

DS.502

Planters

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1 Introduction

1.1 Notes

This Design Standard explains design and use requirements for planters and planting beds, embracing biodiversity. It is mainly concerned with the above and below ground design of Planters and Planting Spaces. It also considers different species suitable for sunny or shaded spaces, green corridors and general maintenance requirements (including commuted sums).



For a list of frequently asked questions about designing streets and spaces, see the SSDM webpages at www.southwark.gov.uk/ssdm.

1.2 Biodiversity Duty

Southwark Council like all Local Authorities has a number of statutory obligations in relation to biodiversity policy and legislation. As a public body, Southwark Council is required to comply with the 'Biodiversity Duty' as set out in the Natural Environment and Rural Communities Act 2006.

The Biodiversity Duty: *Every public body must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.*

Southwark Council understands this to mean that it should plan and deliver habitat management and enhancement ensuring protection of species and promotion of biodiversity. One way that it can do this is to support the installation and retention of planters and planting beds in the highway, where street trees may not be appropriate.

The built environment is now seen as an important urban habitat and an opportunity to enhance biodiversity, rather than an obstacle to wildlife. Creation of biodiverse green roofs, living walls and Sustainable Urban Drainage has been integrated into new developments for some years. Ensuring that the built environment includes urban wildlife habitat and the policies of the London plan will allow developments to

achieve the highest ratings under the BREEAM, or Code for Sustainable Homes (CfSH), schemes. This also helps urban cooling and offsetting the impacts of climate change.

In addition to the Biodiversity Duty, there are a number of London Plan Policies that would promote the provision of planting areas in the highway, such as:

- 2.18 Green infrastructure
- 5.3 Sustainable design and construction
- 5.10 Urban greening
- 5.13 Sustainable drainage
- 7.18 Protecting local natural space and addressing local deficiency
- 7.19 Biodiversity and access to nature
- The All London Green Grid, Draft Supplementary Planning Guidance (SPG)
- Connecting with London's nature: The Mayor's Biodiversity Strategy 2002

2 Principles for the Provision of Planters and Planting Beds

2.1 Climate Change Planting

In urban environments, designers and horticulturalists have begun to realise that plant selection needs to be amended to accommodate global warming and increasingly unpredictable weather. Planting needs to be adaptive to the range of temperature and rainfall that climate change may bring. Plants need to be considered for their "plasticity" or how well the species performs across a range of environmental conditions. Ecological resistance needs to be provided. For example, it is not enough to simply select plant species that offer nectar; the timing of nectar flow must provide resources throughout the pollinator season. To achieve functional redundancy, the planting palette must include species with overlapping bloom times to ensure there are multiple pollinator resources at any one time.

2.2 Structural Diversity

Structural diversity describes the spatial complexity of a group of plants. It is important for healthy ecosystems because the physical form of trees, shrubs, groundcovers, some deciduous, some evergreen determines the availability of shelter and space for organisms to nest, forage and reproduce throughout the year.

In addition, a diversity of species can provide resilience to disease, so whilst there is a desire

to plant indigenous “signature” species that may help to confirm the identity of an area (such as heather in the highlands), the introduction of non-invasive, non-native species that may have broader ecological tolerances should be considered.

2.3 Green Corridors Between SINCs

The Sites of Importance for Nature Conservation (SINCs) are open spaces considered important for nature conservation due to their wildlife and biodiversity value. They provide opportunities for people to access and experience nature as well as help protect important plants and animals. The London Plan requires boroughs to protect sites of nature conservation value including those of Metropolitan, Borough or Local importance. There are 72 SINC sites in Southwark, five are of Metropolitan Importance, 17 are of Borough Grade 1 importance, 22 are of Borough Grade II importance and 28 are of Local Importance. A map of the open space provision in Southwark is shown in Figure 1 below. In addition, there are 130 parks/green spaces in Southwark.

