INSTALLATION MANUAL

TREMCO®

VR MAX

INTENSIVE & SEMI-INTENSIVE
HIGH PERFORMANCE BUILT-UP SYSTEM

1- VR RootBloc 10 or VR RootBloc 40

(NOTE: For both conventional & inverted roof assemblies.)

a. Install VR RootBloc 10 or VR RootBloc 40 over the roofing membrane. Lap all joints by a minimum 4” (100 mm).

For VR RootBloc 10, seal all seams continuously with VR TecTape 2.

For VR RootBloc 40, seal all seams continuously with VR TecTape 4 or with heat welding.

b. Bring the VR RootBloc 10 or VR RootBloc 40 up all projections and parapets within the designated green roof area, at least 1” (25 mm) above the finished soil level. Secure with VR TecTape 2 or VR TecTape 4 respectively, creating an uninterrupted seal between the root barrier and the projections or parapets within the designated green roof area.

When installing VR RootBloc 40, DO NOT pull too tightly at corners, to allow the material room to expand and contract with temperature.

VR RootBloc 40 must be secured to parapets with VR TecTape 4 or termination bars.

c. In the case of roof drains, remove the drain grate and ensure the VR RootBloc 10 or VR RootBloc 40 extends beyond the edge of the clamping flange. Cut a hole in the VR RootBloc 10 or VR RootBloc 40 sufficient in size to allow for uninterrupted drainage. Clamp the grate back onto the clamping flange.

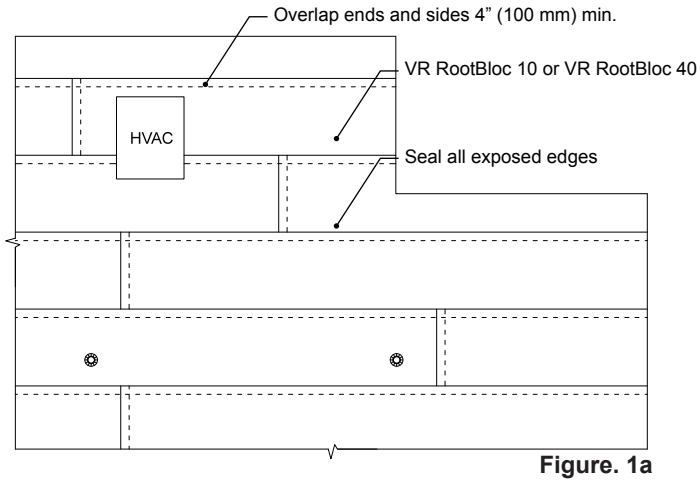

Figure. 1a

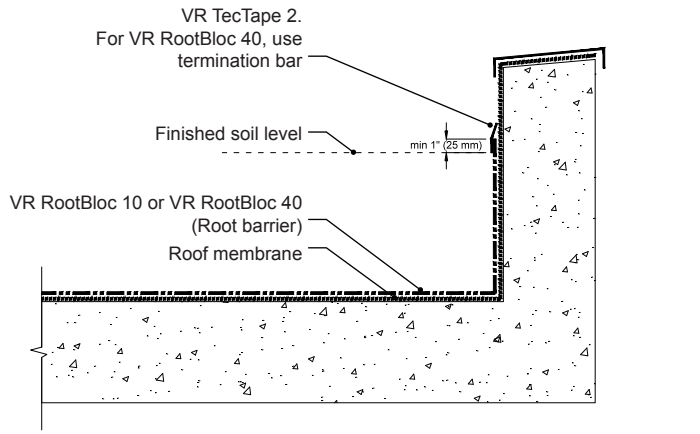

Figure. 1b

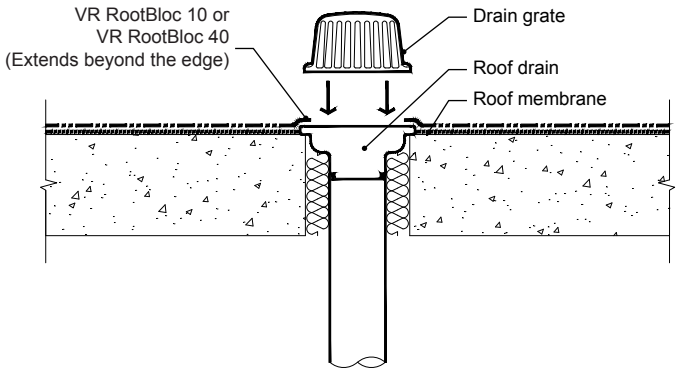

Figure. 1c

2- Insulation (Option 1)

(NOTE: This step is required if an inverted roof system is used. Otherwise proceed to Option 2.)

a. Lay insulation in parallel courses, staggering end laps and side laps. Do not force into place.

