



Average Elevation of Pervious Areas= \_\_\_\_\_ feet NGVD

**Step 4:**

Determine the distance between the average high ground water elevation and the average elevation of the pervious areas. For design purposes, the average high ground water elevation for most of Golden Beach is 2 feet NGVD (Additionally, please check with your geotechnical engineer and/or geotechnical report.)

Distance= \_\_\_\_\_ feet

**Step 5:**

Determine an S<sub>1</sub> value from the table below:

Distance between ground water table and average elevation of pervious areas,	S <sub>1</sub>
1 foot	0.45 inches
2 feet	1.88 inches
3 feet	4.95 inches
4 feet	8.18 inches
>4 feet	8.18 inches

If necessary, compute a value of S<sub>1</sub> by interpolation.

S<sub>1</sub>= \_\_\_\_\_ inches

**Step 6:**

Determine S as:

$$S = \frac{AP}{A} * S_1$$

S is computed in inches S= \_\_\_\_\_ inches

**Step 7:**

Determine runoff depth (R) as:

$$R = \frac{(P - 0.2 * S)^2}{(P + 0.8 * S)}$$

Where P= 7.00 inches of rainfall produced during a 10- year/ one-day storm. Then:

$$R = \frac{(7.00 - 0.2 * S)^2}{(7.00 + 0.8 * S)}$$

$$(7.00+0.8*S)$$

R is computed in inches R= \_\_\_\_\_ inches

**Step 8:**

Determine runoff depth (R) as:

$$V = \frac{A * R}{12}$$

V is computed in cubic feet. V is the volume of runoff generated during a 10 year- year/ one day storm within the property or sub-basin of the property.

V= \_\_\_\_\_ cubic feet

**Step 9:**

Compute “retention volume provided” (VP) as the retention volume capacity, in cubic feet, of swales, retention areas, and drains within the property or sub-basin within the property.

- **Attach calculation showing how the volume was calculated.**
- **Calculations must be consistent with existing and proposed elevations shown on design plans.**

VP= \_\_\_\_\_ cubic feet

**Step 10:**

Compute values of retention volume provided (VP in Step 9) with retention volumes needed (V in Step 8). Retention volume provided (VP) must be larger than retention volume needed (V). (VP= \_\_\_\_\_ cubic feet) > (V= \_\_\_\_\_ cubic feet)

**NOTE: These volumes calculations are needed to satisfy the Town of Golden Beach Comprehensive Plan Level of Service (LOS) and Code requirements.**

DEFINITIONS			
<b>P:</b>	<b>Rainfall depth in inches.</b>	<b>A:</b>	<b>Total area of property in square feet.</b>
<b>S:</b>	<b>Soil storage capacity in inches.</b>	<b>AP:</b>	<b>Total pervious areas within property in square feet.</b>
<b>R:</b>	<b>Runoff depth in inches.</b>	<b>V:</b>	<b>Volume of runoff in cubic feet.</b>
<b>AI:</b>	<b>Total area of roof, pavement patios, pool decks, walkways and any other hardscape areas within the property in square feet (ie., total impervious area).</b>		

Note:\* means multiply.