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# RV PARK NORTH POND
# ENGINEERING REPORT
# LAKE CITY FLORIDA

TERRY R. WHITE, JR. LICENSE No. 37390 STATE OF FLORIDA PROFESSIONAL ENGINEER

**Terry R. White, Jr., P.E.**
**Florida Registration No. 37390**
**December 1, 2022**

Terry Robinson White, Jr., P.E., State of Florida, Professional Engineer, License No. 37390
This item has been digitally signed and sealed by TerryR. White, Jr. on the date indicated here.
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**Dalton Kurtz**
**Project Manager**
**December 1, 2022**

## PROJECT DESCRIPTION

### Existing Conditions (see Figure 1)

The existing site consists of the property which totals 8.5 acres on parcel 02-4S-16-02714-014. The site has been divided into two basins, this report covers the Northeast side (referred to as the north basin/pond) The site's current status is a cattle pasture. To streamline the review process this Engineering report is for **NORTH POND.** The overall design will be referenced in this report however each pond will have its own engineering report.

### Proposed Conditions (see Figure 2)

As follows are design summaries for the area impacted.

- Pre-development North Basin
  - Drainage Basin Area= 1.46 ac
  - Total Impervious Area=0.0 ac
  - Open Area=1.46 ac
  - Composite Curve Number= 80
  - Composite Runoff Number=.15
  - Time of Concentration=12.4 Minutes
  - Kh= 13.65
  - Kv= 6.05
  - Fillable Porosity= 25%

- Post-development North Basin
  - Basin Area = 1.46 acres
  - Total Impervious Area (Not including pond) = .24 acres
  - Total Semi Impervious Area=.192 acres
  - Open Area =.719 acres
  - Composite Curve Number= 89
  - Composite Runoff Number=.54
  - Time of Concentration=6.8 Minutes
  - Kh=13.65
  - Kv=Not Considered
  - Fillable Porosity=25%
  - Wet Pond = .309 acres
  - Discharge Structure = One 2' wide concrete overflow weir with an invert elevation at 162.5 feet NAVD. One 6" Bleeder with an invert elevation at 161.5 feet NAVD.
  - Top of Pond = 163.75 feet NAVD
  - Top of Permanent Pool = 160.25
  - Water Table=158.05 feet NAVD
  - Bottom of Pond = 155.05 feet NAVD
  - Maximum Stage (240hr) = 162.29 feet NAVD

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Basin area was determined utilizing the proposed project layout and stormwater analysis tools in C3D 2022. Ponds V3.3 software was used to model the dry pond. See summary tables on the following pages and supporting documentation on the proceeding pages for additional information with regards to modeling.

## Overall Basin Size

| Basin | Pre-Condition | Post- Condition | Total Impervious | Total Semi-Imperv. |
|---|---|---|---|---|
| North Pond | 1.46 | 1.46 | 0.24 | 0.192 |
| South Pond | 7.04 | 7.04 | 0.832 | 1.326 |
| Total | 8.5 | 8.5 | 1.072 | 1.518 |