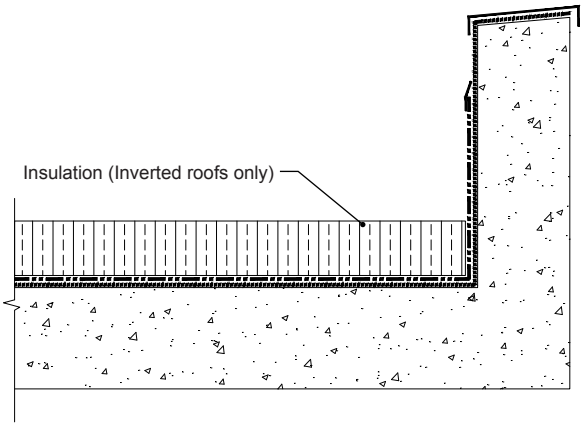

Figure. 2a-1

b. Cut insulation to fit neatly at projections and terminations with less than 1” (25 mm) tolerance.

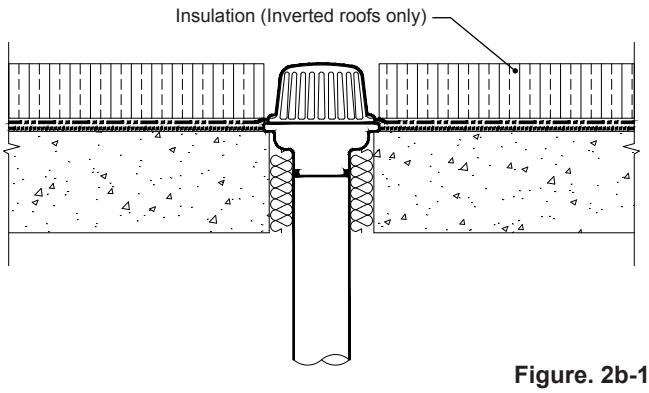

Figure. 2b-1

2- VR PolyMat (Option 2)

(NOTE: This step is required if a conventional roof system is used.)

a. Lay VR PolyMat over the VR RootBloc 10 or VR RootBloc 40 and cut it to fit neatly at projections and terminations with less than 1” (25 mm) tolerance.

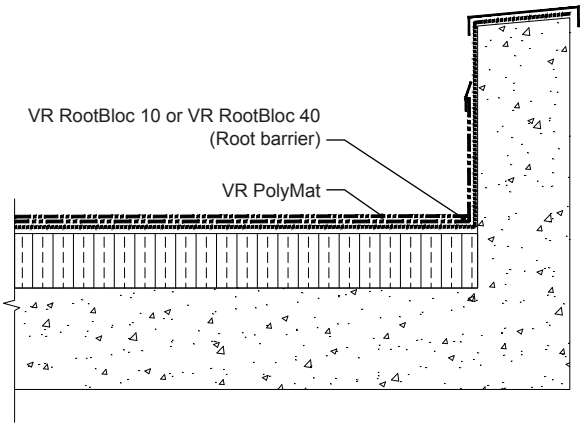

Figure. 2a-2

3- VR EdgeGuard

(NOTE: Standard edging restraint sizes are available in three different heights:
6” (152 mm), 8” (203 mm), and 10” (254 mm).
Custom heights are available.)

a. Install VR EdgeGuard along perimeter border between vegetation-free area and vegetated area as per plans and drawings.

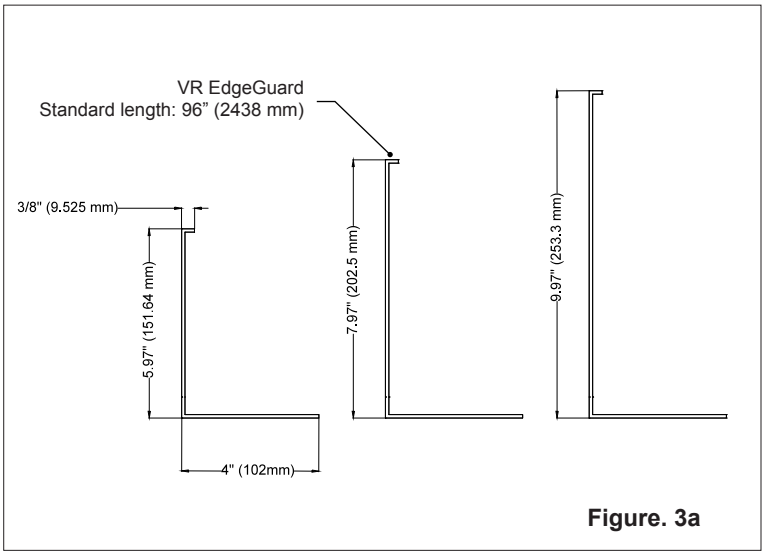

Figure. 3a

b. Ensure flange of edging restraint is facing the vegetation.