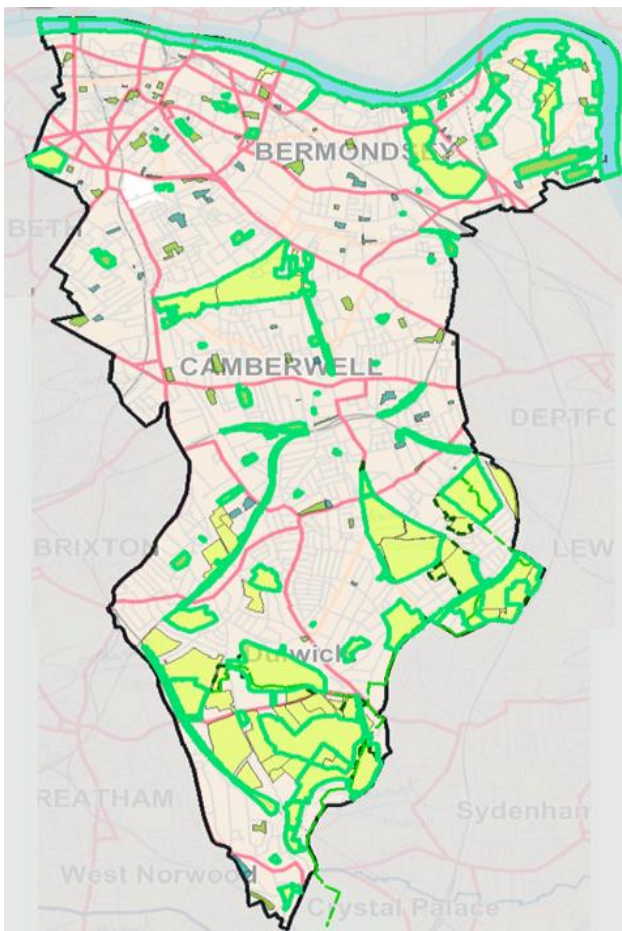


Fig.1 Open space provision in Southwark.

Any new scheme should consider providing planting. In this way, green spaces in Southwark will start to become connected and wildlife can migrate from SINC to SINC throughout the borough. Creating “corridors” between green areas will help promote biodiversity and also resilience should one of the green areas become unwelcoming for wildlife.

2.4 Planter Location Considerations

Planters and planting beds should not prevent access through the highway. They shall not be considered where there will be less than 2.4m effective footway width left unrestricted for pedestrians. In busier Town Centre footways, this should be increased to 4m. In exceptional circumstances, the effective footway width may be reduced to 1.8m for lengths less than 6m.

In addition care must be taken not to place planters adjacent to disability bays, bus stops or loading bays. They must not obstruct market pitches, shop fronts or emergency exits from properties. Neither shall the planter be placed in a position or against walls that would cause a security risk to an adjacent property. Agreement should be sought from owners of any affected properties.

Planters must not obstruct access to utility apparatus. They cannot be placed over manholes or stop tap valves. Significantly large planters (more than a cubic metre of soil) should not be placed over buried utility apparatus (mains, ducts, cables or pipework) as they are too large to be moved should urgent repairs be required. Planters shall not be fixed to the highway and a contact should be provided in case of emergency.

Planters may be located in the carriageway in rare circumstances where they form part of a traffic calming scheme or a buildout. A road safety audit is required for locations where planters may conflict with vehicles. They may not be placed on Red Routes or TfL roads. Planters must not block drainage channels.

Plant species need to be specified to suit the planter/planting bed location. They must be drought resistant and able to tolerate full sun or able to grow in the shade depending on how exposed the planter location is.

2.5 Visibility

Care should be taken not to obstruct visibility. Raised planters should not be placed within 43m of a 30mph junction or 25m of a 20mph junction unless the combined height of the planter and the planting is below 600mm. Most drivers seated behind the wheel of a standard saloon car will be able to see above 1050mm height. However, where planting is desired on a junction or in close proximity to a pedestrian crossing, the total planting height may not exceed 1050mm. A road safety audit may be required if the proposed planting height exceeds 600mm or 1050mm in either of the situations described.

