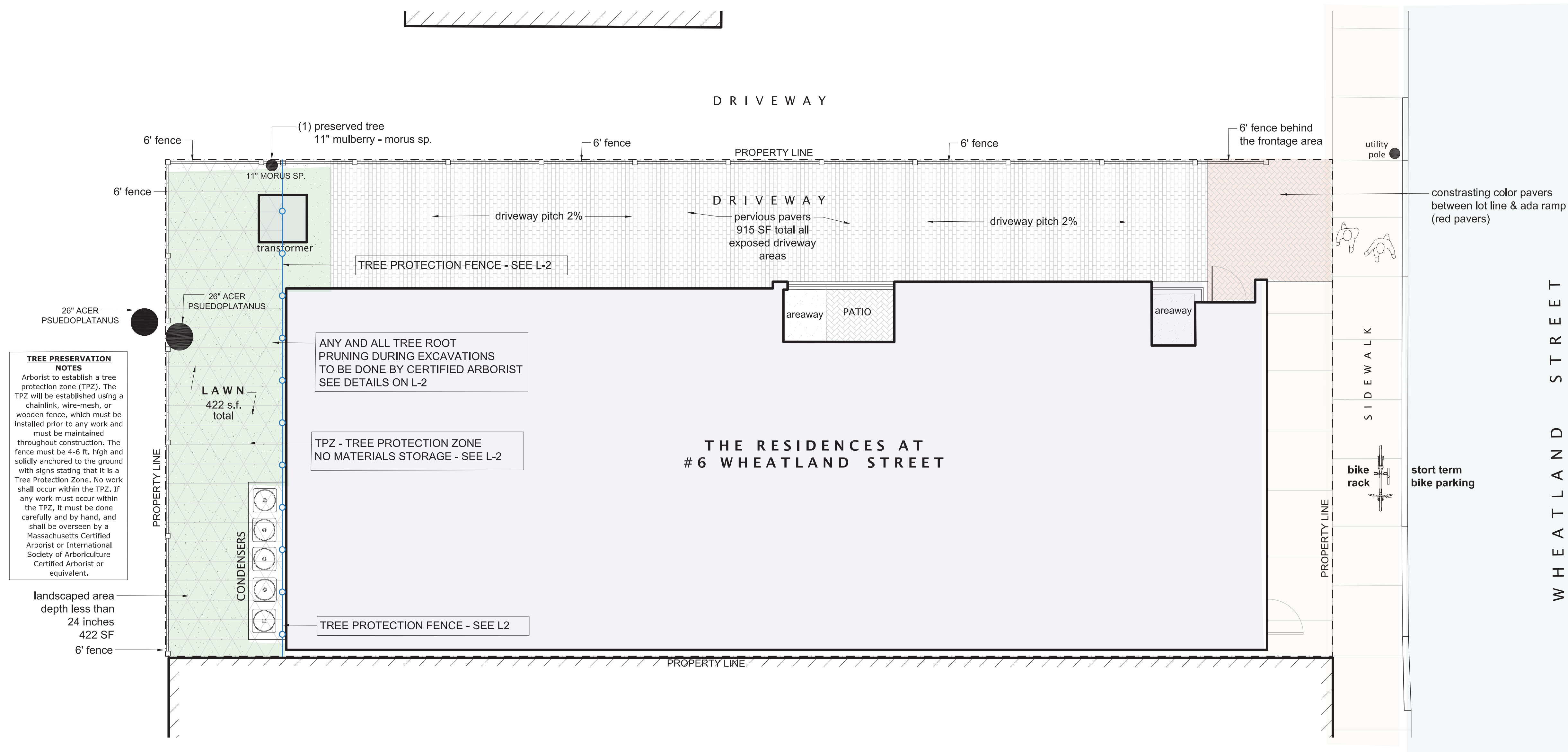


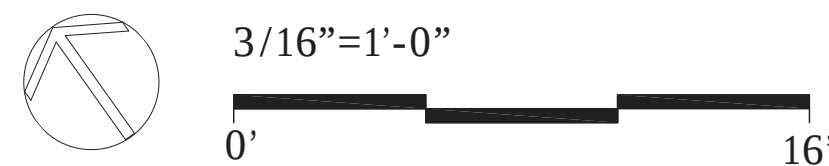


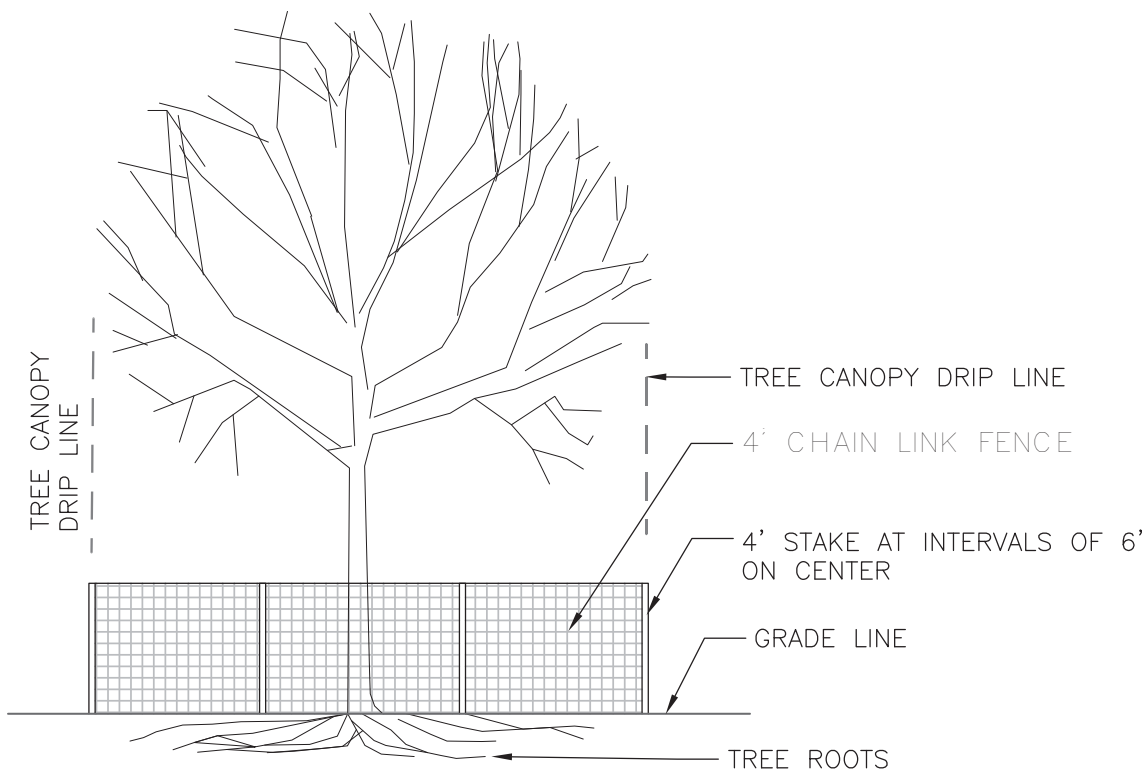
Somerville Green Score					
DIRECTIONS:					
1. Enter the Lot Area in square feet to the right >>>					
2. Enter the area in square feet or the number of landscape elements					
	Area or Number				
	4,250				
Soils		Sq Ft Credit	Multiplier	Weighted Area	Score Value
Landscaped area with a soil depth less than 24 inches (Rear Yard Area Tree Protection Zone - Lawn)	422	actual sq ft	0.3	126.6	0.030
Landscaped area with a soil depth equal to or greater than 24 inches	0	actual sq ft	0.6	0	0.000
Pervious Paving with 6 to 24 inches of subsurface soil or gravel	915	actual sq ft	0.2	183	0.043
Pervious Paving with more than 24 inches of subsurface soil or gravel	0	actual sq ft	0.5	0	0.000
Groundcovers					
Turf grass, mulch, and inorganic surfacing materials (enter square feet)	0	actual sq ft	0.1	0	0.000
Plants					
Vegetation less than two (2) feet tall at maturity	0	actual sq ft	0.2	0	0.000
Vegetation at least two (2) feet tall at maturity	0	12	0.3	0	0.000
Trees					
Small Tree (enter number of trees)	0	50	0.6	0	0.000
Large Tree	0	450	0.7	0	0.000
Preserved Tree (enter DBH)	11	65	0.8	572	0.135
Engineered Landscape					
Vegetated Wall (enter square feet)	0	actual sq ft	0.1	0	0.000
Rain gardens, bioswales, and stormwater planters (enter square feet)	0	actual sq ft	1.0	0	0.000
Green Roof with up to 6" of growth medium (enter square feet)	1,970	actual sq ft	0.1	197	0.046
Green Roof with 6"-10" of growth medium (enter square feet)	0	actual sq ft	0.4	0	0.000
Green Roof of 10"-24" growth medium (enter square feet)	0	actual sq ft	0.6	0	0.000
Green Roof of over 24" growth medium	0	Calculate as if soils, groundcovers, plants, and trees			