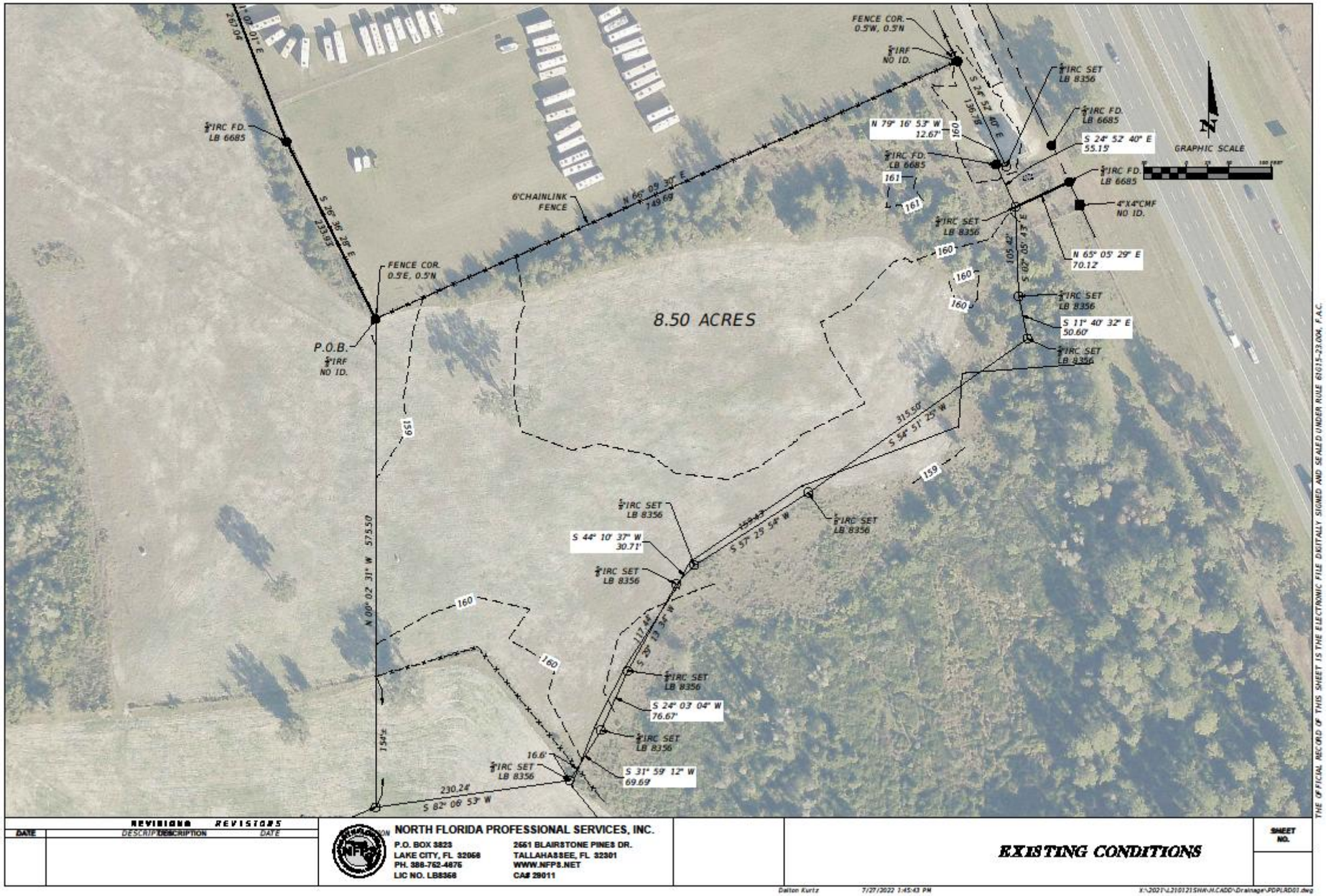
## Overall Basin Discharges

COMPARISON OF PRE Vs. POST DISCHARGE RATES TOTAL BASIN

| PRE-DEVELOPMENT | PEAK DISCHARGE (CFS) | PEAK VOLUME (CUFT) | POST-DEVELOPMENT | PEAK DISCHARGE (CFS) | PEAK VOLUME (CUFT) | POST-PRE DISCHARGE (CFS) | POST-PRE VOLUME (CUFT) |
|---|---|---|---|---|---|---|---|
| FDOT 1HR 100YR | 44.62 | 124696 | 1HR 100YR | 0 | 0 | -44.62 | -124696 |
| FDOT 2HR 100YR | 37.18 | 168306 | 2HR 100YR | 0 | 0 | -37.18 | -168306 |
| FDOT 4HR 100YR | 20.46 | 217619 | 4HR 100YR | 0 | 0 | -20.46 | -217619 |
| FDOT8HR 100YR | 22.7 | 283931 | 8HR 100YR | 0.27 | 2802 | -22.43 | -281129 |
| FDOT 24HR 100YR | 7.4 | 416086 | 24HR 100YR | 3.38 | 110211 | -4.02 | -305875 |
| FDOT 72HR 100YR | 5.05 | 555357 | 72HR 100YR | 4.63 | 219820 | -0.42 | -335537 |
| FDOT 168HR 100YR | 3.44 | 643263 | 168HR 100YR | 3.37 | 291968 | -0.07 | -351295 |
| FDOT 240HR 100YR | 4.61 | 759297 | 240HR 100YR | 4.53 | 391818 | -0.08 | -367479 |
| | | | 2" OVER AREA | 0 | 0 | 0 | 0 |

## ESHGWT, Kh&Kv DETERMINATION

South basin ESHGWT, Kh & Kv values were taken from an average of the boreholes B1 & B3 from the geotechnical reports performed on January 10th, 2022 and June 16th, 2022. In designing the site, it was determined that we would need additional borings on the South side of the site however the design shifted to a two-pond site after this had been performed. The ESHGWT for the North was determined based on an average of B1&B3 ESHGWT table height while Kh & Kv were taken directly from B3 as they are the more conservative values. B2 is located in the North Pond location but did not have a percolation test performed; indicated water table is 3' below grade. It is in our sound Engineering judgement that the soil across this site is homogeneous enough to support these claims.

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PH. 386-752-4675
LIC NO. LB8368
2551 BLAIRSTONE PINES DR.
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**EXISTING CONDITIONS**