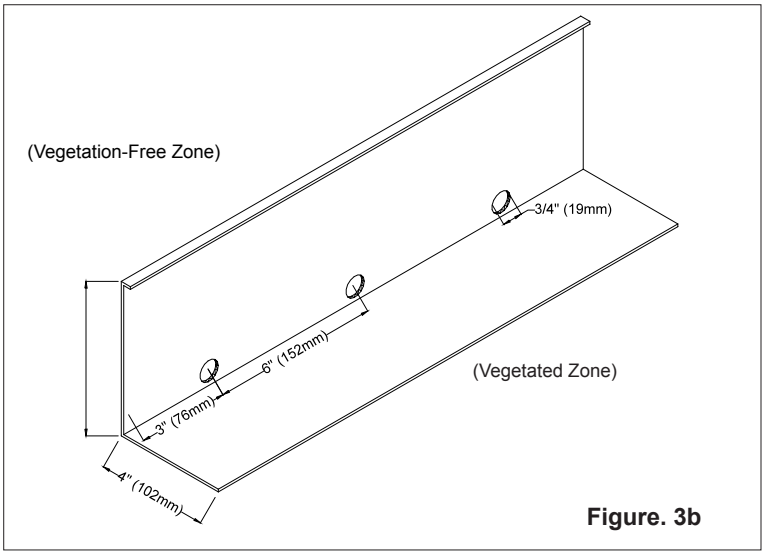

Figure. 3b

c. When joining two sections together, ensure a tight fit at all joints. Place edge connector piece on vegetation-free side of edging restraint, making sure to overlap evenly with both ends of joints. Secure with self-tapping screws as per diagram. See Figure 3c.

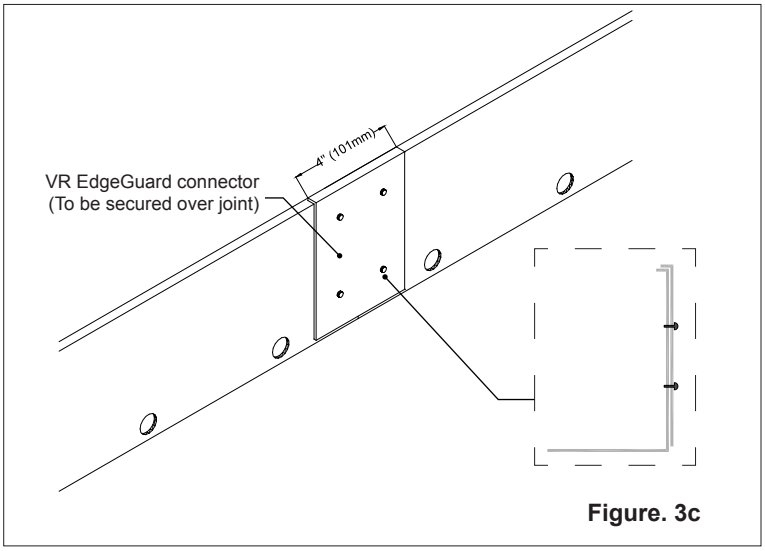

Figure. 3c

d . Install corners after long sections. Miter flange and lip of edging restraints at corners. Place edge corner connector on vegetation-free side of edging restraint, at the corners. Secure corner piece with self-tapping screws as per diagrams. See Figure 3d-1 for outside corners and Figure 3d-2 for inside corners.

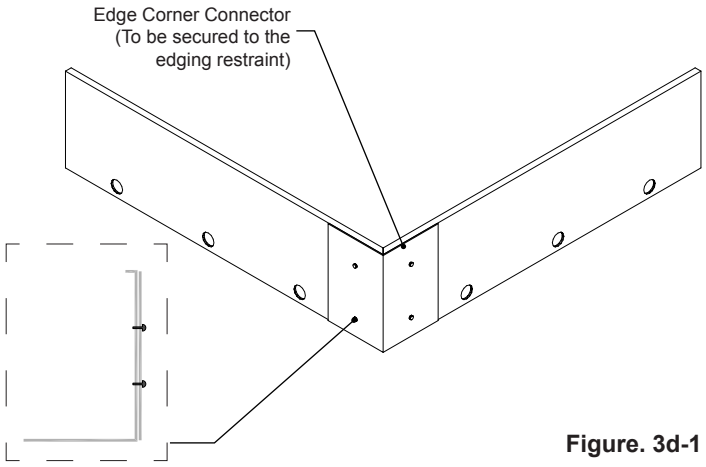

Figure. 3d-1

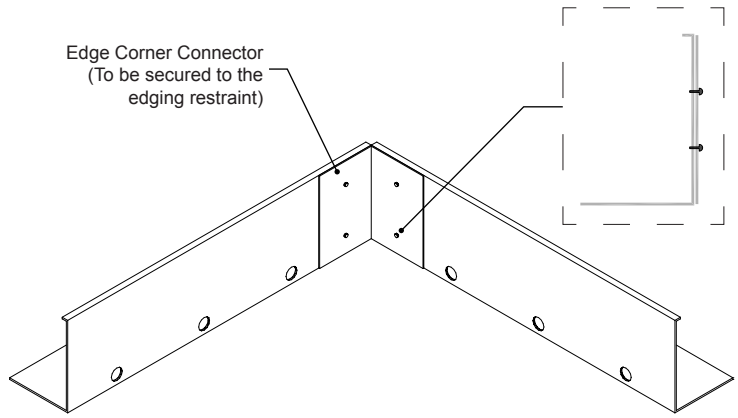

Figure. 3d-2

e. A leveling strip is available if a level grade is desired. When using the leveling strip, lift and level top of leveling strip to the desired height. See Figure 3e.

