

2.2 Site Coverage (Pervious versus Impervious Areas)

Another very important aspect to stormwater management is the site coverage. This will determine how much water you need to capture. The amount of area that does not absorb water (impervious) will significantly contribute to water flowing across your property (sheet flow); therefore, to improve water quality a certain amount of stormwater must be captured and stored on your property. Water quality of streams, lakes, and the bay are greatly impacted by stormwater runoff. Multiple properties in one location without any type of stormwater management will exasperate runoff and compound sheet flow creating localized flooding. Plants and soil naturally filter stormwater, which greatly reduces stormwater runoff and enhances the water quality of surrounding streams, lakes, and bays. The amount of natural undisturbed land (pervious) that is preserved on a property provides a greater opportunity to naturally capture and filter stormwater runoff.

Impervious	Semi - Pervious	Pervious
<ul style="list-style-type: none">• Houses• Driveways• Pools	<ul style="list-style-type: none">• Patios / Decks	<ul style="list-style-type: none">• Lawn• Vegetated Areas

To determine the amount of area on your property that does not absorb water (impervious) you can use one of four methods.

1. If you have a new design, obtain the total impervious area proposed from the design plans and/or ask your engineer or architect to provide it to you.
2. If you have an existing site and you are making improvements that add additional impervious area, you need to use a recent survey to calculate the existing site coverage and add the area of the new addition, as well as, anything that might be missing from the survey.

A description of each new impervious area and the square footage associated with each area is required for the County to review the SWMF.

The disturbed area associated with a project is calculated by taking the area proposed for improvements plus an additional ten foot perimeter to account for access needed for construction equipment.

Only Enter Information In To The Green Boxes - All Other Boxes Are Automatically Calculated

Low Impact Development Calculation Sheet			
Owner			Line 1
Address			Line 2
Phone			Line 3
E-mail			Line 4
Parcel Identification Number			Line 5
Total Proposed Disturbed Area	_____ ac		Line 6
Proposed Impervious Area Totals			
House	_____	ft ²	Line 7
Detached Garage	_____	ft ²	Line 8
Shed	_____	ft ²	Line 9
Driveway	_____	ft ²	Line 10
Patio / Porch / Deck	_____	ft ²	Line 11
Pool	_____	ft ²	Line 12
Misc Description:	_____	ft ²	Line 13
Is Your Property In The Following Locations:			
		Yes	No
ICPAL	If "yes" see section 3.4	<input type="checkbox"/>	<input type="checkbox"/>
Dune Lake	If "yes" see section 3.5	<input type="checkbox"/>	<input type="checkbox"/>
Near a Mosquito Control Ditch	If "yes" see section 3.6	<input type="checkbox"/>	<input type="checkbox"/>
Area Totals			
Total Impervious Area	_____	ft ²	Line 14
Total Impervious Area (acres)	_____	ac	Line 15
Total Impervious Area (acres)	= Total Area (ft ²) * (1 acre/ 43,560 ft ²)		
Total Pervious Area	_____	ac	Line 16
Total Pervious Area (ft ²)	_____	ft ²	Line 17
Total Pervious Area (acres) = Total Area (acres) - Total Impervious Area (acres)			
Next Determine the Volume Required Per the LDC Section 5.06.00			
Total Property (square feet)	_____	ft ²	Line 18

Soils Characteristics			
Depth to Seasonal High Groundwater Table	<input style="width: 100%;" type="text"/>	ft below ground surface	Line 19
Predominant Soil Type			
Predominant Soil Type	<input style="width: 100%;" type="text"/>	Value Taken From USGS Soils Survey	Line 20
Infiltration Actual K_{sat}	<input style="width: 100%;" type="text"/>	in/hr Provided in Table 3	Line 21
Design Infiltration Design K_{sat}	<input style="width: 100%;" type="text"/>	in/hr	Line 22

Stormwater Volume Requirements			
<u>0.5 in</u> Rainfall Over Disturbed Area	<input style="width: 100%;" type="text"/>	ft^3	Line 23
<u>1 in</u> Runoff Over Proposed Impervious Surface	<input style="width: 100%;" type="text"/>	ft^3	Line 24
Attenuation Volume	<input style="width: 100%;" type="text"/>	ft^3	Line 25
Required Retention Volume	<input style="width: 100%; background-color: #e0f0ff;" type="text"/>	ft^3	Line 26
Find Largest Value Between Line 23, 24, and 25 And Enter The Value On Line 26			

*****Special Circumstances Only - Verify Your Location****

Section 3.4 Stormwater Volume Requirements for ICPAL			
<u>0.5 in</u> Rainfall Over Disturbed Area	<input style="width: 100%;" type="text"/>	ft^3	Line 27
<u>1 in</u> Runoff Over Proposed Impervious Surface	<input style="width: 100%;" type="text"/>	ft^3	Line 28
Attenuation Volume	<input style="width: 100%;" type="text"/>	ft^3	Line 29
Required Retention Volume	<input style="width: 100%; background-color: #e0f0ff;" type="text"/>	ft^3	Line 30
Find Largest Value Between Line 27, 28, and 29 And Enter The Value On Line 30			

Section 3.5 Stormwater Volume Requirements for Dune Lake			
<u>0.5 in</u> Rainfall Over Disturbed Area	<input style="width: 100%;" type="text"/>	ft^3	Line 31
<u>1 in</u> Runoff Over Proposed Impervious Surface	<input style="width: 100%;" type="text"/>	ft^3	Line 32
Attenuation Volume	<input style="width: 100%;" type="text"/>	ft^3	Line 33
Required Retention Volume	<input style="width: 100%; background-color: #e0f0ff;" type="text"/>	ft^3	Line 34
Find Largest Value Between Line 31, 32, and 33 And Enter The Value On Line 34			

