WORKSHEET 3.03 - SITUATION THREE

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 $A_{EXIST} \div A_{SITE}$) 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 $A_{POST} \div A_{SITE}$) x 100

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

If I_{EXIST} > 16% and the existing impervious area is not served by a BMP, proceed with 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 x I_{EXIST})] x 2.28 x A_{SITE}

=[0.05+(0.009 x ____)] x 2.28 x (____)

L_{PRE} = _____ pounds per year

Calculate the load based on 16% impervious cover (L_{16}):

L_{16} =[0.05+0.009 x 16)] x 2.28 x A_{SITE}

=[0.05+(0.009 x _16_)] x 2.28 x (___)

L_{16} = _____ pounds per year

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

L_{POST} = [0.05 + 0.009 x I_{POST})] x 2.28 x A_{SITE}

= [0.05 + (0.009 x _____)] x 2.28 x (_____)

L_{POST} = _____ pounds per year

Calculate the pollutant removal requirement (RR). The removal requirement shall be the smaller of the following

RR = L_{POST} – (0.9 x L_{PRE})

= _____ - (0.9 x _____)

= _____ pounds per year

RR = L_{POST} – L_{16}

= _____ - _____

RR = _____ pounds per year

RR = _____ pounds per year