WORKSHEET: TIME OF CONCENTRATION (Tc)

CONDITION: **EXIS & PROP** **BASIN NAME:** **LS**

L = 290.2 meters x 3.28 = 952.10 feet

S = 149 (top) – 106 (bottom) = 43.00 ÷ 290.2 = 0.1482

Equation

$$Tc = \frac{0.00013L^{0.77}}{S^{0.385}}$$

$$Tc = 0.00013 \times \frac{(952.10)^{0.77}}{(0.1482)^{0.385}}$$

Total = 0.053 x 60 = 3.18 minutes*

Tc = 5 Minutes

*If the total is less than 5 minutes use 5 min.

RAINFALL INCHES

Latitude: **17°59'51.99 N** **Longitude:** **66°51'47.03" W**

Rainfall Event

Duration, hr	0.083	0.25	1	2	3	6	12	24
Rainfall, in 2-YR	0.64	1.13	2.68	3.37	3.55	4.06	4.47	5.15
Rainfall, in 100-YR	1.03	1.81	4.31	6.19	7.14	9.69	13.34	17.56

WORKSHEET: TIME OF CONCENTRATION (Tc)

CONDITION: EXISTING **BASIN NAME: LE**

L = 245.4 meters x 3.28 = 805.12 feet

S = 149 (top) – 119. (bottom) = 30.00 ÷ 245.4 = 0.1222

Equation

$$Tc = \frac{0.00013L^{0.77}}{S^{0.385}}$$

$$Tc = 0.00013 \times \frac{(805.12)^{0.77}}{(0.1222)^{0.385}}$$

Total = 0.050 x 60 = 3 minutes*

Tc = 5 Minutes

*If the total is less than 5 minutes use 5 min.

RAINFALL INCHES

Latitude: 17°59'51.99 N **Longitude: 66°51'47.03" W**

Rainfall Event

Duration, hr	0.083	0.25	1	2	3	6	12	24
Rainfall, in 2-YR	0.64	1.13	2.68	3.37	3.55	4.06	4.47	5.15
Rainfall, in 100-YR	1.03	1.81	4.31	6.19	7.14	9.69	13.34	17.56

WORKSHEET: TIME OF CONCENTRATION (Tc)

CONDITION: **EXIS & PROP** **BASIN NAME:** **LW**

L = 136.9 meters x 3.28 = 449.15 feet

S = 149 (top) – 116.5 (bottom) = 32.50 ÷ 136.9 = 0.2374

Equation

$$Tc = \frac{0.00013L^{0.77}}{S^{0.385}}$$

$$Tc = 0.00013 \times \frac{(449.15)^{0.77}}{(0.12374)^{0.385}}$$

Total = 0.032 x 60 = 1.92 minutes*

Tc = 5 Minutes

*If the total is less than 5 minutes use 5 min.

RAINFALL INCHES

Latitude: **17°59'51.99 N** **Longitude: 66°51'47.03" W**

Rainfall Event

Duration, hr	0.083	0.25	1	2	3	6	12	24
Rainfall, in 2-YR	0.64	1.13	2.68	3.37	3.55	4.06	4.47	5.15
Rainfall, in 100-YR	1.03	1.81	4.31	6.19	7.14	9.69	13.34	17.56

WORKSHEET: TIME OF CONCENTRATION (Tc)

CONDITION: **PROPOSED** **BASIN NAME:** **BASN**

L = 780.2 meters x 3.28 = 2,559.71 feet

S = 173.2 (top) – 74.2 (bottom) = 99.00 ÷ 780.2 = 0.1269

Equation

$$Tc = \frac{0.00013L^{0.77}}{S^{0.385}}$$

$$Tc = 0.00013 \times \frac{(2559.71)^{0.77}}{(0.1269)^{0.385}}$$

Total = 0.121 x 60 = 7.26 minutes*

Tc = 7 Minutes

*If the total is less than 5 minutes use 5 min.