Section 3.6 Stormwater Volume Requirements for Mosquito Control Ditch			
<u>0.5 in</u> Rainfall Over Disturbed Area	<input style="width: 100%;" type="text"/>	ft^3	Line 35
<u>1 in</u> Runoff Over Proposed Impervious Surface	<input style="width: 100%;" type="text"/>	ft^3	Line 36
Attenuation Volume	<input style="width: 100%;" type="text"/>	ft^3	Line 37
Required Retention Volume	<input style="width: 100%; background-color: #e0f0ff;" type="text"/>	ft^3	Line 38
Find Largest Value Between Line 35, 36, and 37 And Enter The Value On Line 38			

Exemptions

If your project meets the following criteria established in the **LDC Chapter 5.06.01(A) Exemptions** then you are exempt from the stormwater management requirements presented in the **LDC Chapter 5.06.00 Stormwater Management**. In order for the exemption to apply, the following criteria must be met:

- A. The project creates 3% or less of the total lot area or a maximum of 250 square feet of cumulative new impervious surface area (whichever is larger);
- B. New and existing single-family projects creating 5% or less of total lot area of cumulative new impervious surface are exempt from meeting flood attenuation requirements;
- C. Single-family lots, immediately adjacent to a coastal dune lake or other tidally influenced waterbodies and connected protected jurisdictional wetlands are exempt from meeting flood attenuation requirements; however, water treatment criteria must still be achieved.
- D. Additionally, applicants will need to demonstrate the following:
 - a) No drainage system shall act in a manner that will divert and channelize areas of overland sheet flow, thereby creating point source discharges that will adversely affect wetlands, or areas beyond the applicant's perpetual control; and
 - b) The applicant shall include a site plan depicting proposed driveways, buildings, and other impervious areas, as well as, the anticipated percentage of impervious surfaces.



For projects located south of the Choctawhatchee Bay, all of the following criteria must be met in order to qualify for an exemption:

- A. The structure must be elevated by non-backfilled stem walls, pilings or piers; and
- B. No additional grading or filling will be allowed with the exception of the driveway and up to a two car garage [See de Minimis criteria listed in **LDC Chapter 5.06.01(A)(1)(c)**];

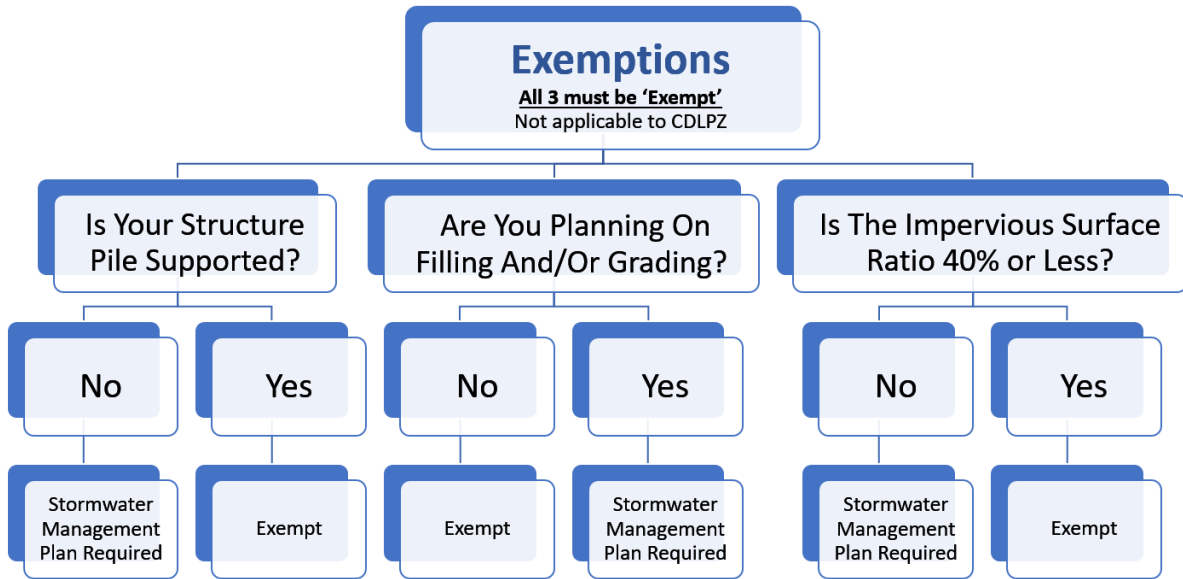
- C. The maximum ISR must be equal to or less than 40%. The ISR is a percentage and is calculated by dividing the total impervious area by the total area of the site. To determine the maximum amount of impervious area allowed to qualify for the stormwater exemption use the following equation:

$$\text{Total Site Area} \times 0.4 = \text{Maximum Impervious Area (ft}^2\text{)}$$

Use the following equation to calculate the current impervious surface ratio:

$$\frac{\text{Impervious Area (ft}^2\text{)}}{\text{Total Site Area (ft}^2\text{)}} = \text{Impervious Surface Ratio}$$

$$\frac{17,424 \text{ ft}^2}{43,560 \text{ ft}^2} = 0.4$$



All of the scenarios above must lead to “exempt” in order for this to be valid.