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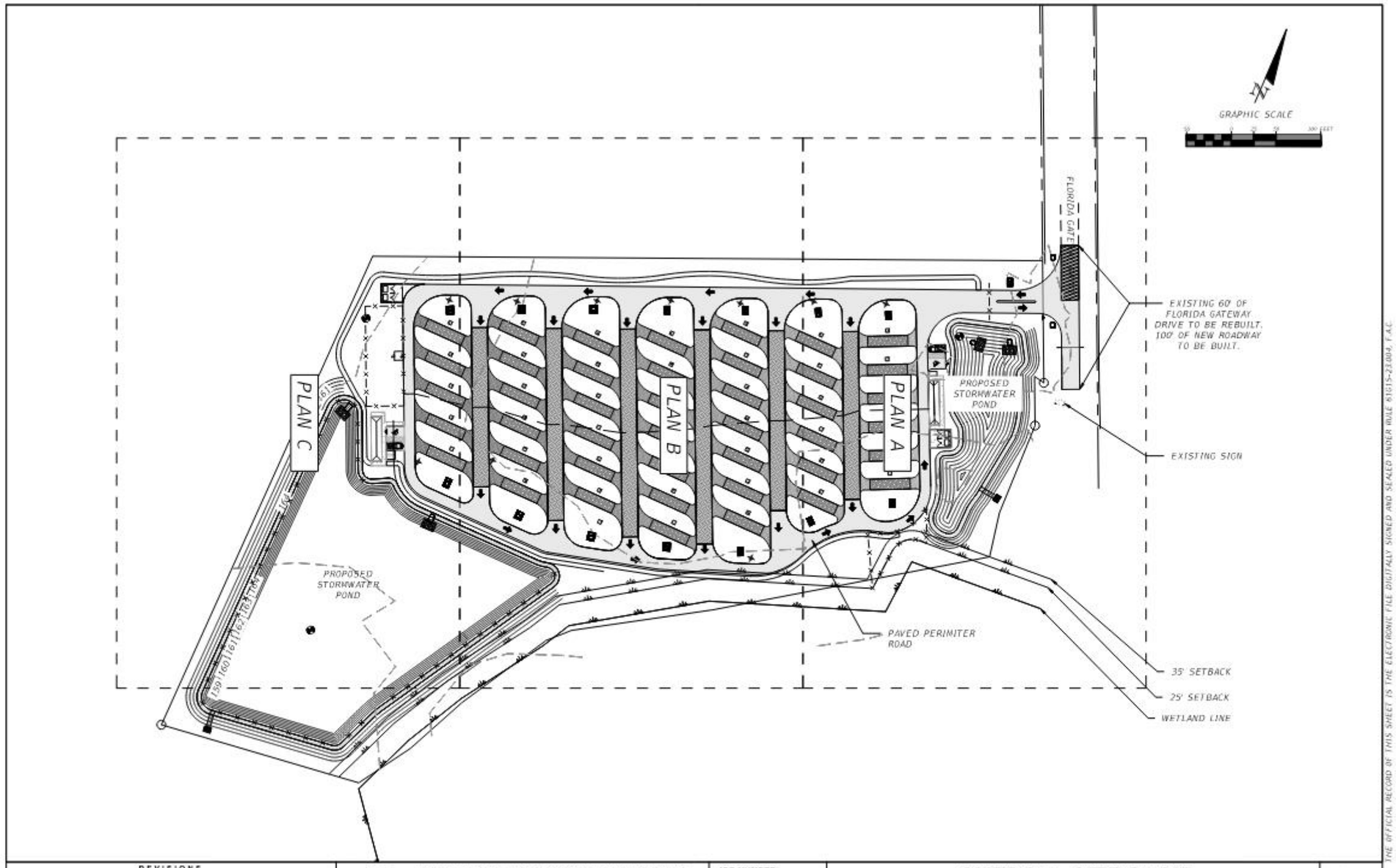
FIGURE 1

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JOB NUMBER: L210121SHA
EOR: GREGORY G. BAILEY
P.E. NO.: 43858

# OVERALL SITE PLAN
## FLORIDA GATEWAY DRIVE RV PARK
## COLUMBIA COUNTY, FL

SHEET NO. C-8

Keegan Renick 11/30/2022 4:16:16 PM X:\2021\L210121SHA\A CADD\Roadway\PLANRD01.dwg

FIGURE 2

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# TABLE 1. PRE VS. POST DISCHARGE AND MAX STAGE/FREEBOARD

| COMPARISON OF PRE Vs. POST DISCHARGE RATES | | | | | | | | MAX STAGE & FREEBOARD | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PRE-DEVELOPMENT | PEAK DISCHARGE (CFS) | PEAK VOLUME (CUFT) | POST-DEVELOPMENT | PEAK DISCHARGE (CFS) | PEAK VOLUME (CUFT) | POST-PRE DISCHARGE (CFS) | POST-PRE VOLUME (CUFT) | MAX STAGE (FT) | FREE BOARD (FT) | TOP OF POND |
| FDOT 1HR 100YR | 7.58 | 11627 | 1HR 100YR | 0 | 0 | -7.58 | -11627 | 160.48 | 3.27 | 163.75 |
| FDOT 2HR 100YR | 6.33 | 15694 | 2HR 100YR | 0 | 0 | -6.33 | -15694 | 160.98 | 2.77 | 163.75 |
| FDOT 4HR 100YR | 3.48 | 20292 | 4HR 100YR | 0 | 0 | -3.48 | -20292 | 161.44 | 2.31 | 163.75 |
| FDOT8HR 100YR | 3.87 | 26475 | 8HR 100YR | 0.27 | 2802 | -3.6 | -23673 | 161.83 | 1.92 | 163.75 |
| FDOT 24HR 100YR | 1.26 | 38799 | 24HR 100YR | 0.46 | 13470 | -0.8 | -25329 | 161.99 | 1.76 | 163.75 |
| FDOT 72HR 100YR | 0.86 | 51785 | 72HR 100YR | 0.65 | 23198 | -0.21 | -28587 | 162.22 | 1.53 | 163.75 |
| FDOT 168HR 100YR | 0.59 | 59982 | 168HR 100YR | 0.54 | 27538 | -0.05 | -32444 | 162.07 | 1.68 | 163.75 |
| FDOT 240HR 100YR | 0.78 | 70802 | 240HR 100YR | 0.7 | 35379 | -0.08 | -35423 | 162.29 | 1.46 | 163.75 |
| | | | 2" OVER AREA | 0 | 0 | 0 | 0 | 159.23 | 4.52 | 163.75 |

| DRAINAGE RETENTION AREA STAGE STORAGE | | |
|---|---|---|
| ELEVATION | AREA (SF) | VOLUME (CF) |
| 163.75 | 13498 | 2323 |
| 163.05 | 12423 | 2136 |
| 162.05 | 10811 | 1856 |
| 161.05 | 9468 | 1622 |
| 160.05 | 7855 | 1342 |
| 159.05 | 6243 | 1062 |
| 158.05 | 4631 | 782 |
| 157.05 | 3287 | 548 |
| 156.05 | 1675 | 268 |
| 155.05 | 63 | 0 |

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# PROJECT CALCULATIONS AND DATA