2.6 Maintenance Access

Maintenance access must be considered when proposing planter locations. Operatives must be able to plant and weed from a safe work area without coming within 500mm of vehicles in a 30mph speed limit. Maintenance vehicles should also be able to stop within 10m of the planting area so watering can be undertaken.

2.7 Vehicle Collision Considerations

Planters adjacent to carriageways must be located at least 450mm back from the face of the kerb. In the exceptionally circumstance where this is not achievable but the planter is still required, "road narrows" signs must be implemented to give advance warning of the structure.

Proposed locations near bends in the road or at the bottom of steep hills where cars may leave the carriageway during icy conditions, or oil spillage, should be avoided. In these situations, the materials that the planters are made from must be frangible, or able to readily collapse/deform should a vehicle collide with them. Avoid materials like stone or cast iron, as they can break on impact and be thrown like projectiles

3 Construction and Soil

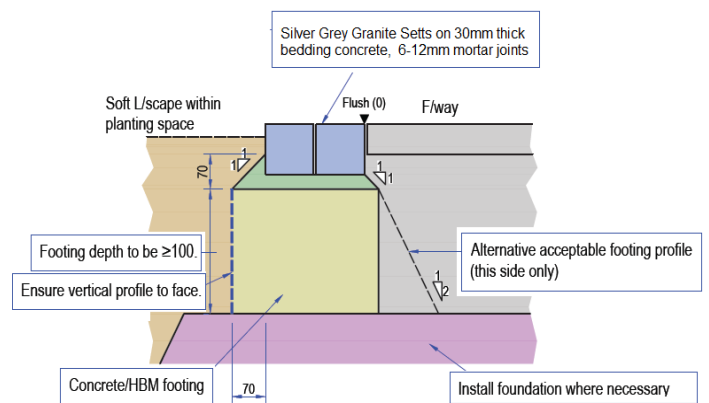
3.1 Planting Beds

Southwark has a strong preference for the provision of planting beds as opposed to planters. This is because the long term maintenance commitment is more affordable. Planters need more frequent watering. Planting beds have access to the soil and water table below the highway. There is also very little structural element to planting beds that require maintenance, other than the edging detail around the bed.



Our Streets for People Strategy asks that at least 10% of every Highways scheme footprint should be dedicated to planting and nature-based solutions.

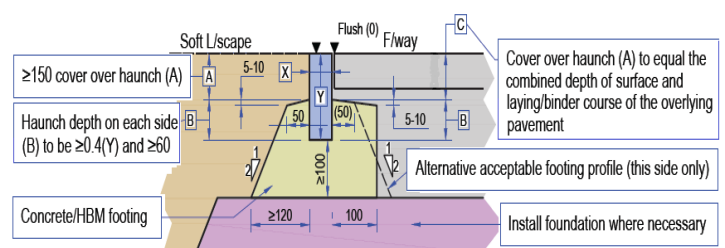
New planting beds in flag paved areas will have a double brick/paviour edging detail as shown below:



If the planting area is meadow grass then it shall be flush or 25mm lower than the footway and graded level over the last 150mm. If the planting area is mulched, then it shall be 25mm lower than the adjacent footway to prevent the mulch spilling out.

Wherever possible, the surface water falling on the highway should be directed into the planting bed (also known as rain gardens). This will help attenuate water runoff, and shall reduce maintenance (watering) of the planting.

Planting beds in bituminous footways can have a simple edging kerb detail as shown below.



3.2 Planters



Planters can provide protection and a means of getting trees and shrubs into areas where there is insufficient depth available otherwise. Structures can provide high quality architectural detailing and sculptural elements if appropriate to their setting. They can provide other amenities such as seating provision or simply softening the streetscape, providing instant greenery or protection against vehicle over run.



There are many different styles and makes of planter available. Consideration must be given to the area where the proposed planter is to be located and a style chosen that will be sympathetic and complement the street scape.

Typically the dimensions of the planter will range between 1400x600x600mm (approx. 0.5m³) to 1800x600x900 (approx. 1m³). Larger planters need to be clear of buried utility apparatus and in roads with a speed limit ≤ 30mph.