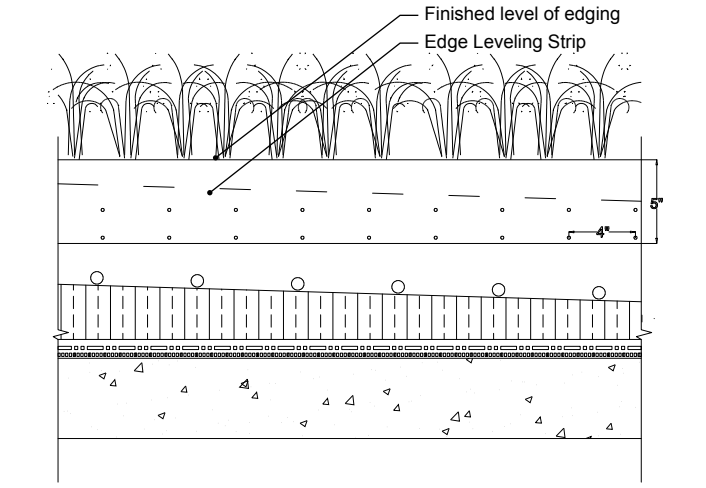

Figure. 3e

f. Install edge leveling strip on outside of edging restraint, making sure to overlap the bottom of the leveling strip with the top of the edging restraint by a minimum of 2-inch (50 mm). See Figure 3f.

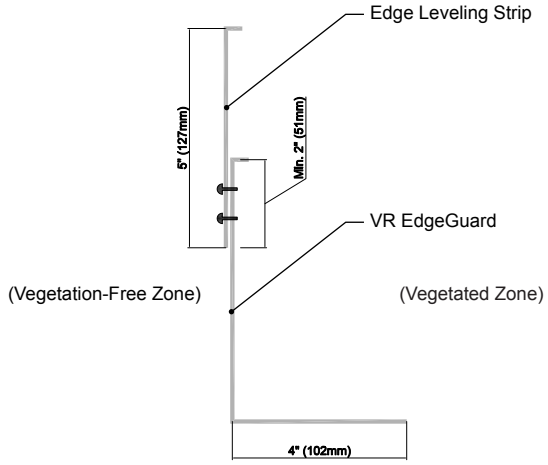

Figure. 3f

g. Secure edge leveling strip to VR EdgeGuard with self-tapping screws using pre-drilled guide holes in leveling strip. See Figure 3g.

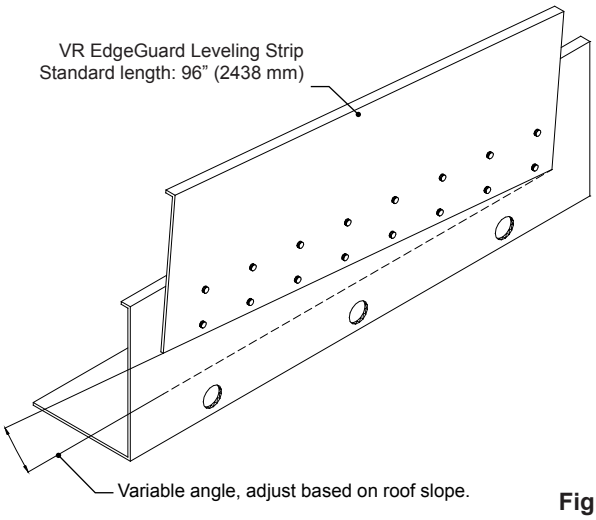

Figure. 3g

4- VR HydraPanel 2 or 1.25 (Water Drainage/Retention Panel)

a. Lay water drainage/retention panels up to vertical edging restraint, over foot of flange.

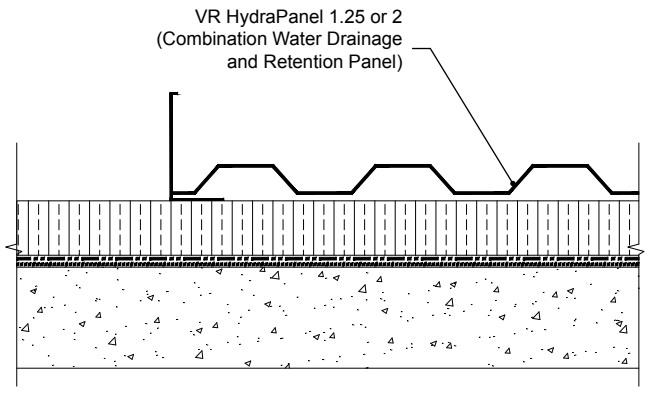

Figure. 4a

b. Work from top to bottom and left to right while securing panel edges together with built-in locking clips.