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## PRE-DEVELOPED SCS RUNOFF CURVE NUMBERS

| Land Use Description | Hydrologic Soil Group | Area (Acres) | Curve Number |
|---|---|---|---|
| VACANT LOT | D | 1.460 | 80 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Composite Curve Number | | 80 |

| | |
|---|---|
| Drainage Area (acres) | 1.460 |

## POST-DEVELOPED SCS RUNOFF CURVE NUMBERS

| Land Use Description | Hydrologic Soil Group | Area (Acres) | Curve Number |
|---|---|---|---|
| BUILDINGS | D | 0.043 | 98 |
| PERIMITER ROAD | D | 0.197 | 98 |
| POND | D | 0.309 | 100 |
| GRAVEL ROADS | D | 0.077 | 91 |
| GRAVEL RV SPACES | D | 0.074 | 91 |
| DIRT APPROACH PADS | D | 0.041 | 89 |
| GREEN/OPEN SPACES | D | 0.719 | 80 |
| | | | |
| | | | |
| | | | |
| | Composite Curve Number | | 89 |

| | |
|---|---|
| Drainage Area (acres) | 1.460 |

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# Table T-7
## SCS Runoff Curve Numbers for Selected Agricultural, Suburban, and Urban Land Use

| Land Use Description | | Hydrologic Soil Group A | B | C | D |
|---|---|---|---|---|---|
| Cultivated Land[a]: | | | | | |
| Without conservation treatment | | 72 | 81 | 88 | 91 |
| With conservation treatment | | 62 | 71 | 78 | 81 |
| Pasture or range land: | | | | | |
| Poor condition | | 68 | 79 | 86 | 89 |
| Good condition | | 39 | 61 | 74 | 80 |
| Meadow: good condition | | 30 | 58 | 71 | 78 |
| Wood or Forest Land: | | | | | |
| Thin stand, poor cover, no mulch | | 45 | 66 | 77 | 83 |
| Good cover[b] | | 25 | 55 | 70 | 77 |
| Open Spaces, Lawns, Parks, Golf Courses, Cemeteries: | | | | | |
| Good condition: grass cover on 75% or more of the area | | 39 | 61 | 74 | 80 |
| Fair condition: grass cover on 50% to 75% of the area | | 49 | 69 | 79 | 84 |
| Poor condition: grass cover on 50% or less of the area | | 68 | 79 | 86 | 89 |
| Commercial and Business Areas (85% impervious) | | 89 | 92 | 94 | 95 |
| Industrial Districts (72% impervious) | | 81 | 88 | 91 | 93 |
| Residential[c] | | | | | |
| Average lot size | Average % Impervious[d] | | | | |
| 1/8 acre or less | 65 | 77 | 85 | 90 | 92 |
| 1/4 acre | 38 | 61 | 75 | 83 | 87 |
| 1/3 acre | 30 | 57 | 72 | 81 | 86 |
| 1/2 acre | 25 | 54 | 70 | 80 | 85 |
| 1 acre | 20 | 51 | 68 | 79 | 84 |
| Paved Parking Lots, Roofs, Driveways[e]: | | 98 | 98 | 98 | 98 |
| Streets and Roads: | | | | | |
| Paved with curbs and storm sewers[e] | | 98 | 98 | 98 | 98 |
| Gravel | | 76 | 85 | 89 | 91 |
| Dirt | | 72 | 82 | 87 | 89 |
| Paved with open ditches | | 83 | 89 | 92 | 93 |
| Newly graded area (no vegetation established)[f] | | 77 | 86 | 91 | 94 |

[a] For a more detailed description of agricultural land use curve numbers, refer to Table T-8.
[b] Good cover is protected from grazing and litter and brush cover soil.
[c] Curve numbers are computed assuming the runoff from the house and driveway is directed toward the street with a minimum of roof water directed to lawns where additional infiltration could occur. Depends on depth and degree of permeability of underlying strata.
[d] The remaining pervious areas (lawn) are considered to be in good pasture condition for these curve numbers.
[e] In some warmer climates of the country, a curve number of 96 may be used.
[f] Use for temporary conditions during grading and construction.
Note: These values are for Antecedent Moisture Condition II, and $I_a = 0.2S$.

Reference: USDA, SCS, TR-55 (1984).

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# Table T-8
## SCS Runoff Curve Numbers For Agricultural Use

| Land Use | Treatment or Practice | Hydrologic Condition | Hydrologic Soil Group A | B | C | D |
|---|---|---|---|---|---|---|
| Fallow | Straight row | ----- | 77 | 86 | 91 | 94 |
| Row Crops | Straight row | Poor | 72 | 81 | 88 | 91 |
| | Straight row | Good | 67 | 78 | 85 | 89 |
| | Contoured | Poor | 70 | 79 | 84 | 88 |
| | Contoured | Good | 65 | 75 | 82 | 86 |
| | and terraced | Poor | 66 | 74 | 80 | 82 |
| | and terraced | Good | 62 | 71 | 78 | 81 |
| Small grain | Straight row | Poor | 65 | 76 | 84 | 88 |
| | Straight row | Good | 63 | 75 | 83 | 87 |
| | Contoured | Poor | 63 | 74 | 82 | 85 |
| | Contoured | Good | 61 | 73 | 81 | 84 |
| | Contoured | Good | 55 | 69 | 78 | 83 |
| | and terraced | Poor | 61 | 72 | 79 | 82 |
| | and terraced | Good | 59 | 70 | 78 | 81 |
| Close seeded legumes[a] | Straight row | Poor | 66 | 77 | 85 | 89 |
| or rotation meadow | Straight row | Good | 58 | 72 | 81 | 85 |
| | Contoured | Poor | 64 | 75 | 83 | 85 |
| | Contoured | Good | 55 | 69 | 78 | 83 |
| | and terraced | Poor | 63 | 73 | 80 | 83 |
| | and terraced | Good | 51 | 67 | 76 | 80 |
| Pasture or range | | Poor | 68 | 79 | 86 | 89 |
| | | Fair | 49 | 69 | 79 | 84 |
| | | Good | 39 | 61 | 74 | 80 |
| | Contoured | Poor | 47 | 67 | 81 | 88 |
| | Contoured | Fair | 25 | 59 | 75 | 83 |
| | Contoured | Good | 6 | 35 | 70 | 79 |
| Meadow | | Good | 30 | 58 | 71 | 78 |
| Woods | | Poor | 45 | 66 | 77 | 83 |
| | | Fair | 36 | 60 | 73 | 79 |
| | | Good | 25 | 55 | 70 | 77 |
| Farmsteads | | ----- | 59 | 74 | 82 | 86 |
| Road (dirt)[b] | | ----- | 72 | 82 | 87 | 89 |
| (hard surface)[b] | | ----- | 74 | 84 | 90 | 92 |