Green Score = 0.254



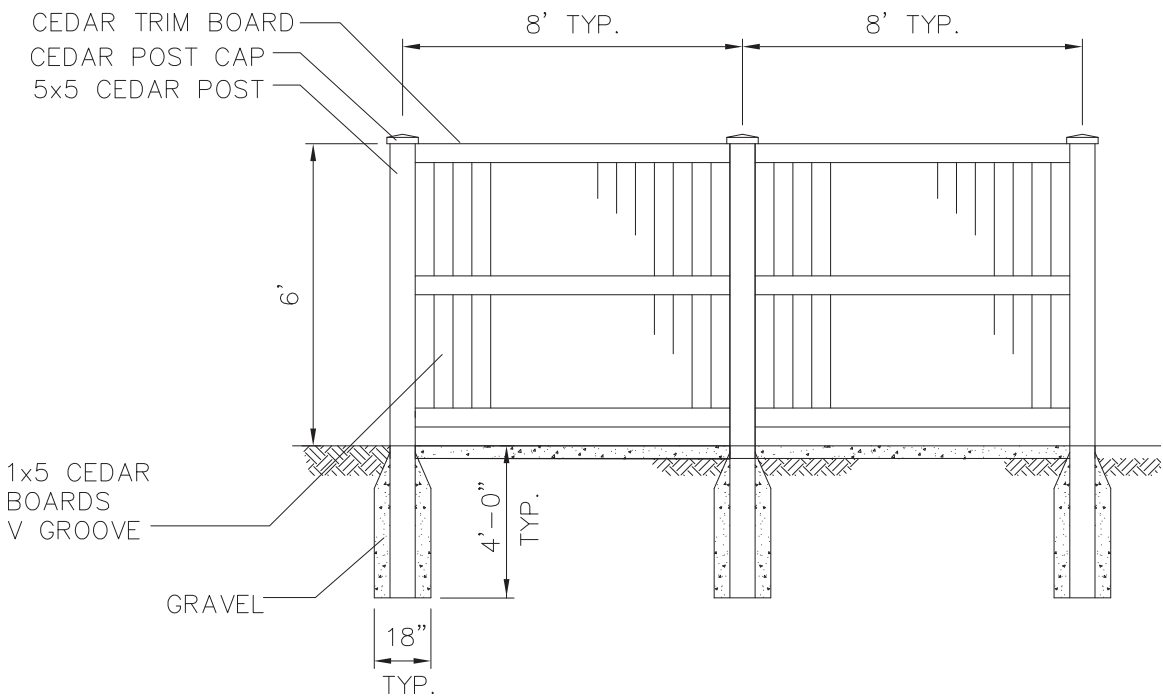
Preserved Tree 11" Mulberry



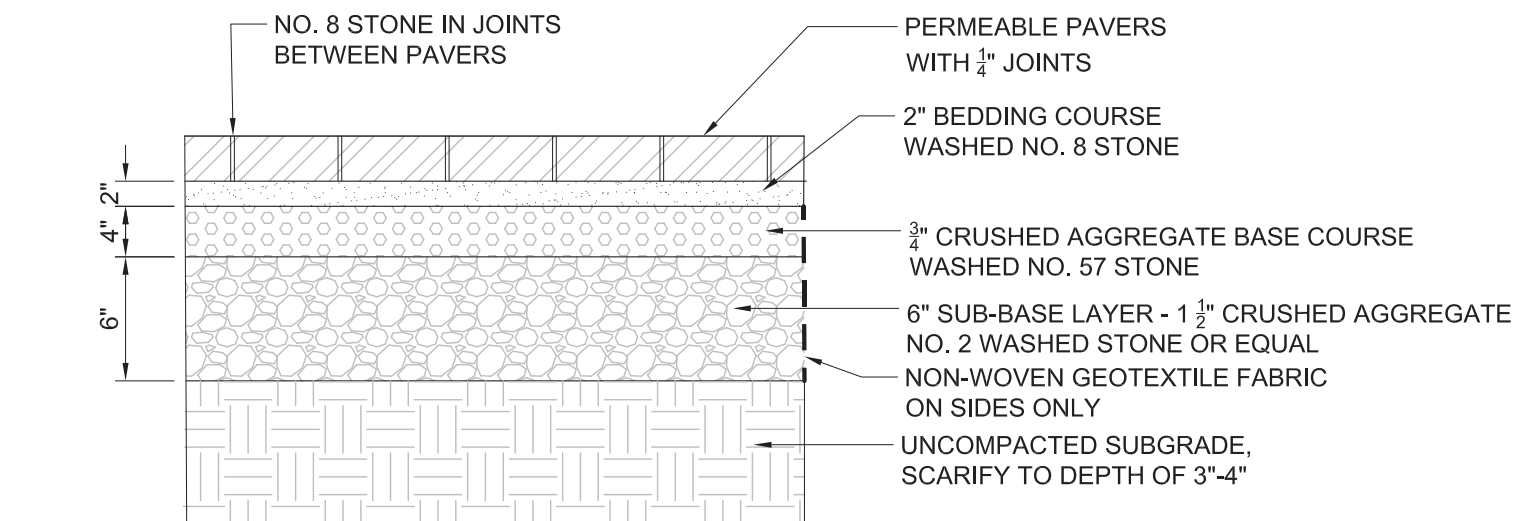


Tree Root Zone Protection Fence

NOTE RE:OFFSITE TREE PRESERVATION
Arborist to establish a tree protection zone (TPZ). The TPZ will be established using a chainlink, wire-mesh, or wooden fence, which must be installed prior to any work and must be maintained throughout construction. The fence must be 4-6 ft. high and solidly anchored to the ground with signs stating that it is a Tree Protection Zone. No work shall occur within the TPZ. If any work must occur within the TPZ, it must be done carefully and by hand, and shall be overseen by a Massachusetts Certified Arborist or International Society of Arboriculture Certified Arborist or equivalent.