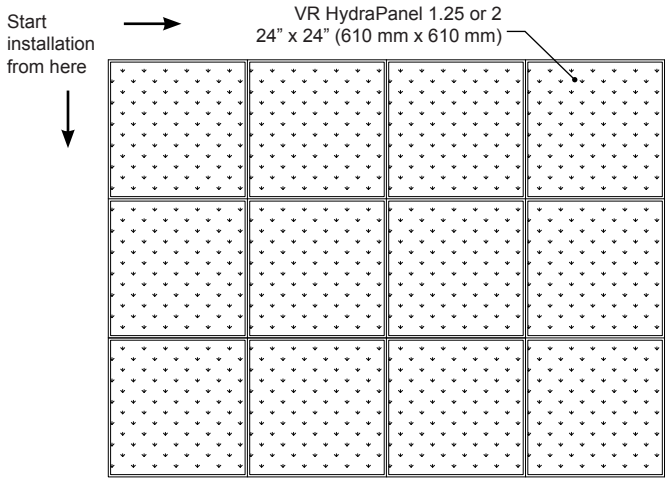

Figure. 4b

c. Cut panels as required to fit tightly against projections, curbs, etc… DO NOT place cut edges of panels against other panels. Always ensure clips are fully engaged with each other.

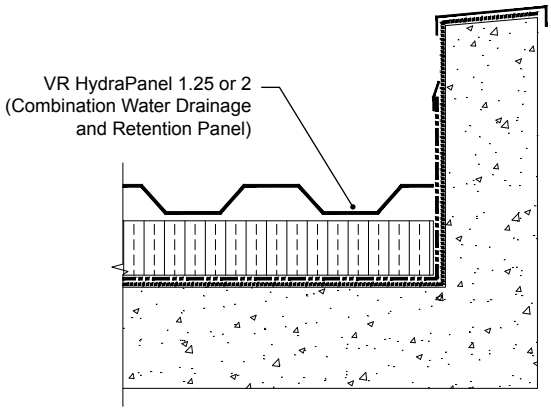

Figure. 4c

5- VR DrainGuard

a. Install VR DrainGuard centered over roof drains on top of the drainage/ retention panels. Secure to panel with self-tapping screws, no longer than1" (25 mm).
b. Place lid over tabs, apply lock-out tags, ensuring they show the current date.

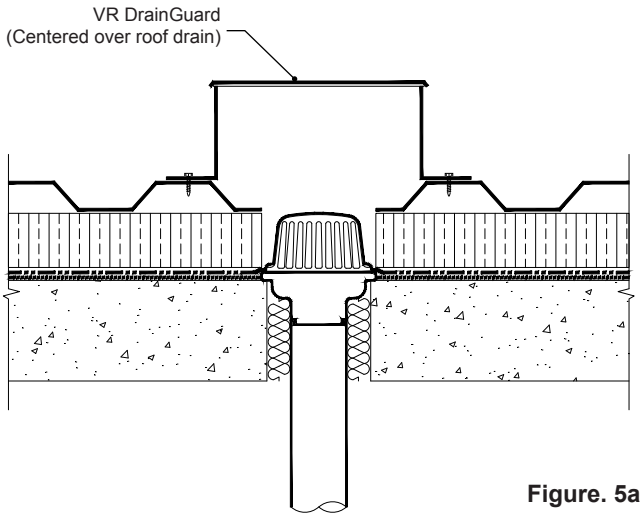

Figure. 5a

6- VR AeroMat (Percolation Layer)

a. Lay VR AeroMat, fabric side up, over VR HydraPanels, cutting around all projections and edging restraint for a tight fit. Bond fabric laps with VR TecTape 2. See Figure 6a-1, Figure 6a-2 and Figure 6a-3.