[a] Closed-drilled or broadcast.
[b] Including right-of-way.
Note: These values are for Antecedent Moisture Condition II, and $I_a = 0.2S$.

Reference: USDA, SCS, NEH-4 (1972).

## Table T-9
## SCS Classifications Of Vegetative Covers By Their Hydrologic Properties

| Vegetative Cover | | Hydrologic Condition |
|---|---|---|
| Crop rotation | Poor: | Contains a high proportion of row crops, small grain, and fallow. |
| | Good: | Contains a high proportion of alfalfa and grasses. |
| Native pasture or range | Poor: | Heavily grazed or having plant cover on less range than 50% of the area. |
| | Fair: | Moderately grazed; 50 - 75% plant cover. |
| | Good: | Lightly grazed; more than 75% plant cover. |
| | Permanent Meadow: 100% plant cover. | |
| Woodlands | Poor: | Heavily grazed or regularly burned so that litter, small trees, and brush are destroyed. |
| | Fair: | Grazed but not burned; there may be some litter. |
| | Good: | Protected from grazing so that litter and shrubs cover the soil. |

Reference: USDA, SCS, NEH-4 (1972).

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## PRE-DEVELOPED RATIONAL RUNOFF COEFFICIENTS

| Land Use Description | Slope | Area (Acres) | Coefficient |
|---|---|---|---|
| VACANT LOT | 0.02 | 1.460 | 0.15 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Composite Runoff Coefficient | | 0.15 |

| | |
|---|---|
| Drainage Area (acres) | 1.460 |

## POST-DEVELOPED RATIONAL RUNOFF COEFFICIENTS

| Land Use Description | Slope | Area (Acres) | Coefficient |
|---|---|---|---|
| BUILDINGS | 0.02 | 0.043 | 0.95 |
| PERIMITER ROAD | 0.02 | 0.197 | 0.95 |
| POND | 0.02 | 0.309 | 1.00 |
| GRAVEL ROADS | 0.02 | 0.077 | 0.75 |
| GRAVEL RV SPACES | 0.02 | 0.074 | 0.75 |
| DIRT APPROACH PADS | 0.02 | 0.041 | 0.75 |
| GREEN/OPEN SPACES | 0.02 | 0.719 | 0.15 |
| | | | |
| | | | |
| | | | |
| | Composite Runoff Coefficient | | 0.54 |

| | |
|---|---|
| Drainage Area (acres) | 1.460 |

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# Table T-4
## Runoff Coefficients For A Design Storm Return Period Of 10 Years Or Less[a]

| Slope | Land Use | Sandy Soils Min. | Sandy Soils Max. | Clay Soils Min. | Clay Soils Max. |
|---|---|---|---|---|---|
| Flat (0-2%) | Woodlands | 0.10 | 0.15 | 0.15 | 0.20 |
| | Pasture, grass, and farmland [b] | 0.15 | 0.20 | 0.20 | 0.25 |
| | Bare Earth | 0.30 | 0.50 | 0.50 | 0.60 |
| | Rooftops and pavement | 0.95 | 0.95 | 0.95 | 0.95 |
| | Pervious pavements [c] | 0.75 | 0.95 | 0.90 | 0.95 |
| | SFR: 1/2-acre lots and larger | 0.30 | 0.35 | 0.35 | 0.45 |
| | Smaller lots | 0.35 | 0.45 | 0.40 | 0.50 |
| | Duplexes | 0.35 | 0.45 | 0.40 | 0.50 |
| | MFR: Apartments, townhouses, and condominiums | 0.45 | 0.60 | 0.50 | 0.70 |
| | Commercial and Industrial | 0.50 | 0.95 | 0.50 | 0.95 |
| Rolling (2-7%) | Woodlands | 0.15 | 0.20 | 0.20 | 0.25 |
| | Pasture, grass, and farmland [b] | 0.20 | 0.25 | 0.25 | 0.30 |
| | Bare Earth | 0.40 | 0.60 | 0.60 | 0.70 |
| | Rooftops and pavement | 0.95 | 0.95 | 0.95 | 0.95 |
| | Pervious pavements [c] | 0.80 | 0.95 | 0.90 | 0.95 |
| | SFR: 1/2-acre lots and larger | 0.35 | 0.50 | 0.40 | 0.55 |
| | Smaller lots | 0.40 | 0.55 | 0.45 | 0.60 |
| | Duplexes | 0.40 | 0.55 | 0.45 | 0.60 |
| | MFR: Apartments, townhouses, and condominiums | 0.50 | 0.70 | 0.60 | 0.80 |
| | Commercial and Industrial | 0.50 | 0.95 | 0.50 | 0.95 |
| Steep (7%+) | Woodlands | 0.20 | 0.25 | 0.25 | 0.30 |
| | Pasture, grass, and farmland [b] | 0.25 | 0.35 | 0.30 | 0.40 |
| | Bare Earth | 0.50 | 0.70 | 0.70 | 0.80 |
| | Rooftops and pavement | 0.95 | 0.95 | 0.95 | 0.95 |
| | Pervious pavements [c] | 0.85 | 0.95 | 0.90 | 0.95 |
| | SFR: 1/2-acre lots and larger | 0.40 | 0.55 | 0.50 | 0.65 |
| | Smaller lots | 0.45 | 0.60 | 0.55 | 0.70 |
| | Duplexes | 0.45 | 0.60 | 0.55 | 0.70 |
| | MFR: Apartments, townhouses, and condominiums | 0.60 | 0.75 | 0.65 | 0.85 |
| | Commercial and Industrial | 0.60 | 0.95 | 0.65 | 0.95 |