RAINFALL INCHES

Latitude: **17°59'51.99 N** **Longitude: 66°51'47.03" W**

Rainfall Event

Duration, hr	0.083	0.25	1	2	3	6	12	24
Rainfall, in 2-YR	0.64	1.13	2.68	3.37	3.55	4.06	4.47	5.15
Rainfall, in 100-YR	1.03	1.81	4.31	6.19	7.14	9.69	13.34	17.56

WORKSHEET: TIME OF CONCENTRATION (Tc)

CONDITION: **PROPOSED** **BASIN NAME:** **BASE**

L = 830 meters x 3.28 = 2,723.10 feet

S = 176.6 (top) – 113.5 (bottom) = 63.10 ÷ 830 = 0.0760

Equation

$$Tc = \frac{0.00013L^{0.77}}{S^{0.385}}$$

$$Tc = 0.00013 \times \frac{(2723.10)^{0.77}}{(0.0760)^{0.385}}$$

Total = 0.155 x 60 = 9.3 minutes*

Tc = 9 Minutes

*If the total is less than 5 minutes use 5 min.

RAINFALL INCHES

Latitude: **17°59'51.99 N** **Longitude: 66°51'47.03" W**

Rainfall Event

Duration, hr	0.083	0.25	1	2	3	6	12	24
Rainfall, in 2-YR	0.64	1.13	2.68	3.37	3.55	4.06	4.47	5.15
Rainfall, in 100-YR	1.03	1.81	4.31	6.19	7.14	9.69	13.34	17.56

WORKSHEET: TIME OF CONCENTRATION (Tc)

CONDITION: **PROPOSED** **BASIN NAME:** **LN**

L = 456.3 meters x 3.28 = 1,497.05 feet

S = 166 (top) – 116 (bottom) = 50.00 ÷ 456.3 = 0.1096

Equation

$$Tc = \frac{0.00013L^{0.77}}{S^{0.385}}$$

$$Tc = 0.00013 \times \frac{(1497.05)^{0.77}}{(0.1096)^{0.385}}$$

Total = 0.085 x 60 = 5.1 minutes*

Tc = 5 Minutes

*If the total is less than 5 minutes use 5 min.

RAINFALL INCHES

Latitude: **17°59'51.99 N** **Longitude: 66°51'47.03" W**

Rainfall Event

Duration, hr	0.083	0.25	1	2	3	6	12	24
Rainfall, in 2-YR	0.64	1.13	2.68	3.37	3.55	4.06	4.47	5.15
Rainfall, in 100-YR	1.03	1.81	4.31	6.19	7.14	9.69	13.34	17.56

WORKSHEET: TIME OF CONCENTRATION (Tc)

CONDITION: **PROPOSED** **BASIN NAME:** **LE**

L = 236 meters x 3.28 = 774.28 feet

S = 159 (top) – 119. (bottom) = 40.00 ÷ 236 = 0.1695

Equation

$$Tc = \frac{0.00013L^{0.77}}{S^{0.385}}$$

$$Tc = 0.00013 \times \frac{(774.28)^{0.77}}{(0.16.95)^{0.385}}$$

Total = 0.021 x 60 = 1.26 minutes*

Tc = 5 Minutes

*If the total is less than 5 minutes use 5 min.

RAINFALL INCHES

Latitude: **17°59'51.99 N** **Longitude: 66°51'47.03" W**

Rainfall Event

Duration, hr	0.083	0.25	1	2	3	6	12	24
Rainfall, in 2-YR	0.64	1.13	2.68	3.37	3.55	4.06	4.47	5.15
Rainfall, in 100-YR	1.03	1.81	4.31	6.19	7.14	9.69	13.34	17.56

APPENDIX B

RAINFALL DATA (NOAA ATLAS 14, VOL 3, VERSION 3.0)

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

Puerto Rico 17.9978 N 66.8631 W 377 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 3, Version 4
G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006

Extracted: Wed May 7 2008

Confidence Limits | Seasonality | Location Maps | Other Info. | GIS data | Maps | Help | Docs | U.S. Map

Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.54	0.73	0.94	1.50	2.23	2.83	2.86	3.17	3.43	3.89	4.68	5.14	5.70	6.24	7.89	9.31	11.31	13.17
2	0.64	0.88	1.13	1.81	2.68	3.37	3.55	4.06	4.47	5.15	6.20	6.81	7.51	8.17	10.19	11.98	14.45	16.80
5	0.73	1.00	1.29	2.06	3.06	4.01	4.31	5.22	6.09	7.37	8.91	9.65	10.48	11.20	13.38	15.43	18.18	20.95
10	0.81	1.10	1.41	2.26	3.36	4.50	4.93	6.17	7.51	9.32	11.32	12.09	12.96	13.67	15.97	18.14	21.07	24.13
25	0.90	1.22	1.57	2.52	3.73	5.17	5.78	7.50	9.62	12.25	14.99	15.69	16.56	17.20	19.59	21.84	24.95	28.36
50	0.97	1.32	1.70	2.71	4.03	5.69	6.46	8.57	11.40	14.78	18.17	18.82	19.59	20.16	22.51	24.75	27.96	31.62
100	1.03	1.41	1.81	2.90	4.31	6.19	7.14	9.69	13.34	17.56	21.70	22.30	22.95	23.40	25.55	27.74	30.99	34.87
200	1.10	1.51	1.94	3.10	4.60	6.71	7.85	10.88	15.47	20.65	25.64	26.18	26.66	26.98	28.94	31.07	34.12	38.21
500	1.19	1.63	2.10	3.35	4.98	7.39	8.82	12.54	18.58	25.21	31.49	31.90	32.29	32.47	33.92	35.90	38.71	42.90
1000	1.26	1.73	2.22	3.55	5.27	7.92	9.57	13.87	21.16	29.03	36.44	36.70	36.98	36.98	37.93	39.71	42.33	46.57

* These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval.
Please refer to the documentation for more information. NOTE: Formatting forces estimates near zero to appear as zero.

*** Upper bound of the 90% confidence interval**
Precipitation Frequency Estimates (inches)

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.56	0.77	0.98	1.57	2.33	2.91	3.09	3.58	3.99	4.54	5.61	6.06	6.64	7.21	8.98	10.51	12.64	14.64
2	0.69	0.95	1.22	1.95	2.89	3.65	3.88	4.58	5.20	6.01	7.42	8.03	8.75	9.45	11.61	13.52	16.14	18.69
5	0.79	1.08	1.39	2.23	3.31	4.35	4.75	5.92	7.13	8.59	10.66	11.35	12.19	12.90	15.22	17.38	20.32	23.32
10	0.87	1.19	1.53	2.45	3.64	4.90	5.45	7.02	8.83	10.84	13.53	14.20	15.04	15.73	18.17	20.46	23.56	26.88
25	0.97	1.33	1.71	2.74	4.06	5.66	6.44	8.60	11.40	14.25	17.92	18.48	19.26	19.84	22.34	24.69	27.93	31.64
50	1.05	1.44	1.84	2.95	4.38	6.24	7.24	9.92	13.64	17.20	21.77	22.23	22.86	23.31	25.73	28.08	31.38	35.36
100	1.13	1.54	1.98	3.17	4.71	6.84	8.07	11.33	16.18	20.49	26.09	26.44	26.86	27.14	29.32	31.57	34.88	39.10
200	1.21	1.65	2.12	3.39	5.03	7.45	8.94	12.88	18.99	24.13	30.98	31.19	31.34	31.44	33.39	35.48	38.54	43.00
500	1.31	1.80	2.31	3.69	5.47	8.28	10.16	15.07	23.23	29.56	38.27	38.28	38.66	39.05	39.27	41.18	43.91	48.46
1000	1.40	1.91	2.45	3.92	5.82	8.93	11.13	16.85	26.81	34.16	44.51	44.95	45.40	45.86	46.32	46.78	48.20	52.78

* The upper bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are **greater** than.
** These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval.