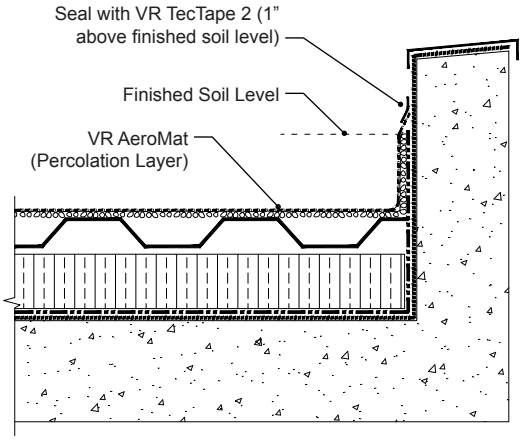

Figure. 6a-1

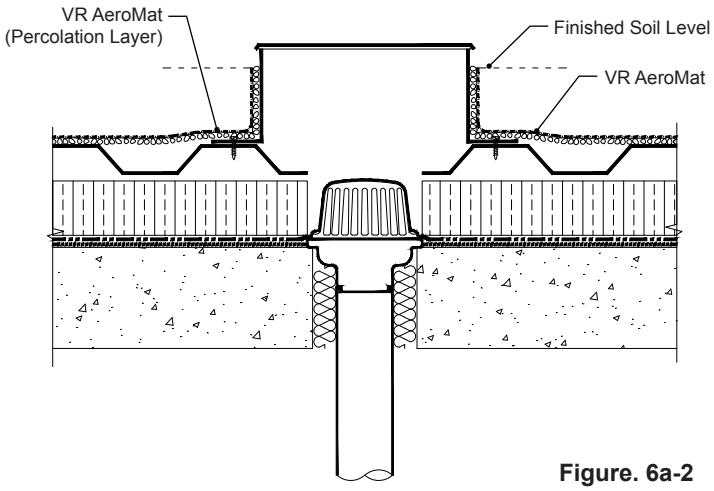

Figure. 6a-2

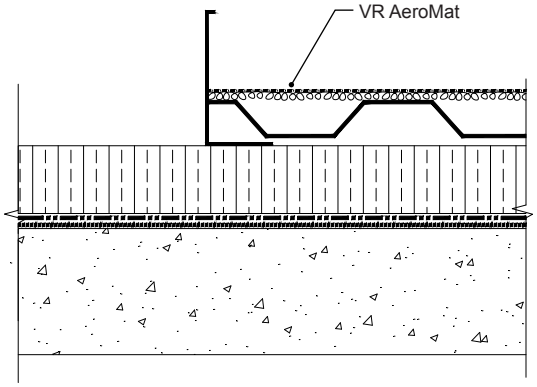

Figure. 6a-3

7- VR Filter Fabric

a. Install VR Filter Fabric along all perimeters, ensuring it overlaps the VR AeroMat. Secure all laps and ends with VR TecTape 2 within the designated green roof area. Allow slack at corner.

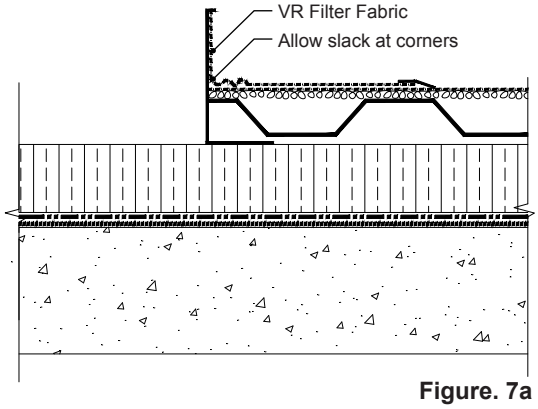

Figure. 7a

b. Secure VR Filter Fabric to VR EdgeGuard with VR FabricLok. Allow slack at corner.

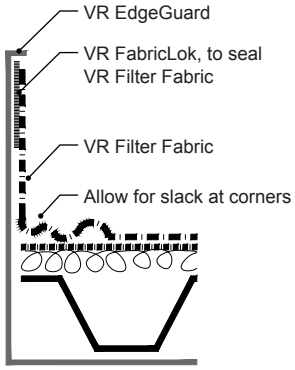

Figure. 7b

c. Bring the VR Filter Fabric up all projections within the designated green roof area, at least 1” (25 mm) above the finished soil level. Bring VR Filter Fabric up and over the sidewalls of VR DrainGuard, seal to the inside wall of the VR DrainGuard with VR TecTape 2. Allow slack around drain chamber.

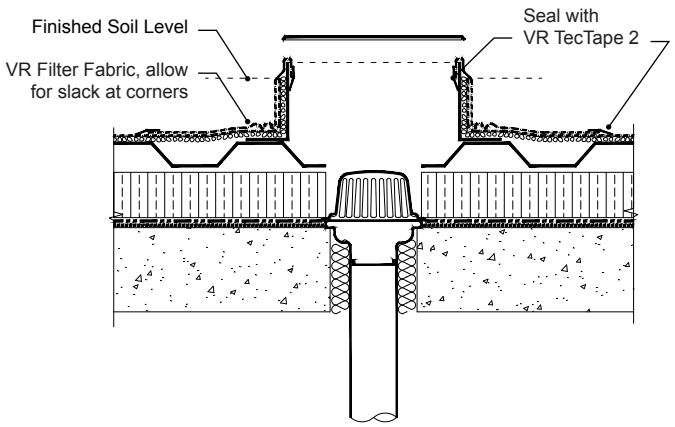

Figure. 7c

8- Irrigation

(NOTE: If irrigation is not required proceed to Item 9)

a. Run lateral irrigation lines over VR AeroMat as per plans and drawings and connect sprinkler heads. If necessary, in the event the soil depth is less than 6” (150 mm), strap piping to VR HydraPanels, through the VR AeroMat with Stainless Steel self tapping screws to ensure sprinkler bodies are secure and rigid. Ensure the screws are no longer than 1” (25 mm).

