WORKSHEET 3.02 - SITUATION TWO

Compile existing site-specific data and determine existing site imperviousness (I_{EXIST}). For the purposes of these calculations, site area (A_{SITE}) is defined as the entire parcel. A_{EXIST} represents the actual amount of existing impervious cover on the site.

A_{SITE} = _____ acres

A_{EXIST} structures = _____ acres
parking lot = _____ acres
roadway = _____ acres
other = _____ acres
Total A_{EXIST} = _____ acres

I_{EXIST} = (Total A_{EXIST} ÷ A_{SITE}) x 100

I_{EXIST} = _____ % (expressed in whole numbers)

Compile post-development site-specific data and determine post-development site imperviousness (I_{POST}). For the purposes of these calculations, site area (A_{SITE}) is defined as the entire parcel. A_{POST} represents the actual amount of impervious cover on the site once the proposed development is complete.

A_{SITE} = _____ acres

A_{POST} structures = _____ acres
parking lot = _____ acres
roadway = _____ acres
other = _____ acres
Total A_{POST} = _____ acres

I_{POST} = (Total A_{POST} ÷ A_{SITE}) x 100

I_{POST} = _____ (expressed in whole numbers)

If $I_{EXIST} \leq 16\%$ and $I_{POST} > 16\%$, proceed to calculation of pollutant loadings. Otherwise, refer to Section 3.4 of the Manual for correct development situation determination.

Calculate the pre and post-development pollutant loadings for the site using the Simple Method.

$$L = P \times P_J \times [0.05 + (0.09 \times I)] \times C \times A \times 2.72 / 12$$

Where:
- P_J = unitless rainfall correction factor = 0.9 for all of Tidewater, Virginia
- P = annual rainfall depth in inches = 43 for the Richmond Metropolitan Area
- C = flow weighted mean concentration of total phosphorus = 0.26 mg/l for the entire County
- $I_{WATERSHED}$ = average land cover condition of the Bay watershed = 16 percent

Calculate the pre-development load (L_{PRE}):

$L_{PRE} = [0.05 + (0.009 \times I_{WATERSHED})] \times 2.28 \times A_{SITE}$

$= [0.05 + (0.009 \times \underline{\ 16\ })] \times 2.28 \times \_\_\_\_\_$

L_{PRE} = _____ pounds per year

Calculate the post-development load (L_{POST}):

$L_{POST} = [0.05 + (0.009 \times I_{POST})] \times 2.28 \times A_{SITE}$

$= [0.05 + (0.009 \times \_\_\_\_\_)] \times 2.28 \times \_\_\_\_\_$

L_{POST} = _____ pounds per year

Calculate the pollutant removal requirement (RR):

$RR = L_{POST} - L_{PRE}$

= _____ - _____

= _____ pounds per year