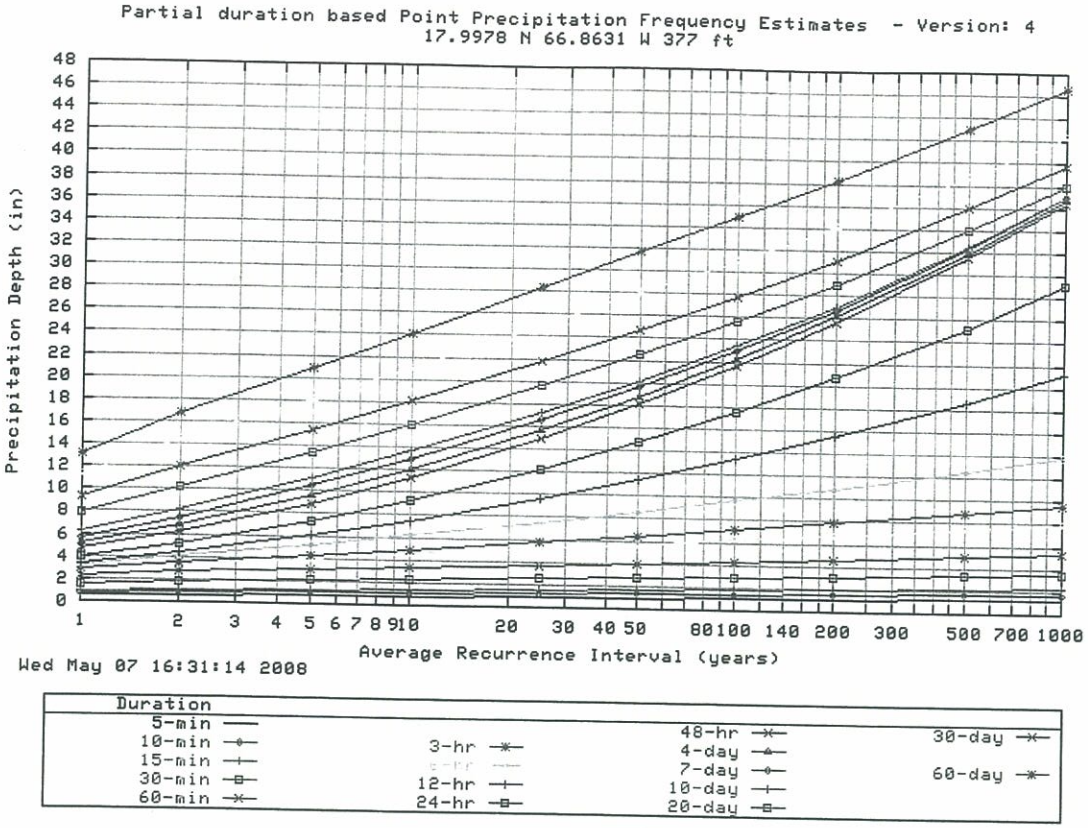
Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

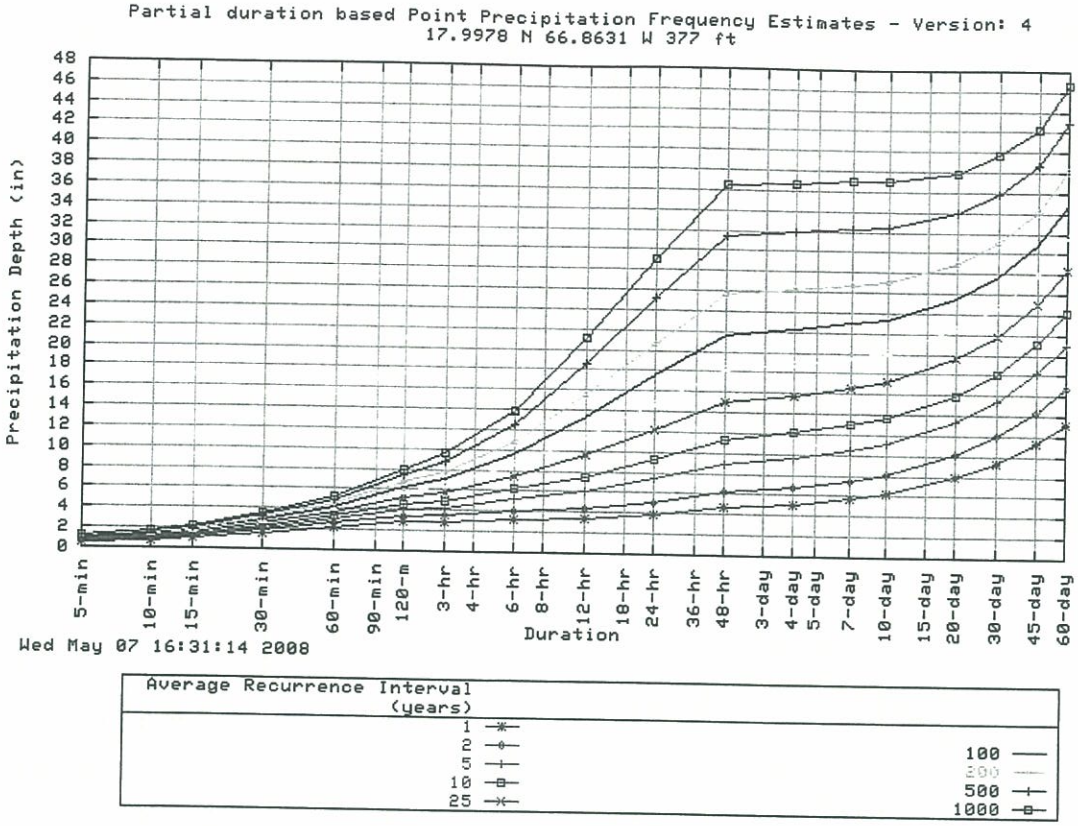
*** Lower bound of the 90% confidence interval**
Precipitation Frequency Estimates (inches)