[a] Weighted coefficient based on percentage of impervious surfaces and green areas must be selected for each site.

[b] Coefficients assume good ground cover and conservation treatment.

[c] Depends on depth and degree of permeability of underlying strata.

Note: SFR = Single Family Residential
MFR = Multi-Family Residential

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# Pre-Developed Time of Concentration

Overland Flow

$$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}} \qquad \text{(eq. 15–8)}$$

where:
$T_t$ = travel time, h
$n$ = Manning's roughness coefficient (table 15–1)
$\ell$ = sheet flow length, ft
$P_2$ = 2-year, 24-hour rainfall, in
S = slope of land surface, ft/ft

$$\ell = \frac{100\sqrt{S}}{n} \qquad \text{(eq. 15–9)}$$

| | | |
|---|---|---|
| $t_1$ = | 8.3 | minutes |
| n = | 0.15 | |
| $\ell$ = | 94 | feet |
| $P_2$ = | 4.1 | inches |
| S = | 0.02 | ft/ft |

Shallow Channel Flow

See Figure 15-4
For slopes less than 0.005 ft/ft, use Table 15-3

| | | |
|---|---|---|
| $t_2$ = | 4.1 | minutes |
| L = | 243 | feet |
| V = | 0.98 | ft/sec |
| S = | 0.02 | ft/ft |
| k = | 6.962 | |

Main Channel Flow

$$V = \frac{1.486}{n} R^{0.67} S^{0.5}$$

| | | |
|---|---|---|
| $t_3$ = | 0.0 | minutes |
| L = | 0 | feet |
| V = | 0.00 | ft/sec |
| n = | 0.00 | |
| R = | 0.00 | feet |
| A = | 0.00 | sq. ft. |
| P = | 0.00 | feet |
| S = | 0.00 | ft/ft |
| BW = | 0.00 | feet |
| SS1 = | 0.00 | :1 |
| SS2 = | 0.00 | :1 |
| D = | 0.00 | feet |

Where:

| | |
|---|---|
| V = | Velocity in feet per second |
| n = | Manning's n value from Table T-3 |
| R = | Hydraulic Radius (A/P) |
| A = | Cross sectional flow area in square feet |
| P = | Wetted perimeter in feet |
| S = | Slope in ft/ft |
| BW = | Channel bottom width |
| SS1 = | Side slope left in x:1 |
| SS2 = | Side slope right in x:1 |
| D= | Flow depth in feet |

$T_c = t_1+t_2+t_3 =$ 12.4 minutes

## Table T-1
## Overland Flow Manning's n Values

| | Value | Recommended Range of Values |
|---|---|---|
| Concrete | 0.011 | 0.010 -0.013 |
| Asphalt | 0.012 | 0.010 -0.015 |
| Bare sand [a] | 0.010 | 0.010 -0.016 |
| Graveled surface [a] | 0.012 | 0.012 -0.030 |
| Bare clay-loam (eroded) [a] | 0.012 | 0.012 -0.033 |
| Fallow (no residue) [b] | 0.05 | 0.006 -0.16 |
| Chisel plow (<1/4 tons/acre residue) | 0.07 | 0.006 -0.17 |
| Chisel plow (1/4 - 1 tons/acre residue) | 0.18 | 0.070 -0.34 |
| Chisel plow (1 - 3 tons/acre residue) | 0.30 | 0.190 -0.47 |
| Chisel plow (>3 tons/acre residue) | 0.40 | 0.340 -0.46 |
| Disk/Harrow (<1/4 tons/acre residue) | 0.08 | 0.008 -0.41 |
| Disk/Harrow (1/4 - 1 tons/acre residue) | 0.16 | 0.100 -0.25 |
| Disk/Harrow (1 - 3 tons/acre residue) | 0.25 | 0.140 -0.53 |
| Disk/Harrow (>3 tons/acre residue) | 0.30 | – – |
| No till (</4 tons/acre residue) | 0.04 | 0.030 -0.07 |
| No till (1/4 - 1 tons/acre residue) | 0.07 | 0.010 -0.13 |
| No till (1 - 3 tons/acre residue) | 0.30 | 0.160 -0.47 |
| Plow (Fall) | 0.06 | 0.020 -0.10 |
| Coulter | 0.10 | 0.050 -0.13 |
| Range (natural) | 0.13 | 0.010 -0.32 |
| Range (clipped) | 0.08 | 0.020 -0.24 |
| Grass (bluegrass sod) | 0.45 | 0.390 -0.63 |
| Short grass prairie [a] | 0.15 | 0.100 -0.20 |
| Dense grass [c] | 0.24 | 0.170 -0.30 |
| Bermuda grass [c] | 0.41 | 0.300 -0.48 |
| Woods | 0.45 | – – |

All values are from Engman (1983), unless noted otherwise.