3.3 Raised Planting Beds

Historically, there are many raised planting beds in Southwark, and consequently it may be appropriate to consider installing a raised planting bed if it complements the existing planting.



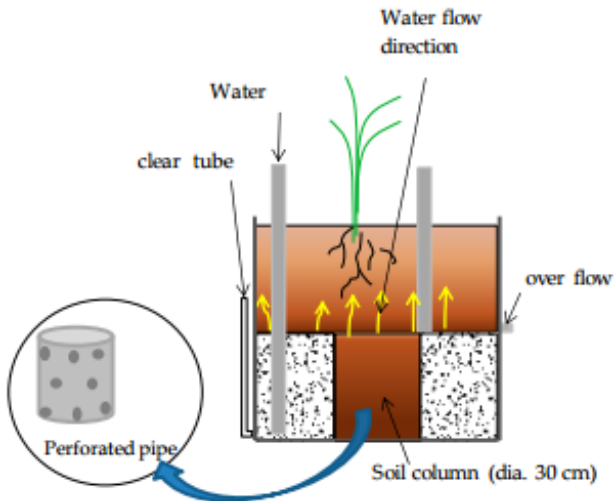
However, the maintenance costs associated with the structure and watering make this option rarely preferred. There is no opportunity to easily divert highway surface water into raised planting beds. Weep holes may need to be considered if the subgrade drainage below the raised planter is poor (to avoid saturation of the planter).



3.4 Irrigation

To minimise maintenance costs associated with watering, all new planters and planting beds need to have a reservoir or “wicking bed” that can provide water over prolonged periods between rainfalls.

This is generally achieved by a layer of granular material in the bottom of the bed, sitting on an impervious membrane. Over the top of the granular material, a geotextile is laid to prevent the migration of soil. Compost is laid on top of the geotextile, with occasional columns into the granular material to act as a “wick”.



Water is fed to the granular material via a pipe so that it becomes saturated and acts as a reservoir. At the base of the soil, there is an overflow to prevent the growing medium from becoming saturated and drowning the plants. In rain garden designs (see below), surface water drainage is bypassed to feed this reservoir and returned to the highway drainage system via the overflow.



3.5 Soil

Soil used in planting beds and planters shall be a mixture of 80% topsoil to BS 3882 : 2015 and 20% compost. The compost introduces organic

matter which is important for water retention and providing nutrients.



The soil shall be placed to a minimum depth of 300mm in planters and up to 600mm depth in planting beds.

4 Planting Species

4.1 Species Suitable for “Rain Gardens”



Planting beds or “rain gardens” that are designed to take surface water drainage from the highways can be planted with a wide range of species. However, avoid plants that do not withstand occasional flooding, for example, species associated with dry Mediterranean style gardens like lavender. Other plants to avoid are those susceptible to root rot, such as azaleas, juniper and Chinese privet.

Some suggested plants suitable for “rain gardens” or wet/boggy planting beds are shown in Table 1 in Appendix A.

4.2 Meadow Grass or Wildflower Mix

Since the 1930s we have lost over 99% of what are called “unimproved grasslands”. This means that many of the insects and animals once widespread across our meadows are struggling. A very simple and cost effective way to support our Biodiversity Duty and increase the number of suitable habitats is to consider planting beds of meadow grass or wild flower mixes.



Wildflower meadow planting is particularly suitable for larger sunny sites, where the fertility of the soil is poor.

It is important to reduce the strength of the grasses in the wildflower mix. A key component is to introduce Yellow Rattle. This is a hemi parasite, which fixes its roots onto the root system of an adjacent grass and extracts the water and minerals it needs. This weakens the grass allowing more delicate and often more colourful wild flowers to thrive.

Some suggested wildflower species that provide food for bees, bats and reptiles are shown in Table 2 in Appendix A.

4.3 Drought Resistant Species

Many plants around the world are adapted to growing in dry conditions. Their leaves are often waxy,



succulent, hairy, sticky, small, needle-like, scented or silver in colour. If these plants are cared for in their first season, they will often be very forgiving of dry conditions in future years.