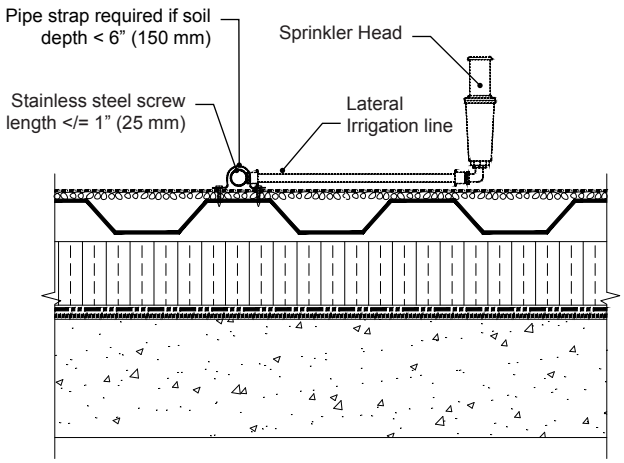

Figure. 8a

b. Ensure ingress and egress between the vegetation free zones by piping is fully sealed with VR Filter Fabric and VR TecTape 2 so no VR HydraMix Growing Media can erode into the drainage area.

c. Place valves, valve boxes, controller(s), etc… as per plans and drawings.

9- VR HydraMix (Growing Media Bulk Bag Option)

(NOTE: If Blower truck is used proceed to Item 10.)

a. Crane bulk bags to rooftop, taking care to prevent overloading of the structure.

b. The bulk bag is fitted with a chute at the base for convenient unloading once over the roof.
(NOTE: The Bulk Bag provided by Tremco is a single use item.
DO NOT RE-USE BULK BAG FOR OTHER PURPOSES.)

c. Remove the VR HydraMix and spread evenly over the designated areas of the green roof ensuring sufficient depth will be attained after compaction.
(NOTE: VR HYDRAMIX HAS AN APPROXIMATE COMPACTION FACTOR OF 45%.)
(NOTE: PREVENT DIRT POLLUTION IN VEGETATION FREE ZONE.)

d. Lightly wet and then compact the VR HydraMix with a 55 pound (25 kilogram) hand roller.

10- VR HydraMix (Growing Media Blower Truck Option)

a. Blower Truck Minimum Requirements:
- Must be a truck-mounted, integrated, pneumatic blower unit.
- In order to ensure accuracy, the unit should be powered by its own separate diesel power unit, not PTO driven, and equipped with at least one computer-controlled supplemental granular injection system.

- Injection system must calculate according to RPMs of the internal airlock feeder and not percentages, in order to ensure accuracy of injection rates.
- The unit must be capable of uniformly applying materials and injected products at a rate greater than 15 yd^3/hour (11 m^3/hour) at least to a vertical limit of 150 feet (45 m) and must also be equipped with an application hose capable of extending 300 feet (91 m) from the blower truck

b. Ensure VR HydraMix is spread evenly over the designated areas of the green roof ensuring sufficient depth will be attained after compaction.
(NOTE: VR HydraMix HAS AN APPROXIMATE COMPACTION FACTOR OF 45%.)
(NOTE: PREVENT DIRT POLLUTION IN VEGETATION FREE ZONE.)

c. Lightly wet and then compact the VR HydraMix with a 55 pound (25 kilogram) hand roller.

11- Vegetation and Erosion Control

a. In the event of a seeding application with blower truck, the seed mix should be calibrated with the supplemental injection-system at the recommended seeding rate and applied in the top 1 inch of growing media prior to erosion netting being installed.
In the event of a manual seeding, apply with a broadcast seeder at the prescribed rate. Lightly take into top 1” of growth media.

b. Where potted or plug plants are used, dig a hole in excess of the size root ball after extracting it from the pot. Lightly cover root ball, ensure plants are planted to their full root depth and gently tamp in place.

VR TerraHold (Erosion Control Netting)
(Only required where pre-vegetated mats are not used.)

- VR TerraHold Erosion Control Netting should be installed after seeding applications but before planting applications.
- VR TerraHold Erosion Control Netting to be installed as indicated on drawings and details. See Figure 11c-1, Figure 11c-2 and Figure 11c-3.

