Wildflower Turf Ltd

Wildflower Turf Roof Turf: **WFT-Roof-34*

SEED SPECIFICATION – 20% grass / 80% flowers

- Subject to seed availability

	FLORA		
1	Autumn Hawkbit	(*Leontodon autumnalis)*	*P*
2	Betony	(*Stachys officinalis)*	*P*
3	Bird's foot Trefoil	(*Lotus corniculatus)*	*P*
4	Black Medic	*(Medicago lupulina)*	*A/P*
5	Bladder Campion	(*Silene vulgaris)*	*P*
6	Cat's ear	(*Hypochaeris radicata)*	*P*
7	Common Knapweed	*(Centaurea nigra)*	*P*
8	Common Sorrel	(*Rumex acetosa)*	*P*
9	Common Toadflax	(*Linaria vulgaris)*	*P*
10	Common Vetch	(*Vicia sativa)*	*P*
11	Cowslip	(*Primula veris)*	*P*
12	Field Scabious	*(Knautia arvensis)*	*P*
13	Hoary Plantain	*(Plantago media)*	*P*
14	Lady's Bedstraw	(*Galium verum)*	*P*
15	Meadow Buttercup	(*Ranunculus acris)*	*P*
16	Meadow Cranesbill	*(Geranium pratense)*	*P*
17	Meadowsweet	(*Filipendula ulmaria)*	*P*
18	Musk Mallow	(*Malva moschata)*	*P*
19	Ox Eye Daisy	(*Leucanthemum vulgare)*	*P*
20	Perforate St John's Wort	(*Hypericum perforatum)*	*P*
21	Ragged Robin	(*Lychnis flos-cuculi)*	*P*
22	Red Campion	(*Silene dioica)*	*P*
23	Ribwort Plantain	(*Plantago lanceolata)*	*P*
24	Rough Hawkbit	(*Leontodon hispidus)*	*P*
25	Salad Burnet	*(Sanguisorba minor)*	*P*
26	Self-heal	*(Prunella vulgaris)*	*P*
27	Small Scabious	*(Scabiosa columbaria)*	*P*
28	Thrift	*(Armeria maritima)*	*P*
29	Tufted Vetch	(*Vicia cracca)*	*P*
30	Viper's Bugloss	*(Echium vulgare)*	*B*
31	White Campion	*(Silene latifolia)*	*P*
32	Wild Marjoram	(*Origanum vulgare)*	*P*
33	Wild Red Clover	(*Trifolium pratense)*	*P*
34	Yarrow	(*Achillea millefolium)*	*P*
	GRASSES		
35	Sheep's Fescue	(*Festuca ovina)*	*P*

Key: P = Perennial; B = Biennial; A = Annual

1.1 Wildflower Roof Turf

1.1.1	Wildflower Roof Turf is a soil-free wildflower turf system developed to reduce irrigation and thrive in an exposed environment. This turf is nursery grown to produce a mat of wildflower plants that retains 100% of its root system.	
1.1.2	The turf is made up of UK native wildflowers and grasses, with a minimum of 75% wildflowers although bespoke mixes are produced to order.	
1.1.3	The soil-less growing technique uses an inert, pH modified, low nutrient, compost based growing medium that is compatible with all Wildflower Turf Limited products.	
1.1.4	A fine degradable net is incorporated in the root zone of the turf to provide stability and strength, whilst maintaining a relatively lightweight roll ranging from 14 to 18kgs/m². (Saturated weight can be 30kgs/m² once installed)	
1.1.5	Turf size will vary with application but is generally 1m x 0.64m (0.64m²) and slabbed laid flat on pallets. Each slab weighs approximately 14kgs each. 2 x 20m (40m²) roll size is available which can weigh between 750-900kgs each and will need special machinery to offload and roll out on site.	

2.2 Wildflower Roof Turf Preparation and Installation

2.2.1	Ensure the roof structure is of sufficient strength and suitably designed to support the combined saturated weight of the turf, the substrate and irrigation system. If unsure, consult a structural engineer or specialist contractor. Please ensure its safe to work on the roof in accordance with the latest Health & Safety Executive guidance.	Roof stability
2.2.2	Lay a waterproof membrane over the entire roof area. Consult a roofing contractor for an appropriate system. Pay attention to sealing around roof lights, vent stacks and other similar features where there is a higher risk of water ingress. The whole roof must be watertight and care taken not to puncture the membrane when installing any growing medium, turf or bulbs.	Waterproof membrane
2.2.3	Adequate provision must be made for drainage at the bottom of the roof slopes. This can be achieved by leaving a small gap in the retention feature or a strip that is back-filled with gravel or similar material. Wildflowers need moisture but like a free-draining environment. Avoid levels that will allow standing water to prevent waterlogging.	Drainage