Some suggested species of drought resistant plants for both sunny and shaded areas are shown in Table 3 in Appendix A.

4.4 Planting

Planting is best done in autumn while the ground is still warm from summer, or between October to April. Avoid planting in waterlogged or frozen soil. Container grown plants can be planted any time of the year, but are easier to care for if planted in autumn or winter, as they need less watering than ones planted in spring or summer.

Bare-root and root balled shrubs should be planted immediately, but if this is not possible, then they can be heeled in (temporary planting in the soil to prevent the roots drying out) until planting is possible.

Plants will not grow where soil contains too little air or where soil moisture is either excessive or insufficient. Pre-planting soil preparation should improve these conditions. Loosen the soil to a depth equivalent to the height of the root ball and over a wide area to eliminate compaction and improve drainage. It is not beneficial to apply fertiliser at planting time.



Remove plants from containers or fabric wrapping. Trim pot bound roots and spread the roots out of bare-root plants to get an idea of their spread. There is no need to trim or tease out roots from root balls that are not pot bound.

Dig a planting hole that is no deeper than the roots, but is ideally at least three times the diameter of the root system. If the sides of the planting hole are compacted, break the soil up with a fork before planting.

Soak bare-rooted shrubs for about 30 minutes prior to planting, and give containerised plants a good water before taking them out of their pots.

With container grown plants, the top layers of compost may need to be scraped away to reveal the flare of roots. Deep planting prevents essential air movement to the root system and makes the lower trunk vulnerable to disease. Refill the planting hole carefully, placing soil between and around all the roots to eliminate air pockets. Firm the soil gently, avoiding compacting the soil into a hard mass and water in.



Mulch on the surface around planting can help reduce evaporation. Once drought resistant plants are established, they may not require any watering.

5 Maintenance

5.1 Maintenance Agreements

A maintenance agreement must be in place, including the process for ongoing maintenance by the licensee and the process should any planters need to be removed.

The maintenance agreement should consider litter picking, weeding and replanting of dead/diseased plants; also the painting, wood staining or repair of planters.

Edgings and paving around planters and planting beds shall be maintained by the highway maintenance team after a two year workmanship and materials guarantee period.

5.2 Watering

Drought stress is common with newly planted plants and shrubs. Even in a cool, wet summer, the rain rarely replenishes soil moisture stores fully. The soil may be dry around the roots even when the surface appears moist. Dry, windy conditions are especially likely to lead to water shortages. For the first two years a higher frequency of watering visits is required. Depending on soil type, 30 -50 litres of water may be required for each square metre of planting once a week during the first summer. However, where a reservoir or wicking bed had been installed, the watering frequency can be reduced to once a month over the first summer season.

5.3 Commuted Sums

The maintenance burden for planting beds and planters is heaviest during the establishment, when more frequent watering is required. To cover the establishment period, schemes to install new planting beds and planters may consider paying a commuted sum equivalent to the cost of 24 monthly maintenance visits as part of the maintenance agreement if they do not have a private maintenance contractor appointed. Similarly a commuted sum may be required for the replacement of planter.

6 Approval Process

6.1 Licensing Planting and Planters













The licensing officer within the Highway Authority's network management team will consider, and where appropriate, licence planting and planters under section 115E of the Highways Act 1980 (as amended).

Conditions pertinent to each application will be included on the licence and there shall be a minimum £300 non-refundable deposit required (which will be used to remove the planter should it become redundant or the licence revoked).

The licensee must obtain Public Liability Insurance for the planter and update the council of changes to the contact details.

Appendix A Suggested Planting Species













Planting Suitable for Rain gardens.