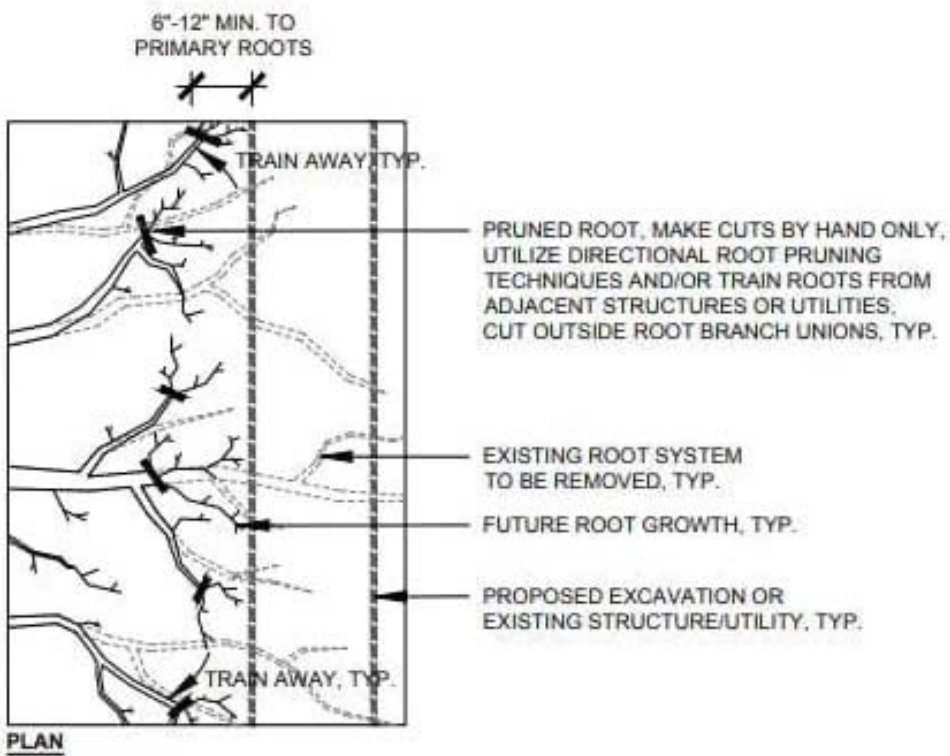
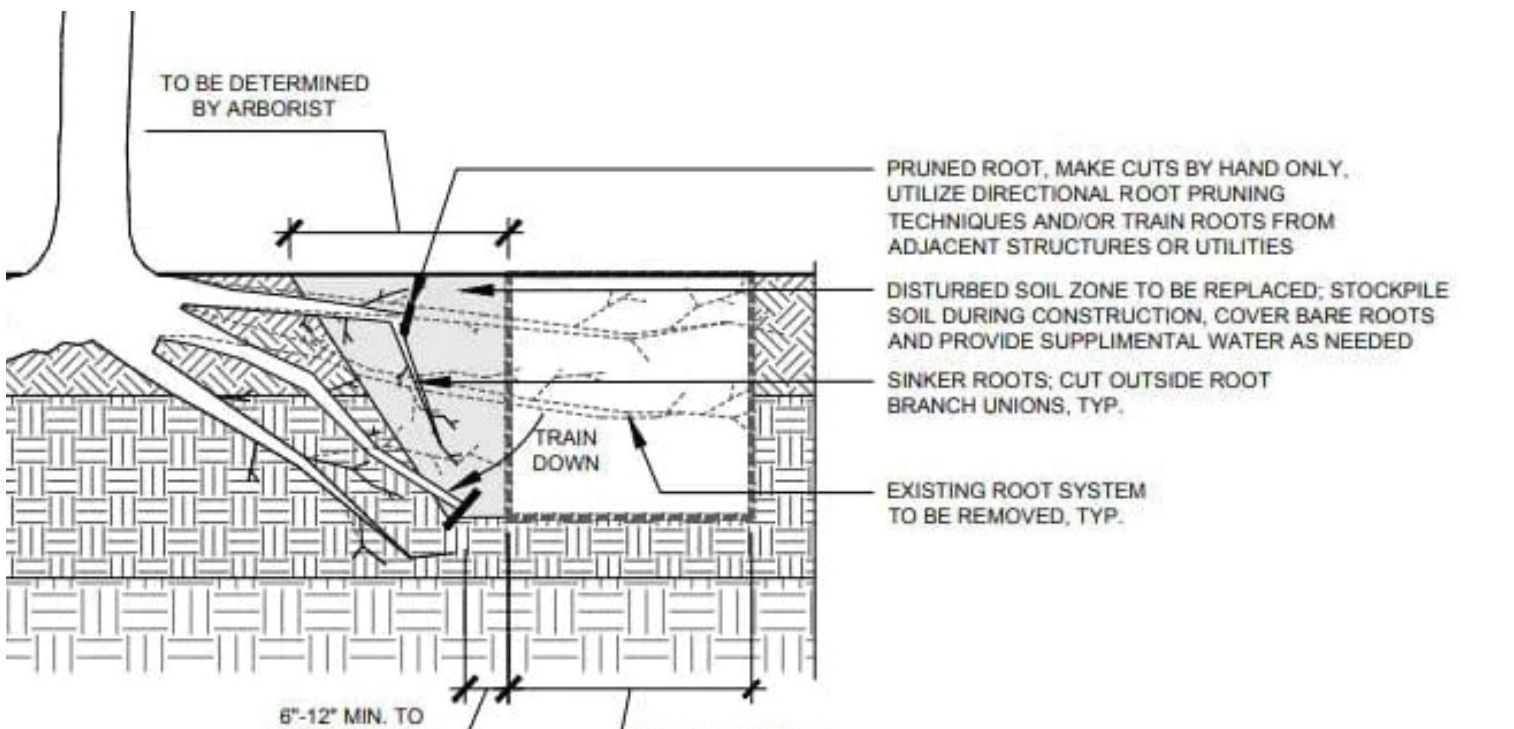