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.48	0.66	0.85	1.35	2.01	2.46	2.57	2.83	2.97	3.38	3.96	4.39	4.92	5.43	6.97	8.29	10.14	11.85
2	0.60	0.82	1.05	1.68	2.49	3.09	3.23	3.62	3.88	4.47	5.25	5.81	6.47	7.11	8.99	10.66	12.96	15.09
5	0.68	0.93	1.19	1.91	2.83	3.66	3.90	4.59	5.23	6.36	7.49	8.22	9.02	9.72	11.76	13.68	16.24	18.77
10	0.74	1.01	1.30	2.09	3.10	4.11	4.45	5.39	6.36	7.99	9.44	10.24	11.10	11.82	13.97	16.03	18.77	21.57
25	0.83	1.13	1.45	2.33	3.45	4.71	5.19	6.49	8.00	10.40	12.36	13.14	14.05	14.77	17.02	19.18	22.11	25.21
50	0.89	1.22	1.56	2.50	3.71	5.17	5.75	7.33	9.33	12.44	14.79	15.63	16.49	17.16	19.44	21.63	24.66	28.01
100	0.95	1.30	1.67	2.67	3.96	5.60	6.32	8.18	10.72	14.63	17.43	18.34	19.15	19.77	21.91	24.11	27.21	30.73
200	1.01	1.38	1.78	2.84	4.22	6.06	6.90	9.08	12.23	17.04	20.34	21.29	22.03	22.60	24.64	26.86	29.82	33.55
500	1.09	1.50	1.92	3.07	4.56	6.63	7.67	10.32	14.32	20.53	24.57	25.53	26.30	26.86	28.56	30.75	33.55	37.36
1000	1.16	1.58	2.03	3.25	4.82	7.08	8.28	11.29	16.02	23.42	28.03	29.03	29.80	30.31	31.68	33.77	36.46	40.35

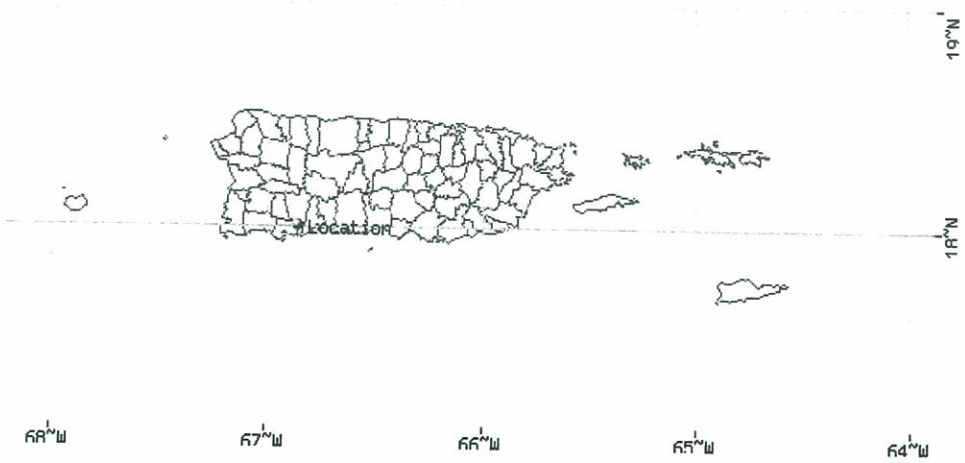
* The lower bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are less than.
** These precipitation frequency estimates are based on a partial duration maxima series. ARI is the Average Recurrence Interval.
Please refer to the documentation for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

