

# Calculation Sheet for Intensive Green Roofs

Project Name: \_\_\_\_\_

Date Submitted: \_\_\_\_\_

Property Address: \_\_\_\_\_

Development/Property Name: \_\_\_\_\_

GMP Number: \_\_\_\_\_

Design Firm: \_\_\_\_\_

Design Engineer: \_\_\_\_\_ Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

KY PE No.: \_\_\_\_\_

MSD Reviewer: \_\_\_\_\_  
 WM No. \_\_\_\_\_

## Step A. Site Planning Recommendation

Define goals and primary function of intensive green roof based on the Intensive Green Roof Step by Step Design Procedures beginning on page 18.5.7-5 as well as Table 18.5.7-A. Refer to these sections as needed throughout the remainder of this calculation sheet.

## Step B. Determine the Required Water Quality Volume Rain Event, $RE_{WQV}$ in inches (Refer to Chapter 18.3; A minimum depth of 0.6 inches must be used):

\_\_\_\_\_ inches

## Step C. Determine the total runoff volume and drainage

1.  $A$  = Contributing drainage area to green roof: \_\_\_\_\_  $ft^2$
2.  $RE_{WQV}$  = Required  $WQ_V$  Rain Event in inches: \_\_\_\_\_ inches
3.  $I$  = Impervious cover of the contribution drainage area in percent: \_\_\_\_\_ %
  - a.  $R_V = 0.05 + 0.009 (I) =$  \_\_\_\_\_
4.  $WQ_V$  Required =  $(A/12)(RE_{WQV})(R_V) =$  \_\_\_\_\_  $ft^3$ 

Note: The green roof total volume should be equivalent to the Required  $WQ_V$
5. Calculate required volume of green roof based on the void space of the planting media and storage of the drainage layer so that it can store the  $WQ_V$  per Table 18.5.6-A.
6. Volume of water retained by green roof: \_\_\_\_\_  $ft^3$
7. Is the volume of water retained by green roof greater than the  $WQ_V$  Required? \_\_\_\_\_
8. Proceed to step D.

## Step D. Complete O&M documentation.

Additional Calculations and Explanation (Required if design deviates from calculation sheet):

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