Typical Fence Elevation

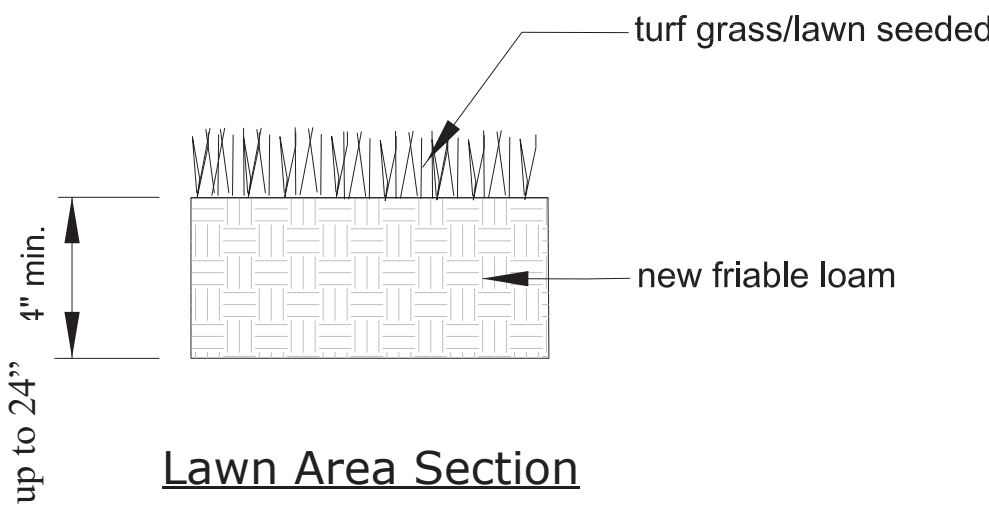


Pervious Paver Section

6" to 24" depth of subsurface soil or gravel



Root Pruning - Offsite Tree Preservation



Lawn Area Section

soil depth less than 24"

NOTE: Lawn areas to have typical minimum soil of depth of 4" of new friable loam.

TOP SOIL SPECIFICATIONS:

1. Loam shall be a natural, fertile, friable soil, typical of productive soils in the vicinity, obtained from naturally well drained areas, neither excessively acid nor alkaline, and containing no substances harmful to grass growth. Loam shall not be delivered to the site in frozen or muddy condition and shall be reasonably free of stumps, roots, heavy or stiff clay, stones larger than 1 inch in diameter, lumps, coarse sand, noxious weeds, sticks, brush or other litter.
2. The loam shall contain not less than 84 percent organic matter, as determined by the loss of weight by ignition of oven-dried samples. Test samples shall be oven dried to a constant weight at a temperature of 230 degrees F.
3. The loam shall have a maximum permeability of 3.7 x 10-4 centimeters per second as determined by ASTM D 5084.2434.