Text version of tables


Partial duration based Point Precipitation Frequency Estimates - Version: 4
17.9978 N 66.8631 W 377 ft
Precipitation Depth (in)
Average Recurrence Interval (years)
Wed May 07 16:31:14 2008
Duration
5-min
10-min
15-min
30-min
60-min
3-hr
12-hr
24-hr
48-hr
4-day
7-day
10-day
20-day
30-day
60-day


Partial duration based Point Precipitation Frequency Estimates - Version: 4
17.9978 N 66.8631 W 377 ft
Precipitation Depth (in)
Duration
5-min
10-min
15-min
30-min
60-min
90-min
120-m
3-hr
4-hr
6-hr
8-hr
12-hr
18-hr
24-hr
36-hr
48-hr
3-day
4-day
5-day
7-day
10-day
15-day
20-day
30-day
45-day
60-day
Wed May 07 16:31:14 2008
Average Recurrence Interval (years)
1
2
5
10
25
100
200
500
1000

Maps -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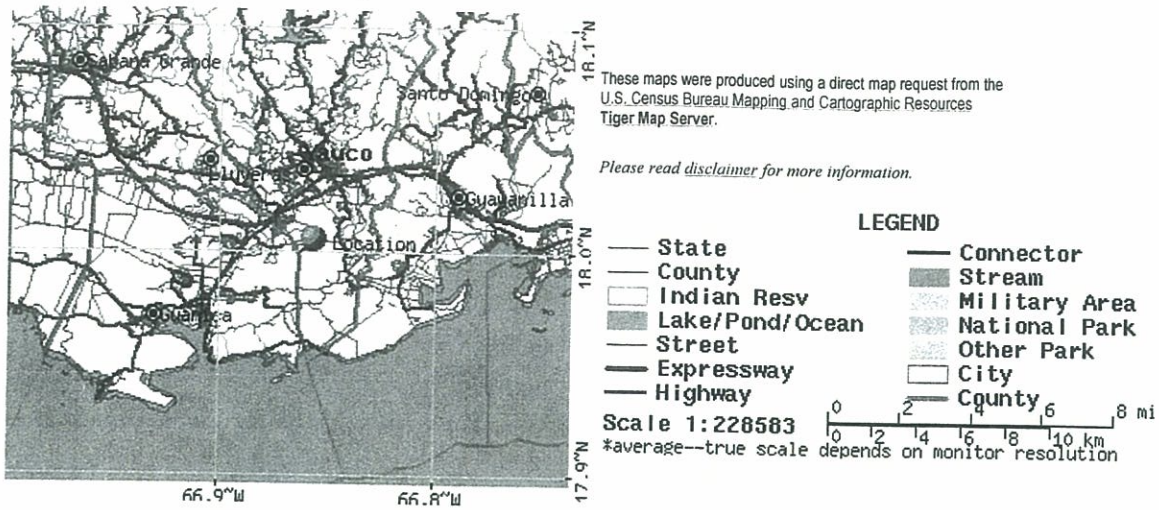
18°N
Location
68°W
67°W
66°W
65°W
64°W



Other Maps/Photographs -

View USGS digital orthophoto quadrangle (DOQ) covering this location from TerraServer; **USGS Aerial Photograph** may also be available from this site. A DOQ is a computer-generated image of an aerial photograph in which image displacement caused by terrain relief and camera tilts has been removed. It combines the image characteristics of a photograph with the geometric qualities of a map. Visit the USGS for more information.