[a] Woolhiser (1975).

[b] Fallow has been idle for one year and is fairly smooth.

[c] Palmer (1946). Weeping love grass, bluegrass, buffalo grass, blue gamma grass, native grass mix (OK), alfalfa, lespedeza.

Note: These values were determined specifically for overland flow conditions and are not appropriate for conventional open channel flow calculations. See the open channel handbook for open channel flow procedures.

**Figure 15–4** Velocity versus slope for shallow concentrated flow

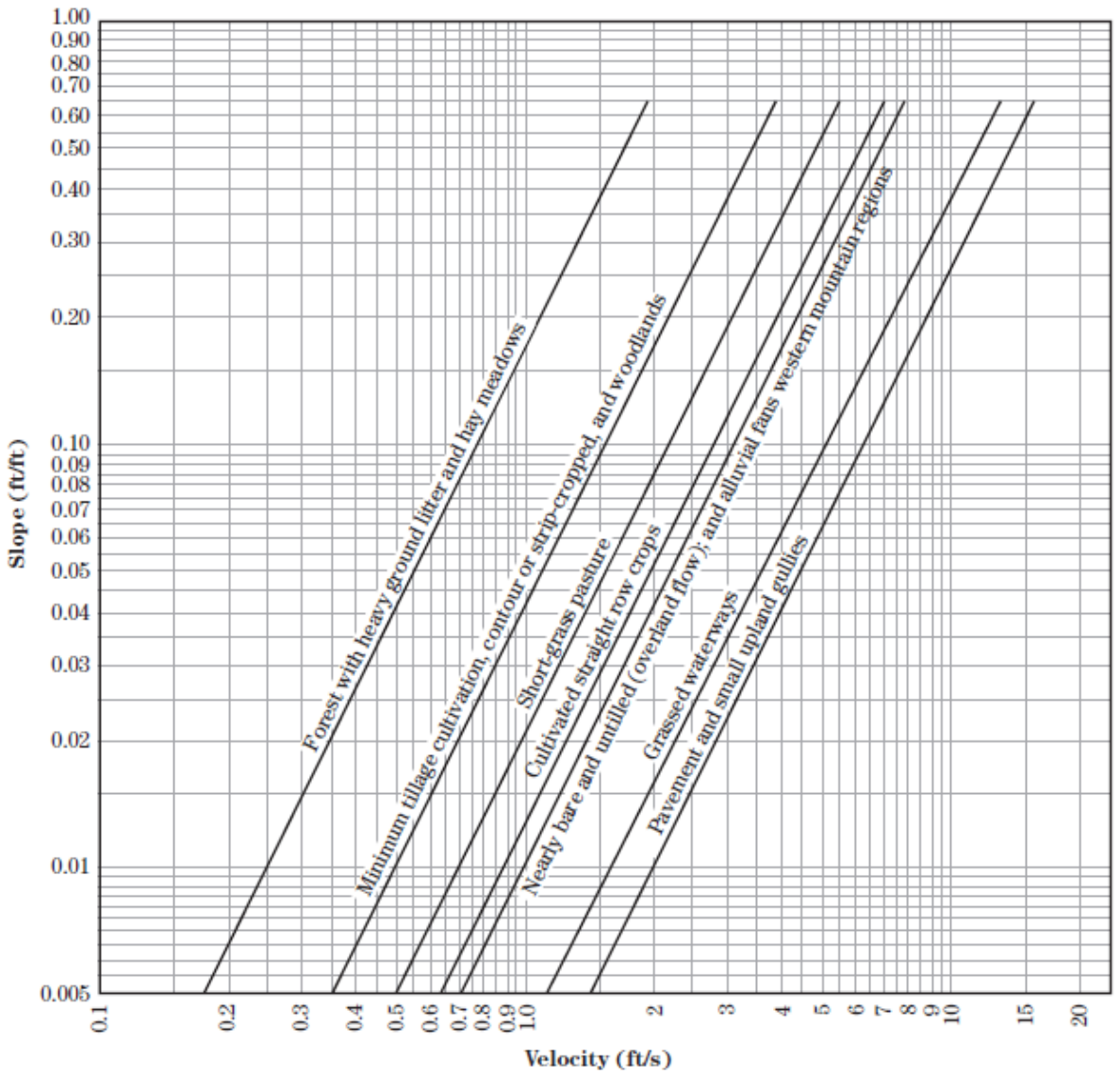


**Table 15–3** Equations and assumptions developed from figure 15–4

| Flow type | Depth (ft) | Manning's *n* | Velocity equation (ft/s) |
|---|---|---|---|
| Pavement and small upland gullies | 0.2 | 0.025 | $V = 20.328(s)^{0.5}$ |
| Grassed waterways | 0.4 | 0.050 | $V = 16.135(s)^{0.5}$ |
| Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions | 0.2 | 0.051 | $V = 9.965(s)^{0.5}$ |
| Cultivated straight row crops | 0.2 | 0.058 | $V = 8.762(s)^{0.5}$ |
| Short-grass pasture | 0.2 | 0.073 | $V = 6.962(s)^{0.5}$ |
| Minimum tillage cultivation, contour or strip-cropped, and woodlands | 0.2 | 0.101 | $V = 5.032(s)^{0.5}$ |
| Forest with heavy ground litter and hay meadows | 0.2 | 0.202 | $V = 2.516(s)^{0.5}$ |