Green Roof Maintenance

1.1. Maintenance immediately following installation (by roofing contractor)

Sedum roofs require care and attention in the weeks following their installation. After a period of 6 to 8 weeks during the growing season, the edges of the sedum blankets will knit together, and the roots of the sedum plants will extend into the growing media. All living roofs must be carefully monitored through their first summer flowering cycle.

1.2. Maintenance post-establishment (by client/building owner)

Inspect the roof at least twice yearly, in spring and autumn, and inspect all roofs after any severe storm. Make frequent inspections on buildings that house manufacturing facilities that evacuate exhaust debris onto the roof.

The following steps should be undertaken during each roof inspection:

- Clean roof drains of debris.
- Remove leaves, twigs, cans, balls, etc. which could plug roof drains.
- Bag and remove all debris from the roof as debris on the roof surface will be quickly swept into drains by heavy rains and drainage problems may occur.
- Notify the roofing contractor immediately if a roof leak occurs.

1.3. Safe Access

Appropriate measures should be taken at both design and construction stages to ensure safe access and passage over the planted roof areas for maintenance personnel.

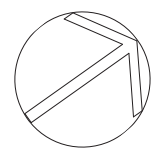
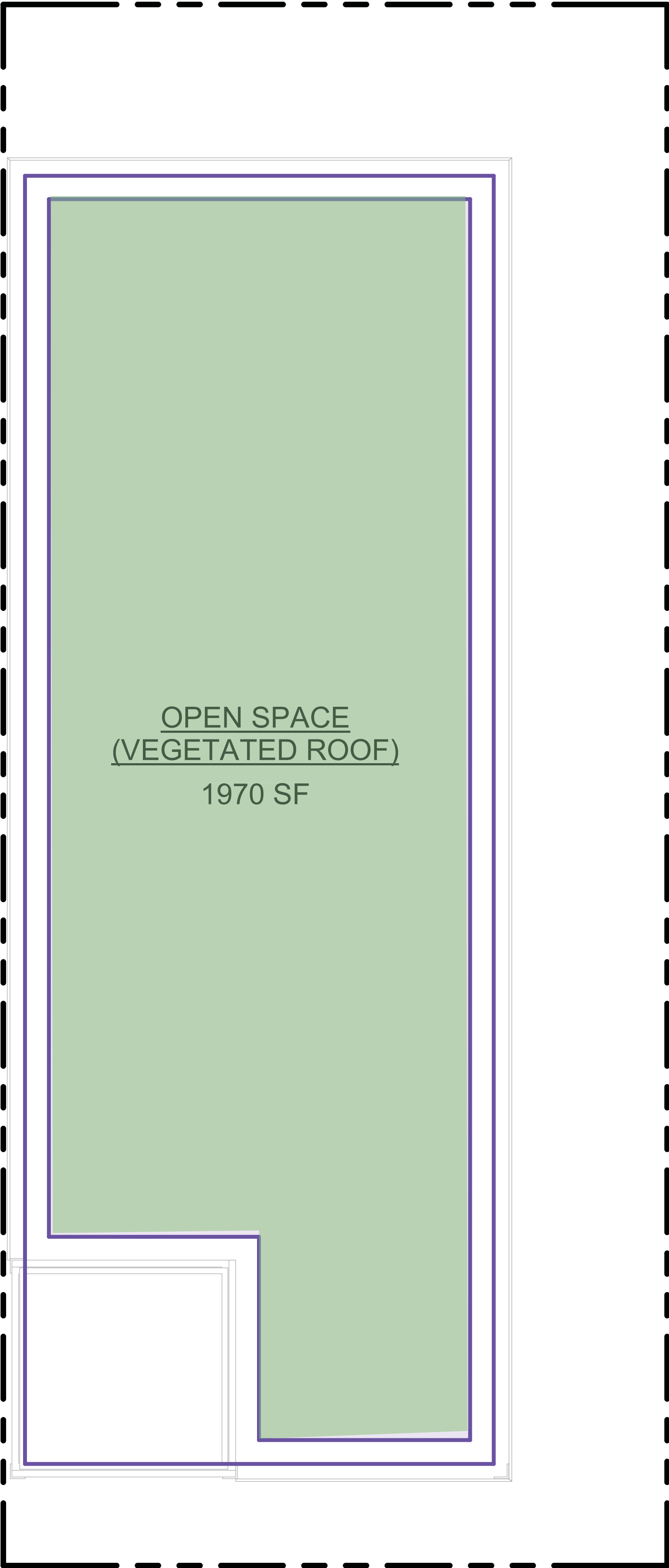
1.4. Gutters and Outlets

The checking of gutters and outlets should be carried out routinely during any maintenance check to ensure drainage is not impeded.