2.2.4	**Option A**: Loose substrate on a flat roof The growing medium or substrate is supplied in 1m³ bulk bags. Each weigh approximately 400kgs. 2m³ bulk bags are available and weigh 800kgs, or the substrate can be supplied loose in bulker lorries. To retain the loose substrate, lay a strip of geo-textile membrane along the inside of the substrate retention feature (e.g upstand or barge board), to allow water to drain without washing out any substrate in the process. Fill the area with substrate laid evenly at 110mm depth. The substrate will settle by 10% so laying 110mm allows for 10mm settlement. **Option B: Loose substrate & substrate sacks** Using our 600 x 460 x 100mm woven substrate sacks, allow 4 sacks per m². Lay two lines of sacks around the perimeter of the roof and along the ridge. Backfill the remainder of the area with loose substrate to the same level as the sacks allowing 10% extra for settlement. Use some of the loose substrate to fill in any voids between the substrate sacks. **Option C: Substrate layer using sacks only** Using our 600 x 460 x 100mm woven substrate sacks (allowing 4 sacks per m²) cover the whole roof area. Using the sacks helps to give permanent structural strength to the root zone. Using loose substrate, apply a screed layer of substrate over the substrate sacks and brush in to ensure any gaps and voids are properly filled.	Substrate laying options
2.2.5	When using loose substrate, and in particular on steeply pitched roofs, provision must be made for a retaining system at the eaves and sides of the roof. This can be in the form of a wooden batten/barge board with accompanying fixing brackets or an engineered metal L shaped strip attached to the roof structure. Your roofing contractor or specialist should advise you on the design and construction of this feature. Attention should be made to the water tightness of the fixing points. In addition to the eaves retention it is advisable to install a line of our woven substrate sacks around the perimeter of the roof which provides the initial containment of the loose substrate whilst the turf establishes a root system	Substrate retention

	throughout the substrate/growing medium zone. See 5.2.4 above	
2.2.6	When laying the turf, care should be taken to ensure that all joints are butted up correctly to prevent the growth of weeds. Do not overlap the turf at the joints and do not create tension so joints pull apart or shrink. Any gaps should be filled with loose substrate. Ensure the turf roots are in contact with the substrate and there are no air pockets underneath.	Laying the turf
2.2.7	Once laid, water the turf thoroughly, for the first week, depending on the weather. It is important to check that the initial watering soaks through to the substrate beneath the turf. Do this by lifting a corner of the turf to ensure that the substrate below the turf has received water from the irrigation. This simple technique ensures the turf receives sufficient water during its first irrigation. Do **not** allow the turf to dry out while it establishes and this should only take approximately 2 weeks. Do not flood the turf when watering but ensure the substrate is damp. Over watering can result in grass dominating the sward – so only water as necessary. For the first growing season it is important to water the turf occasionally, during extended dry spells. Once well established the Wildflower Turf will tend to cope with most circumstances but the flowers will benefit from water during very dry periods, however the limited depth of growing medium does restrict the availability of water for the plants and additional consideration should be paid to irrigation.	Watering
2.2.8	If the roof is relatively large then a drip irrigation system can be installed (optional). Pipes should be laid across the substrate and underneath the turf across the gradient of the roof slope with T joints to a vertical supply/feeder pipe.	Irrigation

3.3 Wildflower Roof Turf Maintenance

3.3.1	No fertilizer is needed, although in some circumstances, the addition of a light dose of fertilizer in the spring may improve plant development if required. Please refer to Wildflower Turf Ltd.	Fertilizer
3.3.2	Once established Wildflower Turf requires very little maintenance, however in the autumn it is important to cut the plants and remove these cuttings. This can be done by strimming and raking, or using a mower and collecting the cuttings. Make sure these tools are sharp. Cutting the plants back to 1 to 2 inches (25mm to 50mm) in length is an important part of their lifecycle and ensures that re-growth and species diversity will continue year on year. Take care to avoid damage to the roof membrane or any drip irrigation pipes. One cut a year is advised but a second or third cut	Cutting regime

	through the season is acceptable and offers an opportunity to tidy any excess growth.	
3.3.3	A single cut and remove should be carried out from late summer, ideally after the plants have set and shed their seed. Not only does this tidy up the area for the winter but it stops the senesced summer growth from covering the growing plant in a layer of rotting plant material. If left this material becomes detrimental competition to the plants and re-introduces nutrients in the form of 'composting' plant material. After the autumn it is also important to remove any leaf litter that might fall onto the area from any nearby or overhanging trees. Additional cuts should have the arisings removed.	Clear arisings
3.3.4	There is no need for a set date for the late cut and remove. Timings can vary to suit the required look of the site, but thought should be given to the fauna in the habitat on site. Cutting only half of the meadow area at one time will give time for fauna to migrate to the uncut meadow. Allow some regrowth of the cut area before cutting the second half. The aim should be to have finished all cutting by the end of the first week of October. Over time alternate the areas that are cut early and the areas that are left as this will benefit species diversity.	Timing the cut