Watershed/Stream Flow Information -

Find the Watershed for this location using the U.S. Environmental Protection Agency's site.

Climate Data Sources -

Precipitation frequency results are based on data from a variety of sources, but largely NCDC. The following links provide general information about observing sites in the area, regardless of if their data was used in this study. For detailed information about the stations used in this study, please refer to our documentation.

Using the **National Climatic Data Center's (NCDC)** station search engine, locate other climate stations within:

+/-30 minutes ...OR... +/-1 degree of this location (17.9978/-66.8631). Digital ASCII data can be obtained directly from **NCDC**.

Hydrometeorological Design Studies Center
DOC/NOAA/National Weather Service
1325 East-West Highway
Silver Spring, MD 20910

(301) 713-1669
Questions?: HDSC.Questions@noaa.gov

Disclaimer

APPENDIX C

POND ELEVATION – AREA AND ELEVATION – OUTFLOW RELATION

EXISTING CONDITION

POND NORTH

IRREGULAR RETENTION POND: DETERMINATION OF OUTFLOW

Elev, ft	Elev, m	H, m	Base Area, m^2	Top Area, m^2	Top Area, acres
236.22	72.00	0.00	1292.0	1292.0	0.32
242.78	74.00	2.00	1292.0	2079.0	0.51
243.76	74.30	2.30	1292.0	2079.0	0.51

WEIR FLOW

Weir		
C = Weir coefficient	3.28	Breadth of crest=1.0 ft
C = Weir coefficient	3.32	than 3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	13.71	
H = Weir head, ft	See Table	

OVERFLOW

Weir		
C = Weir coefficient	3.28	H equal to 1.6 ft; Breadth of crest=1.0 ft
C = Weir coefficient	3.32	3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	151.18	
H = Weir head, ft	See Table	

(1)	(2)	(3)	(4)	(5)	(6)	(6)
Elev, m	Elev, ft	H,ft	Q,ft^3/s	H,ft	Q,ft^3/s	Q,ft^3/s
72.00	236.22	0.00	0	0.00	0	0
73.00	239.50	0.00	0	0.00	0	0
73.05	239.66	0.16	3	0.00	0	3
73.30	240.48	0.98	44	0.00	0	44
73.60	241.47	1.97	124	0.00	0	124
73.90	242.45	2.95	228	0.00	0	228
74.00	242.78	3.28	267	0.00	0	267
74.30	243.76	4.27	396	0.98	484	880

POND WEST

IRREGULAR RETENTION POND: DETERMINATION OF OUTFLOW

Elev, ft	Elev, m	H, m	Base Area, m^2	Top Area, m^2	Top Area, acres
377.29	115.00	0.00	680.0	680.0	0.17
380.57	116.00	1.00	680.0	1118.0	0.28
383.85	117.00	2.00	680.0	2060.0	0.51
387.13	118.00	3.00	680.0	2505.0	0.62
390.42	119.00	4.00	680.0	3073.0	0.76
393.70	120.00	5.00	680.0	3559.0	0.88

WEIR FLOW

Weir		
C = Weir coefficient	3.28	Breadth of crest=1.0 ft
C = Weir coefficient	3.32	than 3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	13.71	
H = Weir head, ft	See Table	

OVERFLOW

Weir		
C = Weir coefficient	3.28	H equal to 1.6 ft; Breadth of crest=1.0 ft
C = Weir coefficient	3.32	3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	0.00	
H = Weir head, ft	See Table	

(1)	(2)	(3)	(4)	(5)	(6)	(6)
Elev, m	Elev, ft	H,ft	Q,ft^3/s	H,ft	Q,ft^3/s	Q,ft^3/s
115.00	377.29	0.00	0	0.00	0	0
118.00	387.13	0.00	0	0.00	0	0
118.03	387.23	0.10	1	0.00	0	1
118.30	388.12	0.98	44	0.00	0	44
118.60	389.10	1.97	124	0.00	0	124
118.90	390.09	2.95	228	0.00	0	228
119.00	390.42	3.28	267	0.00	0	267
120.00	393.70	6.56	756	0.00	0	756