1.5. Watering and Irrigation

If an extended period of dry weather should occur (14 or more dry days), periodic checks should be made on the roof to examine the reservoir and drainage board to determine if all the water contained has been used by the plant layer. Apply water using a sprinkler attachment or porous or perforated pipe until the substrate is thoroughly saturated and the reservoir cups are filled.

NOTE: GREEN ROOF AREAS TO HAVE
MINIMUM 4" SOIL DEPTH

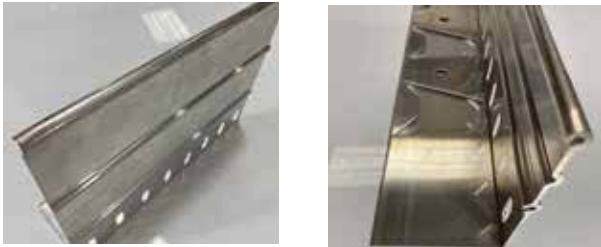
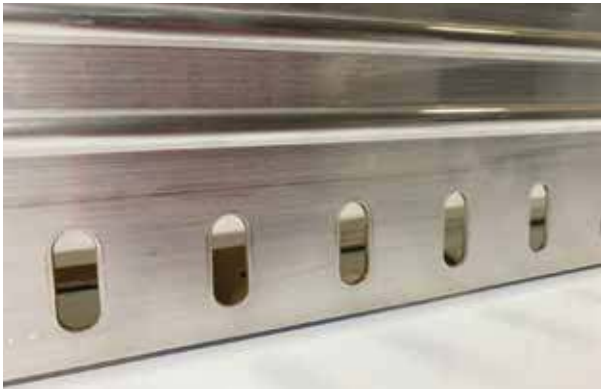




GRO METAL EDGING
SPECIFICATIONS

GRO METAL EDGING

GRO Metal Edging is a strong yet lightweight, bendable restraint that provides a great finished look for both modular systems and/or intensive and extensive layered green roof systems. Our "L shaped" design retains green roof planting materials and can be an edging detail for paver and tiles on rooftop walkways. GRO Metal Edging accommodates design curves and angles and is easy to install, making it a great alternative to structural curbing.



MATERIAL	Aluminum Extruded 6063 Alloy
DIMENSIONS	Varying heights 4.5", 6.5" & 8.25" height x 8' lengths
FINISH	Mill Finish Anodized Black DuraFlex available by special order
TEMP. DISPLACEMENT	Extruded aluminum is not impaired by exposure to low temperatures
UV RESISTANCE	Aluminum reflects ultraviolet radiation and is not damaged by harmful UV rays
COMBUSTIBILITY	Extruded aluminum will not burn, making it safer than many materials such as wood, paper, or plastic in design applications. Extruded aluminum also does not emit any toxic, hazardous fumes when exposed to high temperatures.



GRO DRAIN COVERS AND LIDS
SPECIFICATIONS

GRO DRAIN COVERS and LIDS

GRO Drain Covers and Lids are lightweight for rooftop applications and provide a functional purpose with a polished look. They provide effective drainage of rainwater, retain green roof materials from entering the roof drains, and protect drains in the path of roof top walkways and decks. GRO Aluminum Drain Covers and Lids are designed to complement GRO Metal Edging in both modular and layered green roof applications. All aluminum GRO Drain Covers and Lids are from made recycled aluminum, are 100% recyclable, and may qualify for LEED points.



MATERIAL	Extruded 6063 Alloy Aluminum
DIMENSIONS	15" x 15" x 6" high (inside) Custom sizes available
FINISH	Mill finish anodized
UV PROTECTION	Reflects ultraviolet radiation
SECURITY	2 piece with lockable lid

www.greenrisetech.com

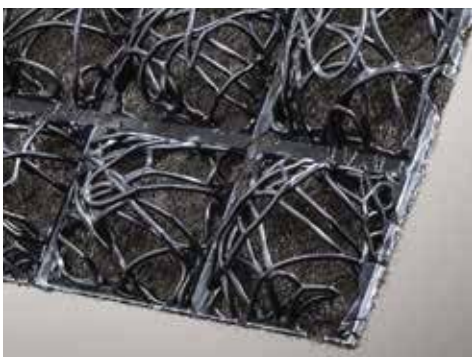
info@greenrisetech.com



GRO DRAIN MAT - 0.5"
SPECIFICATIONS

GRO DRAIN MAT - 0.5"

GRO Drain Mat 0.5" is a ½" thick drainage core with an extruded polymer matrix of tangled monofilaments, thermally bonded to a non-woven geotextile and molded into waffle patterns, for excellent compressive strength. The fleece is a lightweight non-woven, for excellent filtering performance, with high tensile and tear strength.



