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Project: A503

Land to rear of 42 Bancroft Avenue, London, N2 0AS

Green Roof Installation:

The extensive green roof specified is almost maintenance free, but will require removing weeds carried by the wind and applying fertilizer several times a year.

ANNUAL MAINTENANCE

1. Roof inspection

Inspect the Sedum roof at least twice a year for weeds and seeds (carried by the wind) and remove this unwanted vegetation manually. Due to the location of this roof, below tree cover, we recommend it is inspected quarterly. To encourage biodiversity, do not use chemical pesticides. In addition, check whether the drainage system is still functioning properly. Remove any leaves blown into the gutters and drains.

The number of Inspections depend on the greenery in the vicinity of the roof, hence the recommendation for 4 inspections a year at this location, as the proximity and types of tree in the garden and those of the neighbour, will deposit material that needs to be removed regularly.

There are a number of different weeds that could take to the green roof. It is important to remove the harmful ones that could cause damage to roof roof.

1.1 Tree seedlings

Of all the weeds, tree seedlings are the most problematic on any kind of green roof, because different trees have different roots that are stronger and will eventually damage the green roof membranes.

It's important to identify these and remove them quickly by hand. If left to grow, the roots can be strong enough to damage the waterproofing, causing leaks and damage to the property.

1.2 Moss

Moss is a common guest on green roofs, and settles in easily due to its love of damp shade. This makes it inevitable on most roofs - not just green ones.

If there is excessive moss on the green roof, inspect to review:

- Possible issues with the drainage on the roof, causing over saturated areas
- If the winter has made avoiding damp soil impossible
- The shaded spaces on the roof due to the tree cover, and keep the foliage pruned and well maintained to allow as much sun as possible reach all areas.

If one of these issues is contributing to the moss growth, and there is no means of changing it, then it may be best to leave the moss as part of the green roof. Alternatively plant sedum cuttings in the shady parts of the roof, which should be repeated at least every two years.

1.3 Grass

Grass is commonly found on any type of green roof, with wet and damp conditions encouraging it to grow easily.

It is easy to remove - either by hand or by letting the sun kill it off (it's far less resistant to sun than sedum). Although less aesthetically pleasing, it is good for the biodiversity of the green roof, providing a place for insects such as moths and butterflies to lay larvae. This can make the green roof a far more eco-friendly addition, so consider leaving a patch or two where possible.

2. Fertilization

The extensive green roof installed must be fertilized twice a year. The best period for fertilizing the Sedum roof is late April and early September. The fertilization ensures an even supply of nutrients, which results in healthy and strong planting.

We recommend the use of mineral or organic fertilizers.

3. Irrigation

A well-rooted Sedum roof requires no additional water. Only under very dry conditions is it necessary to provide the green roof with water. For example we recommend after two weeks without rain, it can start becoming problematic for wildflower roofs. If wildflowers have gone a week without water, they might start to become stressed by the end of the second week. This will be easy to spot - soft, wilting leaves and drooping flower heads are tell tale signs. If this is the case, give them a good soaking one evening and check on them the day after.

If there is no rain for three weeks or longer, there will be a requirement to water the wildflowers every evening. The watering should take place in the evening time to avoid loss of moisture through evaporation.

Note that due to the cover of parts of the roof by the trees, there could well be areas of the roof that require watering more often. The tell tale signs are the same as stated above, but watering should occur more frequently to ensure an even growth over the whole roof.

4. Common Problems to review and counter if discovered

4.1 Plant loss

Plant loss is a common issue on green roofs, and can happen for many different reasons. We highlight the most common below, with possible works to rectify the problem:

Issues with the membrane drainage

Impaired drainage is a common issue for plant loss. Check the system installation is correct and unblock any drainage / gutters etc that may be filled with leaves / needles from the trees.

Foot traffic

The roof on this project is not designed to be used, so should not present a problem. However, walking over the vegetation can lead to plant loss over time, so try and avoid heavy use. The plants can be walked on for maintenance etc as they are normally hardy enough for the inspections and any necessary weeding or other works.

Wind

Windy environments can cause the green roof vegetation to blow away, or stunt growth completely. We believe this location should not suffer with wind excessively due to its position and shelter from the surrounding buildings and trees.

If there is a problem attributed to wind, the best thing to do is replace planting / sedum with low, rough leaved plants that are less susceptible to wind damage.

4.2 Droopy plants

Droopy plants are a common issue everywhere - but especially on green roofs. This is normally due to one of two things: under watering or over watering.

Underwatering the plants

Should underwatering be the problem, check that the roof has been watered recently. If not, and there has been less rain than normal, this is likely to be the case. To test if this is the issue, water the roof manually and see how it reacts the day after. If the plants bounce back, it confirms it's because it needed water. Water the roof during the remaining dry period.

Over watering the plants

If the green roof has been watered and the plants are drooping, it's likely to be an issue with overwatering. This being the case, do not manually water the roof, allowing nature to take its course. If this was the cause, the plants should bounce back to their natural state.

4.3 Leaks

A leaky green roof is problematic and can cause damage to the property or structure. There are a few reasons why your green roof might be causing leaks.

Root penetration

Root penetration is a serious issue with green roofs, and should be avoided at all costs. Providing the roof has been installed as specified on our drawings, with the root protection layer, this should not be a problem. However, sometimes unnoticed alien plant roots can become aggressive and start to grow through the membrane and cause damage to the building. In turn, this can cause leaks.

If this is an option for any leak, check the membrane to see if it needs replacing. If it's punctured, it will need to be replaced.

Over watering

The specified green roof installation should ensure that even when overwatered, the green roof, does not leak. However, if over watered over a long period of time and the membrane isn't able to get rid of all the excess water, it is possible for the roof to start to leak.