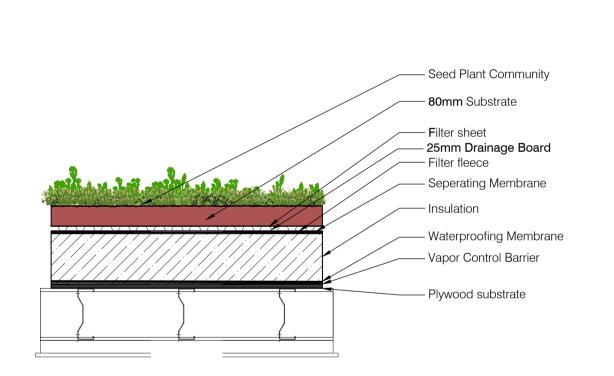
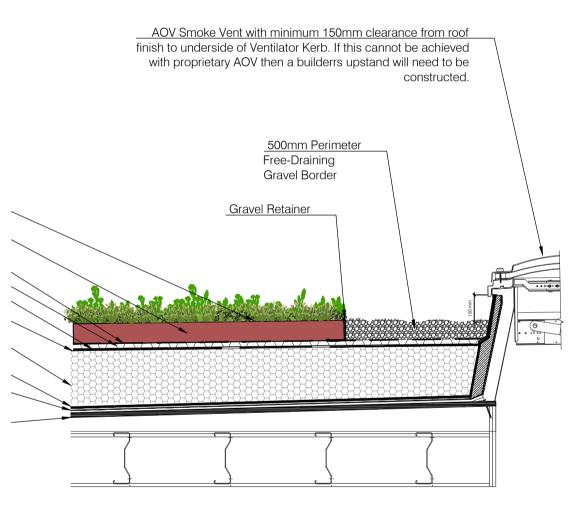


Roof Plan - 1:50@A1

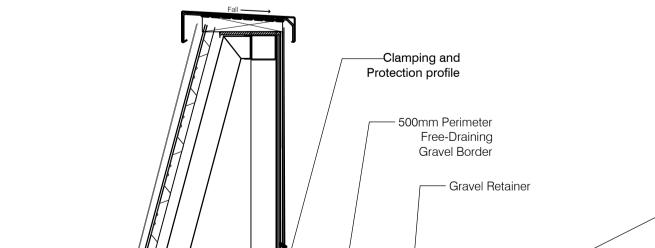


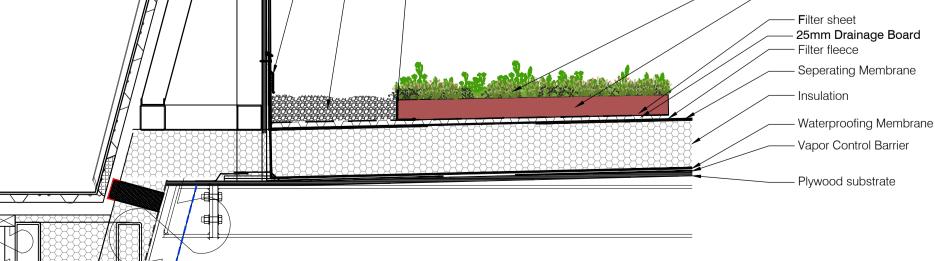


Roof AOV Detail - 1:15@A1

Seed Plant Community

80mm Substrate





Typical Roof Build up - 1:15@A1



Image BioSolar Roof with PV Panels



Image of Close up mix of plants making up BioSolar Roofs.

Plant List - Mix of plants chosen by manufacture of system - list below is an indicative list of the seed mixes used.

Perennials

- Achillea millefolium- Yarrow
- Agrimonia eupatoria Agrimony
- Anthyllis vulneraria Kidney vetch
- Campanula glomerata Clustered Bellflower
- Centaurea nigra Black knapweed
- Centaurium erythraea- Centaury
- Clinopodium vulgare Wild Basil
- Dianthus deltoides Maiden Pink
- Fragaria vesca Wild strawberry
- Galium verum Lady's bedstraw
- Hieracium pilosella- Mouse-ear hawkweed
- Helianthemum nummularia- Common 
  Erigeron acer- Blue fleabane rock rose
- Hypericum perforatum Perforate St John's-wort
- Hypochaeris radicata- Catsear
- Knautia arvensis Field scabious
- Leontodon hispidus Rough hawkbit
- Linaria vulgaris- Common toadflax
- Lotus corniculatus Bird's-foot-trefoil
- Medicago lupulina Black medick
- Origanum vulgare Wild marjoram
- Plantago media Hoary plantain
- Primula veris Cowslip
- Prunella vulgaris Selfheal
- Poterium sanguisorba spp sanguisorba - Salad burnet
- Salvia verbenaca/pratensis -Wild/meadow clary
- Scabiosa columbaria- Small scabious