Common Name	Scientific Name	Habit	Sunlight and Aspect	Origin	Image
Guelder Rose	<i>Viburnum opulus</i>	Perennial Shrub	Any	Native. Flowers attract insects and berries are eaten by birds.	
Dogwood	<i>Cornus sanguinea</i>	Perennial Shrub	Any	Native. Leaves are larval food for vase bearer moth and berries are eaten by birds. Often Planted for attractive winter stems.	
Culvers Root	<i>Veronicastrum virginicum</i>	Herbaceous Perennial	Full Sun or Partial Shade	Non-native. Tall with long terminal blue flower spikes. Good for pollinators.	
Aster	<i>Aster spp.</i>	Herbaceous Perennial	Full Sun or Partial Shade	Non-native. Often late flowering. Clump forming. Good for pollinators.	
Black eyed Susan	<i>Rudbekia berta</i>	Herbaceous Annual or Biennial	Full Sun or Partial Shade	Non-native. Spectacular yellow and black flowers. Good for pollinators.	
Stinking Hellebore	<i>Helleborus foetidus</i>	Herbaceous Perennial	Full Sun or Partial Shade	Native. Winter flowers.	
Montbretia	<i>Crocsmia spp.</i>	Deciduous Rhizomatous Perennial	Partial Shade	Naturalised. Red flowers. Thrives in most conditions.	
Bugle	<i>Ajuga reptans</i>	Rhizomatous Perennial	Partial Shade	Native. Low growing and will form a mat. Good for pollinators.	
Columbine	<i>Aquilegia spp.</i>	Herbaceous Perennial	Full Sun or Partial Shade	Non-native. Clump forming with tall flowers. Good for pollinators.	
Inula	<i>Inula hookeri</i>	Herbaceous Perennial	Partial Shade	Non-native. Tall clump forming with yellow flowers. Good for pollinators.	
Hemp Agrimony	<i>Eupatorium cannabinium</i>	Herbaceous Perennial	Full Sun or Partial Shade	Native sub shrubs with pink flowers.	
Bellflower	<i>Campanula glomerata</i>	Herbaceous Perennial	Full Sun or Partial Shade	Native. Clumps bearing violet-blue bell shaped flowers.	

Sneezeweed	<i>Helenium sp.</i>	Herbaceous Perennial	Full Sun	Non-native. Clump forming with red flowers. Good for pollinators	
Lesser Periwinkle	<i>Vinca minor</i>	Perennial Sub Shrub	Any	Non-native. Ground cover with blue flowers.	
Elephants Ear	<i>Bergenia sp.</i>	Rhizomatous Perennial	Full Sun or Partial Shade	Non-native. Large leaves and pink flowers.	
Plantain Lillies	<i>Hosta spp.</i>	Herbaceous Perennial	Partial Shade	Non-native. Attractive light coloured flowers.	
Yellow Flag	<i>Iris pseudocorus</i>	Rhizomatous Perennial	Full Sun or Partial Shade	Native. Likely to prefer wetter areas near inlet.	
Siberian Flag	<i>Iris sibirica</i>	Rhizomatous Perennial	Full Sun or Partial Shade	Non-native. Blue flowers. Prefers moist but well drained soil.	
Garlic and Onions	<i>Allium spp.</i>	Bulbous Perennials	Full Sun	Non-native. Good for pollinators.	
Soft rush	<i>Juncus effusus</i>	Evergreen Perennial	Full Sun or Partial Shade	Native. Form tussocks – likely to prefer wetter areas.	
Pendulous Sedge	<i>Carex pendula</i>	Rhizomatous Perennial	Full Sun or Partial Shade	Native. Nodding flower spikes. Likely to prefer wetter areas near inlet.	
Zebra Grass	<i>Miscanthus sinensis</i>	Deciduous Perennial Grass	Full Sun	Non-native. Tussock forming ornamental grass with silky flowers.	
Switch Grass	<i>Panicum virgatum</i>	Deciduous Perennial Grass	Full Sun	Non-native. Tussock forming ornamental grass.	
Royal Fern	<i>Osmunda regalis</i>	Deciduous Fern	Any	Native. Large clump forming plants.	
Male Fern	<i>Dryopteris filix-mas</i>	Deciduous or Evergreen Fern	Full Shade or Partial Shade	Native. Large shuttlecock-like form.	
Broad Buckler Fern	<i>Dryopteris dilatata</i>	Deciduous or Evergreen Fern	Full Shade or Partial Shade	Native. Large shuttlecock-like form.	