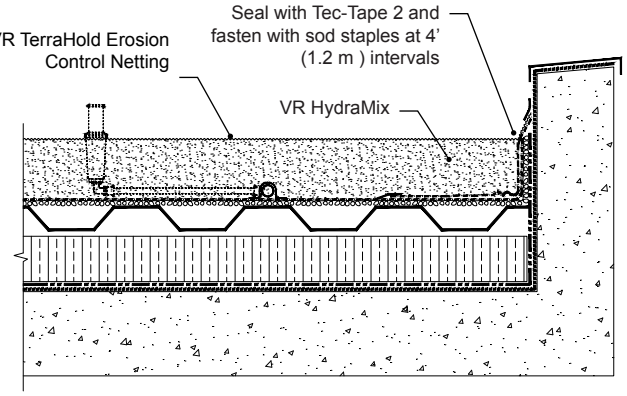

Figure. 11c-1

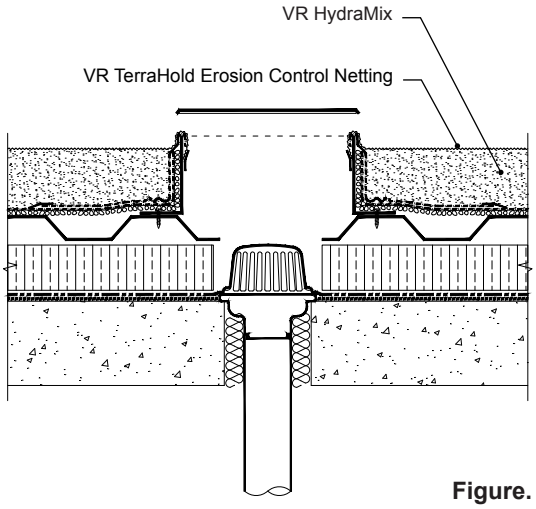

Figure. 11c-2

- After growing media (and seed if applicable) is installed, stretch VR TerraHold Erosion Control Netting over growing media and fasten at edging restraint with VR TecTape 2 and sod staples, in 4 foot (1.2 m) intervals.
- Secure with sod staples in 4-foot intervals in all directions within the field.
- Fasten all seams with tie wrap fasteners at 4 foot (1.2 m) intervals.
- Where potted or plug plants are used, cut holes sufficient in size to plant through.
- Immediately following installation, apply an initial watering to the point of saturation to all the vegetation. Follow the prescribed maintenance protocol thereafter.

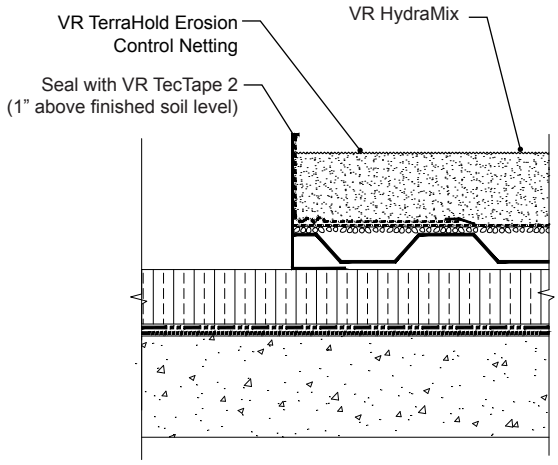

Figure. 11c-3

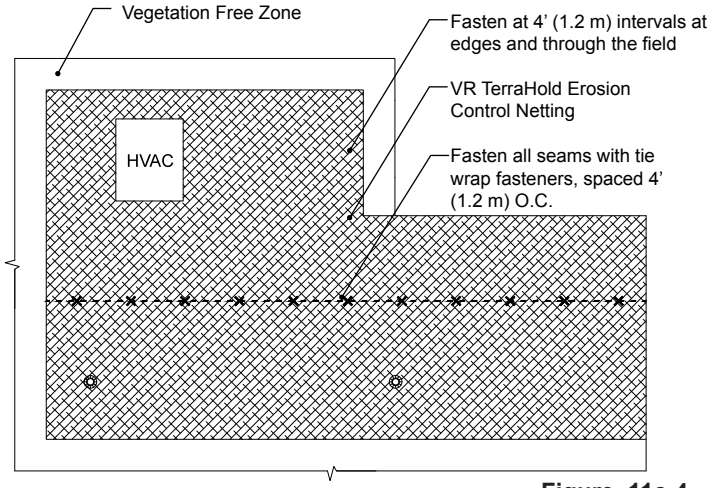

Figure. 11c-4

12- Vegetation Free Zone Pavers (Option 1)

(NOTE: With built-in pedestal.)

a. Place pavers tight against the VR EdgeGuard on top of the Insulation/Roofing System.

b. Cut to fit as per plans and drawings.

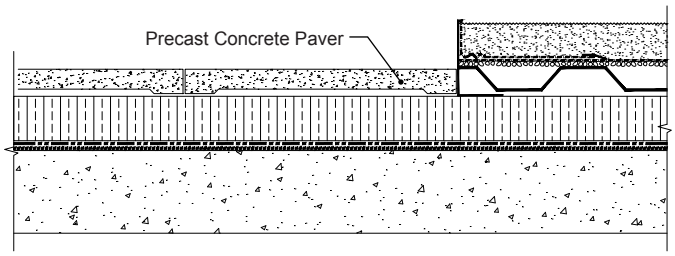

Figure. 12-1

12- Vegetation Free Zone Pavers (Option 2)

(NOTE: With separate pedestal.)

a. Place pavers on pedestals directly on top of Insulation/Roofing System. Ensure tight fit against the VR EdgeGuard.

b. Level pedestals as required to make sure top of paver is flush with top of edging restraint.

c. Cut to fit as per plans and drawings.

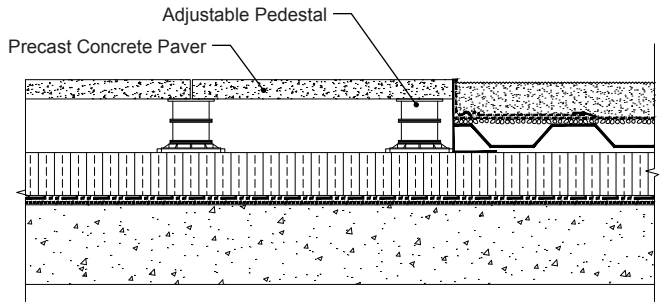

Figure. 12-2