DRAIN MAT SPECIFICATIONS

MATERIAL	Core: Extruded Polymer Fleece: Non-Woven Geotextile
ROLL DIMENSIONS	4' x 100' x 0.45" high; 400 ft ² /roll & 48" diameter
ROLL WEIGHT	56 lbs/roll
COMPRESSIVE STRENGTH	>30,000 psf (ASTM D1621 modified & ASTM D4716) (flow rate may be decreased)

FLOW RATES: ASTM D4716

COMPRESSION APPLIED (psf)	1.0 GRADIENT	.04 GRADIENT	.02 GRADIENT
50			2.12 gpm/ft
100		2.05 gpm/ft	
250			1.95 gpm/ft
500	16.30 gpm/ft	2.20 gpm/ft	1.17 gpm/ft
1,000	13.72 gpm/ft	1.89 gpm/ft	.97 gpm/ft
2,000	6.81 gpm/ft	.67 gpm/ft	.35 gpm/ft
30,000			.10 gpm/ft*

* 30,000 psi was applied for 1 hr, then able to relax for 24 hrs, before 1,000 psf was applied to sample and ASTM D4716 was run. Passed.

FABRIC SPECIFICATIONS

	NON-WOVEN	ASTM
WEIGHT	.5 oz/ft ²	D5261
PUNCTURE STRENGTH	250 lbs	D6241
AOS (MAX. AVERAGE)	70 US Sieve	D4751
PERMEABILITY	0.21 cm/sec	D4491

www.greenrisetech.com

info@greenrisetech.com



GRO ROOT BARRIER 20
SPECIFICATIONS

GRO ROOT BARRIER 20

GRO Root Barrier is a smooth polyethylene geomembrane film that acts as a waterproof seal, protecting the soil from moisture loss, and redirects soil roots as needed. For use when a root barrier is required.



MATERIAL	Black Polyethylene Geomembrane
THICKNESS	20 mil *Other thicknesses available upon request
DIMENSIONS & WEIGHT	53" x 136' ; 600 ft ² /roll ; 85 lbs/roll 53" x 175' ; 773 ft ² /roll ; 96 lbs/roll
TENSILE STRENGTH @ BREAK	96 ppi (ASTM D6693)
ELONGATION @ BREAK	900% (ASTM D6693)
TEAR RESISTANCE	12 lbs (ASTM D1004)
PUNCTURE RESISTANCE	60 lbs (ASTM D4833)
CARBON BLACK CONTENT	2.4% (ASTM D4128)
OXIDATIVE INDUCTION TIME	100 mins (ASTM D3895)

Product Data Sheet
Protection Mat SSM 45



Water and nutrient retention mat of recycled synthetic fibers, for the application as a protection layer under green roofs, gravel fills, slab pavings, etc.

Technical Data		EDP No. 2046
Protection Mat SSM 45 High quality recycled fiber mat made of polyester/polypropylene.		
Color:	brown mottled	
Thickness:	ca. 0.2 in.	(ca. 5 mm)
Weight:	ca. 0.1 lbs/sq. ft.	(ca. 470 g/m ²)
Water retention capacity:	ca. 0.12 gal/sq. ft.	(ca. 5 l/m ²)
Strength class:	3	
Protection efficiency according to EN ISO 13428:	Residual thickness ≥ 40 %	
Tensile strength lengthwise:	> 31.4 lbs/in.	(> 5.5 kN/m)
Extension lengthwise:	> 75 %	
Dimensions:	ca. 6.6 ft. x 32.8 ft.	(ca. 2.00 m x 10.00 m)
	ca. 215 sq. ft. (ca. 20 m ²), folded	

Features
- resistant to mechanical stress - with proven protective effect according to European Standard EN ISO 13428 - water and nutrient retention - non-rotting - biologically neutral - bitumen and polystyrene compatible - made of recycled fibers - quick and easy installation

Installation Instructions
Install the Protection Mat SSM 45 above a waterproofing or root barrier with an overlap of 4 inch. The protection mat has to be taken above the Growing Media along edges and at roof penetrations. Cut the protection mat in situ at roof penetrations. Consider an allowance for overlap and wastage of ca. 10-15 %. Protection Mat SSM 45 is included, but not limited to, to be installed according to manufacturer's instructions, not exposed to UV-light, completely covered. Call manufacturer for further options.

Health and Safety
This product does not require a material safety data sheet (MSDS) according to the OSHA Hazard Communication Standard (29 CFR 1910.1200). When used as recommended or under ordinary conditions, it should not present a health and safety hazard. However, an MSDS can be provided as a courtesy in response to a customer request.

ZinCo USA Inc.
401 VW Drive - Rockland, MA 02370
Phone 866 766 3155 - Fax 866 766 3955
info@zinco-usa.com - www.zinco-usa.com

Life on Roofs



NOTES: 1. GREEN ROOF AREAS TO HAVE MINIMUM 4" SOIL DEPTH
2. GREEN ROOF PRODUCT OR APPROVED EQUAL