Table1: Planting Suitable for Rain Gardens, or wet planting bays

Wildflower / Meadow Grass Planting Suitable for Pollinators

Common Name	Scientific Name	Habit	Benefits	Origin	Image
Yarrow	<i>Achillea millefolium</i>	Herbaceous Perennial	Bees, Bats and Reptiles.	Native. Clusters of 15-40 tiny disk flowers surrounded by 3-8 ray flowers.	
Common Knapweed	<i>Centaurea nigra</i>	Perennial Herb	Bees, Bats and Reptiles.	Native. Flowers from July until September.	
Wild Carrot	<i>Daucus carota</i>	Herbaceous Biennial	Bees, Bats and Reptiles.	Native. 300-600mm long stalks with dense umbels of small white flowers.	
Hedge Bedstraw	<i>Galium mollugo</i>	Herbaceous Annual	Bees, Bats and Reptiles.	Native. 150-1000mm tall. Flowers from May until September.	
Ladies Bedstraw	<i>Gallium verum</i>	Herbaceous Perennial	Bees, Bats and Reptiles.	Native. Low scrambling plant with stems 600-1200mm. Dense clusters of yellow flowers.	
Oxeye Daisy	<i>Leucanthemium vulgare</i>	Perennial Herb	Bees, Bats and Reptiles.	Native. 300-900mm stem with small white flower late spring to autumn.	
Birdsfoot Trefoil	<i>Lotus corniculatus</i> .	Herbaceous Perennial	Bumble Bees.	Native. 50-200mm with yellow and orange flowers. Can withstand trampling / mowing.	
Selfheal	<i>Prunella vulgaris</i>	Perennial Herb	Bees, Bats and Reptiles	Native. Low growing with purple/blue flowers from late spring until autumn.	
Meadow Buttercup	<i>Ranunculus acris</i>	Perennial	Bees, Bats and Reptiles	Naturalised. Small yellow flowers 25mm across.	
Common Sorrel	<i>Rumex acetosa</i>	Perennial Herb	Butterflies and Moths	Native. 600mm tall with reddish green flowers turning purple May to August.	
Red Campion	<i>Silene dioica</i>	Herbaceous Perennial	Butterflies, and Moths	Native. Dark pink flowers from May until October.	
Common Bent	<i>Agrostis capilaris</i>	Rhizomatous Perennial	Bats and Reptiles	Naturalised. Forms a sward or fine dense leaves.	

























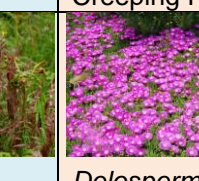
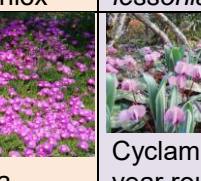




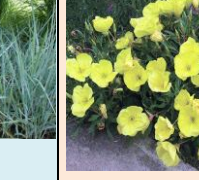
















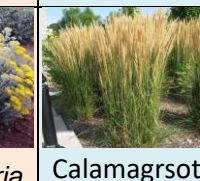
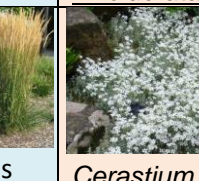