- Sedum acre Biting stonecrop
- Sedum album White stonecrop
- Silene uniflora- Sea campion
- Silene vulgaris Bladder campion
- Stellaria graminea Lesser stitchwort
- Thymus polytrichus- Wild thyme
- Trifolium pratense Red clover
- Viola riviniana Dog violet

# Annuals

- Agrostemma githago Corn Cockle
- Anagallis arvensis Scarlet Pimpernel
- Anthemis arvensis Corn Chamomile
- Centaurea cyanus Cornflower
- Myosotis arvensis Common Forget-me-not
- Papaver rhoeas Common Poppy
- Viola tricolor- Wild pansy
- Corn marigold- Glebione segetum

## Grasses and Sedges

- Anthoxanthum adoratum Sweet Vernal Grass
- Briza media Quaking Grass
- Carex flacca- Glaucous sedge
- Cyosurus cristatus Crested Dog's-tail
- Festuca ovina Sheep's Fescue
- Festuca rubra Red Fescue
- Koeleria macrantha Crested Hair-grass
- Trisetum flavescens Yellow
- Oat-grass

# **BIOSOLAR - GREEN ROOF MAINTENANCE**

A variation in type and density of vegetation growth is expected beneath the BioSolar modules due to the shading impact of the panels. Our BioSolar planting mix is chosen specifically to allow the vegetation to adapt and thrive in these varying conditions.

Biodiverse green roofs are designed to meet BREEAM requirements which will include a species mix selected to provide a balanced plant community on the roof and will require basic maintenance if this is to be sustained in the long term.

## Preliminary Maintenance Procedures

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The following is a guide to the maintenance necessary to keep a biodiverse green roof in good condition. The information relates to installations that have been completed for one full growing season and where establishment maintenance has been effective.

Establishment maintenance relates to the surface watering and weeding required for the first 10-12 weeks after installation until the planting has rooted into the growing medium, adapted to its location and can be considered established.

There is a common misconception that extensive green roofs and sedum plants in particular, are always green and that from ground level they resemble grass. This is misleading, as they consist mainly of low growing, drought tolerant sedums, wildflowers, grasses, moss, and herbs.

### General Vegetation Maintenance:

Maintenance is best carried out annually, during spring and autumn. Some deposited leaf litter may be considered as contributory to the bio-diverse environment, which is acceptable so long as provision is made to ensure that this has no negative effect on other plants or the PV array.

Specifically designated biodiversity areas should be disturbed as little as possible during maintenance so as not to upset any micro-habitats that may have colonised.

• In the late autumn the vegetation is to be strimmed back to a 50-70mm height and the unwanted waste matter re-moved and lowered to ground level for composting/disposal. Care must be taken to ensure that any solar cables are moved out of the way before any

strimming/cutting takes place. • In the spring apply an 80g/m2 dressing of Slow Release Organic Fertiliser to the vegetated surface.

• Removing unwanted leaf litter that has fallen onto the roof surface in the spring and autumn, to ensure that this does not smother the vegetation beneath.

• Open the lids of all inspection chambers and ensure they are free from blockage and water can flow freely.

• Any vegetation which has encroached into drainage outlets, inspection chambers, walkways and the vegetation barriers (pebbles) should be removed. If movement/settlement of the pebble vegetation barrier has occurred, additional washed stone pebbles similar to the existing should be added.

• Remove any weed growth that will exceed 30 mm in height, is invasive or undesirable (if necessary this can be sprayed with a Glyphosate based herbicide). Any vegetation that shades the modules, however thin will have an impact on PV output and must be cropped. • Damage to the landscaping should be reported to the building owner.

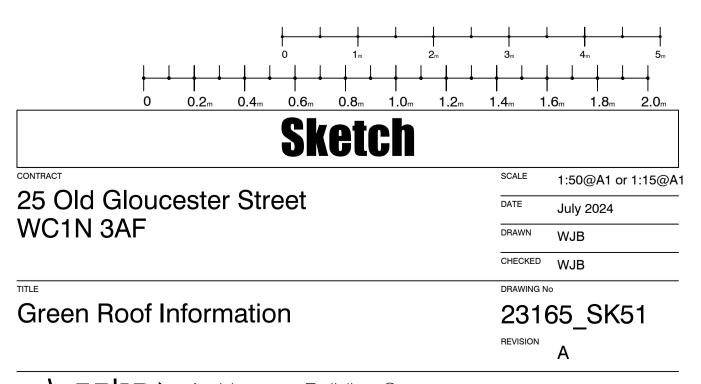
#### A typical maintenance programme includes:

• Roof evaluation - an expert will perform a comprehensive review of your green roof to determine what remedial work, if any, needs to be done.

• Removal of weeds and unwanted items - over time a green roof can become congested with leaves, debris and other unwanted vegetation, which can be removed as part of our service. • Inspection - inspection of roof outlets and removal of any encroaching vegetation to enable water to flow freely through rainwater pipes.

• Application of fertiliser - to help restore your green roof to its best, an organic slow release granular fertiliser will encourage growth.

Testing - after all work has been performed, the irrigation system will be examined to ensure it works as expected



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