POND EAST

IRREGULAR RETENTION POND: DETERMINATION OF OUTFLOW

Elev, ft	Elev, m	H, m	Base Area, m^2	Top Area, m^2	Top Area, acres
374.01	114.00	0.00	1137.0	1137.0	0.28
375.65	114.50	0.50	1137.0	2561.0	0.63
377.29	115.00	1.00	1137.0	9519.0	2.35
390.42	119.00	5.00	1137.0	16422.0	4.06
393.70	120.00	6.00	1137.0	17484.0	4.32
396.98	121.00	7.00	1138.0	18493.0	4.57

WEIR FLOW

Weir		
C = Weir coefficient	3.28	Breadth of crest=1.0 ft
C = Weir coefficient	3.32	than 3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	10.66	
H = Weir head, ft	See Table	

OVERFLOW

Weir		
C = Weir coefficient	3.28	H equal to 1.6 ft; Breadth of crest=1.0 ft
C = Weir coefficient	3.32	3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	0.00	
H = Weir head, ft	See Table	

(1)	(2)	(3)	(4)	(5)	(6)	(6)
Elev, m	Elev, ft	H,ft	Q,ft^3/s	H,ft	Q,ft^3/s	Q,ft^3/s
114.00	374.01	0.00	0	0.00	0	0
119.00	390.42	0.00	0	0.00	0	0
119.03	390.51	0.10	1	0.00	0	1
120.00	393.70	3.28	208	0.00	0	208

POND SOUTH 1

IRREGULAR RETENTION POND: DETERMINATION OF OUTFLOW

Elev, ft	Elev, m	H, m	Base Area, m^2	Top Area, m^2	Top Area, acres
314.96	96.00	0.00	215.0	215.0	0.05
318.24	97.00	1.00	215.0	427.0	0.11
321.52	98.00	2.00	215.0	920.0	0.23

WEIR FLOW

Weir		
C = Weir coefficient	3.28	Breadth of crest=1.0 ft
C = Weir coefficient	3.32	than 3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	56.66	
H = Weir head, ft	See Table	

OVERFLOW

Weir		
C = Weir coefficient	3.28	H equal to 1.6 ft; Breadth of crest=1.0 ft
C = Weir coefficient	3.32	3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	0.00	
H = Weir head, ft	See Table	

(1)	(2)	(3)	(4)	(5)	(6)	(6)
Elev, m	Elev, ft	H,ft	Q,ft^3/s	H,ft	Q,ft^3/s	Q,ft^3/s
96.00	314.96	0.00	0	0.00	0	0
97.00	318.24	0.00	0	0.00	0	0
97.01	318.27	0.03	1	0.00	0	1
97.30	319.22	0.98	181	0.00	0	181
98.00	321.52	3.28	1104	0.00	0	1104

POND SOUTH 2

IRREGULAR RETENTION POND: DETERMINATION OF OUTFLOW

Elev, ft	Elev, m	H, m	Base Area, m^2	Top Area, m^2	Top Area, acres
305.11	93.00	0.00	217.0	217.0	0.05
318.24	97.00	4.00	217.0	704.0	0.17
321.52	98.00	5.00	217.0	1291.0	0.32

WEIR FLOW

Weir		
C = Weir coefficient	3.28	Breadth of crest=1.0 ft
C = Weir coefficient	3.32	than 3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	61.29	
H = Weir head, ft	See Table	

OVERFLOW

Weir		
C = Weir coefficient	3.28	H equal to 1.6 ft; Breadth of crest=1.0 ft
C = Weir coefficient	3.32	3.0 ft; Breadth of crest=1.0 ft
L = Length of weir, ft	0.00	
H = Weir head, ft	See Table	

(1)	(2)	(3)	(4)	(5)	(6)	(6)
Elev, m	Elev, ft	H,ft	Q,ft^3/s	H,ft	Q,ft^3/s	Q,ft^3/s
93.00	305.11	0.00	0	0.00	0	0
97.00	318.24	0.00	0	0.00	0	0
97.01	318.27	0.03	1	0.00		1
97.55	320.04	1.80	487	0.00	0	487
98.00	321.52	3.28	1195	0.00	0	1195