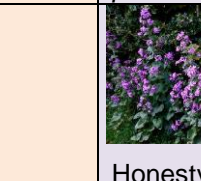
False Oatgrass	<i>Arrhenatherum elatius</i>	Rhizomatous Perennial	Bats and Reptiles	Native. Can grow 1500mm tall with bright green leaves.	
Crested Dogstail	<i>Cynosurus cristatus</i>	Rhizomatous Perennial	Brown butterflies.	Native. 150-450mm high tufts. Can withstand cold and droughts.	
Cocksfoot	<i>Dactylis glomerata</i>	Rhizomatous Perennial	Bats and Reptiles	Native. Forming dense tussocks, 150-1400mm tall..	
Red Fescue	<i>Festuca rubra</i>	Rhizomatous Perennial	Bats and Reptiles	Native. 20-200mm tall groundcover. Prefers shaded areas.	
Meadow Barley	<i>Hordeum secalinum</i>	Rhizomatous Perennial	Bats and Reptiles	Native. 300-600mm tall. Prefers damp sticky clay soils.	
Perennial Ryegrass	<i>Lolium perenne</i>	Rhizomatous Perennial	Bats and Reptiles	Native. Up to 900mm tall grass. Very competitive and hardy.	
Smooth Meadowgrass	<i>Poa pratensis.</i>	Herbaceous Perennial	Bees, Bats and Reptiles	Native. 600-900mm tall. Blue flower heads from May to July.	
Rough Meadowgrass	<i>Poa trivialis</i>	Rhizomatous Perennial	Bats and Reptiles	Native. 300-600mm tall. Copes well with polluted city. In flower June onwards.	
Wild Parsnip	<i>Pastinaca sativa</i>	Herbaceous Biennial	Reptiles and Invertebrates.	Native. Yellow floral stems develop in its second year.	
Ribwort Plantain	<i>Plantago lanceolata</i>	Perennial Herb	Birds and reptiles.	Native. Rosette forming leaves, flowers from April to October, but its seed heads provide winter food for finches.	
Musk Mallow	<i>Malva moschata</i>	Herbaceous Perennial	Bats and Bees.	Native. 800mm tall, bright pink flowers throughout summer. Prefers full sun.	
Field Scabious	<i>Knautia arvensis</i>	Herbaceous Perennial	Bats and Butterflies.	Native. 250-1000mm tall. Lilac pink flowers from July until September.	
Corn Poppy	<i>Papaver rhoeas</i>	Herbaceous Annual	Bats and Bees.	Native. 700mm tall with large red flowers in spring (and again in autumn if warm).	
Argentinian Vervain	<i>Verbena bonariences</i>	Herbaceous Perennial	Butterflies and Bees.	Naturalised. 1800mm tall, slender stemmed lavender flowers, full sun.	

Table 2: Wild Flower/Meadow Grass Planting Suitable for Bees and Pollinators

Drought Resistant Species

Drought Resistant Shrubs - Full Sun	Drought Resistant Perennials and Biennials- Full Sun	Drought Resistant Annual Flowers - Full Sun	Drought Resistant Grasses - Full Sun	Drought Resistant Ground Cover - Full Sun	Drought Resistant Plants – for Shade
					
Buddleia	Achillea	California Poppy	Anemanthele lessoniana	Creeping Phlox	Anemanthele lessoniana
					
Fig	Alliums	Gazania	Festuca	Delosperma	Cyclamen "All the year round"
					
Helianthemum	Anthemis	Mesembryanthemum	Leymus arenarius	Evening Primrose	Cyclamen neapolitanum
					
Lavender	Asclepias	Osteospermum	Pennisetum	Thyme	Cyclamen coum
					
Rosemary	Berlandiera	Poppies (papaver)	Stipa	Callirhoe involucrata	Euphorbia
					
Sage	Campanula pyramidalis	Senecio cineraria	Calamagrostis	Cerastium tomentosum	Foxglove
					
	Centaurea (mixed)	Wallflower	Stip tenuissima	Rockrose	Geranium pratense
					
	Echinops	Rudbeckia fulgida			Honesty


 <i>Eryngium</i>				 <i>Hypericum</i>
 Evening Primrose				 Lily of the Valley
 Gaillardia				 <i>Ophiopogon planiiscapus 'nigrescens'</i>
 Iris				 Sarcococca
 <i>Kniphofia</i>				 <i>Vinca minor</i>
 <i>Osteospermium (hardy)</i>				 <i>Mahonia repens</i>
 Salvia (perennial varieties)				 <i>Galium odoratum</i>
 <i>Sedum</i>				 Creeping Thyme
 <i>Verbascum</i>				
 <i>Verbena</i>				

Table 3. Drought Resistant Species.