.

The Walthamstow Village Square gardens are planted and cared for by a group of local volunteers. The gardening group was established in 2004 and now meet monthly during winter and weekly during the summer months. Their activities include planting and pruning, litter picking, re-painting street furniture, tending the Community Meadow. They compete in the Britain in Bloom and London in Bloom competition, which they won in 2017.

The group raises their own funds through applying for small grants and selling the honey they produce via the BEE17 project. Helen Lerner, one of the founders of the group and keen horticulturist, says that while the group do not receive any financial aid from LB Waltham Forest, the council is very supportive and picks up green waste upon request.
Signage

Simple, well-designed displays help inform the community of the reasons behind the scheme and the benefits it will bring.

If time and cost prohibits a wider community outreach programme, signs are great ways of communicating the function and value of rain gardens at minimal cost. Educational signs should not be an after thought; they need to be part of the project and incorporated into the design from the start.

Grey to Green, Sheffield

Creative signage can become a feature in your rain garden like the signs used in Sheffield’s Grey to Green scheme.

Signs can be very simple, like the wooden Rain Gardens and Rain Meadows signs found at Alma Road, LB Enfield and Priory Road, LB Haringey. The signs let people know that this is no ordinary garden and help create an understanding for the ‘wilder’ nature of rain gardens.
During Establishment Period (Year 1 & 2)

Watering Weekly during dry periods
Weeding 3-monthly
Litter picking 3-monthly
Pruning/trimming 3-monthly
Check/clean inlets/outlets 3-monthly
Mulching Annually (or as required)

Cost & Maintenance

The cost of installing a rain garden is comparable to the cost of paving the same area, as both paving and rain gardens require excavation and the construction of a suitable sub-base. Rain gardens can be incorporated into schemes in areas that would otherwise be paved, such as traffic calming build-outs, without significant additional costs. Similarly, rain gardens can usually be integrated into existing green spaces at minimal extra cost.

As they are flexible in design, the make-up and planting of a rain garden can be adjusted to suit site constraints and budgets. The greatest cost benefits are achieved where rain gardens are integrated in the design at an early stage.

SuDS solutions such as rain gardens reduce the amount of silt, litter and other debris entering gullies and pipework – consequently they reduce the risk of blockages and potentially reduce maintenance costs. In some cases they can eliminate the need for piped drainage completely.

In terms of maintenance, both SuDS features and conventional drainage systems require regular maintenance to perform adequately. The key difference here is that SuDS are generally visible and relatively straightforward to maintain. Maintenance requirements can be identified and remedied relatively easily while issues with conventional drainage systems are often only realised when they fail (due to e.g. blockages or collapses). These unexpected results can potentially be very expensive to repair.

If you are involving schools, clubs or other organisations, in the maintenance of rain gardens be aware of any long-term breaks such as summer holidays, where you may need to organise for supplementary maintenance and watering.

More intensive maintenance is required during the establishment period, this cost is separate from the long-term maintenance requirements, and typically represents around 6% of the overall cost.

Suggested maintenance schedule:

During Establishment Period (Year 1 & 2)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watering</td>
<td>Weekly during dry periods</td>
</tr>
<tr>
<td>Weeding</td>
<td>3-monthly</td>
</tr>
<tr>
<td>Litter picking</td>
<td>3-monthly</td>
</tr>
<tr>
<td>Pruning/trimming</td>
<td>3-monthly</td>
</tr>
<tr>
<td>Check/clean inlets/outlets</td>
<td>3-monthly</td>
</tr>
<tr>
<td>Mulching</td>
<td>Annually (or as required)</td>
</tr>
</tbody>
</table>

Following Establishment Period (Year 3 onwards)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeding</td>
<td>6-monthly</td>
</tr>
<tr>
<td>Litter picking</td>
<td>6-monthly</td>
</tr>
<tr>
<td>Pruning/trimming</td>
<td>6-monthly</td>
</tr>
<tr>
<td>Check/clean inlets/outlets</td>
<td>6-monthly</td>
</tr>
<tr>
<td>Re-planting</td>
<td>Annually (or as required)</td>
</tr>
</tbody>
</table>

Every 10-15 years remove silt and re-plant as necessary.

It may be possible to reduce future maintenance cost and increase community involvement by collaborating with local residents or businesses, this will only be appropriate where rain gardens can be maintained from safely accessible areas.
Funding

2018/19

Greener City Fund, Greater London Authority
Mayor Sadiq Khan’s new £9 million fund is available to create and improve green spaces and encourage more tree planting in London.

The Mayor wants to make London the first National Park City and aims to make 50 per cent of the city green by 2050. To do this, we need to plant more trees, restore our rivers, create natural play-spaces for children and design green routes to encourage walking and cycling.

The first commitment towards this is the Greener City Fund, a grant programme to support boroughs, local communities and environmental organisations to plant more trees and improve our green spaces.

Good Growth Fund, Greater London Authority
The Good Growth Fund is Mayor Sadiq Khan’s new £70 million regeneration programme to support growth and community development in London. Working with the London Economic Action Partnership (LEAP), the fund will support projects that are: inclusive, innovative and which demonstrate an outstanding approach to challenges faced across London.

Parks for People, Big Lottery Fund
Parks for People is a joint initiative between the Big Lottery Fund and the Heritage Lottery Fund. The programme awards grants of between £100,000 and £5 million to revitalise historic parks and cemeteries.

People and Places, Big Lottery Fund
People and Places: Small, Medium and Large grants offer funding up to £500,000 for projects where people and communities are working together and using their efforts to make a positive impact on the things that matter most to them.

Community Asset Fund, Sport England
The Community Asset Fund is a new capital fund dedicated to enhancing the spaces in your local community. Whether it is the park you run through, the hall you attend classes in or the pitch you play on; it is important to make these spaces welcoming and accessible. These factors have a big impact on people’s experience in these spaces and play a role in the likelihood of them coming back. As well as traditional sports facilities where people enjoy physical activity, there are thousands of outdoor spaces around the country – like canal towpaths, woodlands and open spaces – all with great potential to be used and enjoyed as part of an active lifestyle.

Local Implementation Plans, Transport for London
If the scheme is connected to road infrastructure London Boroughs can use the LIP funding provided by Transport for London.

Resources

There are multiple tools available online, for free, that you can use to help design and calculate the benefits of your SuDS scheme such as Benefits of SuDS Tool (BeST) which calculates both the monetary and non-monetary benefits.

Documents for delivering SuDS:
/ Government 25 year Environment Plan
/ Healthy Streets for London, Transport for London
/ London Sustainable Drainage Action Plan, Greater London Authority
/ Green Infrastructure Task Force Report, Greater London Authority
/ London Plan, Greater London Authority
/ BeST (Benefits of SuDS Tool) – Susdrain

Guides for designing SuDS
/ The SuDS Manual C753, 2015 – CiRia
/ UK Rain Garden Guide