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# Table T-3
# Recommended Manning's n Values for Artificial Channels with Various Linings

| Channel Lining | Lining Description | Design Manning's n Value |
|---|---|---|
| **Bare Earth or Vegetative Linings** | | |
| Bare earth, fairly uniform | Clean, recently completed | 0.022 |
| Bare earth, fairly uniform | Short grass and some weeds | 0.028 |
| Dragline excavated | No vegetation | 0.030 |
| Dragline excavated | Light brush | 0.040 |
| Channels not maintained | Dense weeds to flow depth | 0.100 |
| Channels not maintained | Clear bottom, brush sides | 0.080 |
| Maintained grass or sodded ditches | Good stand, well maintained 2" - 6" | 0.060* |
| Maintained grass or sodded ditches | Fair stand, length 12" - 24" | 0.200* |
| **Rigid Linings** | | |
| Concrete paved | Broomed** | 0.016 |
| Concrete paved | "Roughened" - standard | 0.020 |
| Concrete paved | Gunite | 0.020 |
| Concrete paved | Over rubble | 0.023 |
| Asphalt concrete | Smooth | 0.013 |
| Asphalt concrete | Rough | 0.016 |

* Decrease 30% for flows > 0.7' (maximum flow depth 1.5').

** Because this is not the standard finish, it must be specified.

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# Post-Developed Time of Concentration

Overland Flow

$$T_t = \frac{0.007(n\ell)^{0.8}}{(P_2)^{0.5} S^{0.4}} \qquad \text{(eq. 15–8)}$$

where:
$T_t$ = travel time, h
$n$ = Manning's roughness coefficient (table 15–1)
$\ell$ = sheet flow length, ft
$P_2$ = 2-year, 24-hour rainfall, in
$S$ = slope of land surface, ft/ft

| | | |
|---|---|---|
| $t_1$ = | 2.5 | minutes |
| n = | 0.012 | |
| $\ell$ = | 260 | feet |
| $P_2$ = | 4.1 | inches |
| S = | 0.02 | ft/ft |

$$\ell = \frac{100\sqrt{S}}{n} \qquad \text{(eq. 15–9)}$$

Shallow Channel Flow

See Figure 15-4
For slopes less than 0.005 ft/ft, use Table 15-3

| | | |
|---|---|---|
| $t_2$ = | 4.4 | minutes |
| L = | 600 | feet |
| V = | 2.28 | ft/sec |
| S = | 0.02 | ft/ft |
| k = | 16.135 | |

Main Channel Flow

$$V = \frac{1.486}{n} R^{0.67} S^{0.5}$$

| | | |
|---|---|---|
| $t_3$ = | 0.0 | minutes |
| L = | | feet |
| V = | #DIV/0! | ft/sec |
| n = | | |
| R = | #DIV/0! | feet |
| A = | 0.00 | sq. ft. |
| P = | 0.00 | feet |
| S = | | ft/ft |
| BW = | | feet |
| SS1 = | | :1 |
| SS2 = | | :1 |
| D = | | feet |

Where:

| | |
|---|---|
| V = | Velocity in feet per second |
| n = | Manning's n value from Table T-3 |
| R = | Hydraulic Radius (A/P) |
| A = | Cross sectional flow area in square feet |
| P = | Wetted perimeter in feet |
| S = | Slope in ft/ft |
| BW = | Channel bottom width |
| SS1 = | Side slope left in x:1 |
| SS2 = | Side slope right in x:1 |
| D= | Flow depth in feet |

$T_c = t_1+t_2+t_3 =$ 6.8 minutes

## Table T-1
## Overland Flow Manning's n Values

| | Value | Recommended Range of Values |
|---|---|---|
| Concrete | 0.011 | 0.010 -0.013 |
| Asphalt | 0.012 | 0.010 -0.015 |
| Bare sand [a] | 0.010 | 0.010 -0.016 |
| Graveled surface [a] | 0.012 | 0.012 -0.030 |
| Bare clay-loam (eroded) [a] | 0.012 | 0.012 -0.033 |
| Fallow (no residue) [b] | 0.05 | 0.006 -0.16 |
| Chisel plow (<1/4 tons/acre residue) | 0.07 | 0.006 -0.17 |
| Chisel plow (1/4 - 1 tons/acre residue) | 0.18 | 0.070 -0.34 |
| Chisel plow (1 - 3 tons/acre residue) | 0.30 | 0.190 -0.47 |
| Chisel plow (>3 tons/acre residue) | 0.40 | 0.340 -0.46 |
| Disk/Harrow (<1/4 tons/acre residue) | 0.08 | 0.008 -0.41 |
| Disk/Harrow (1/4 - 1 tons/acre residue) | 0.16 | 0.100 -0.25 |
| Disk/Harrow (1 - 3 tons/acre residue) | 0.25 | 0.140 -0.53 |
| Disk/Harrow (>3 tons/acre residue) | 0.30 | – – |
| No till (</4 tons/acre residue) | 0.04 | 0.030 -0.07 |
| No till (1/4 - 1 tons/acre residue) | 0.07 | 0.010 -0.13 |
| No till (1 - 3 tons/acre residue) | 0.30 | 0.160 -0.47 |
| Plow (Fall) | 0.06 | 0.020 -0.10 |
| Coulter | 0.10 | 0.050 -0.13 |
| Range (natural) | 0.13 | 0.010 -0.32 |
| Range (clipped) | 0.08 | 0.020 -0.24 |
| Grass (bluegrass sod) | 0.45 | 0.390 -0.63 |
| Short grass prairie [a] | 0.15 | 0.100 -0.20 |
| Dense grass [c] | 0.24 | 0.170 -0.30 |
| Bermuda grass [c] | 0.41 | 0.300 -0.48 |
| Woods | 0.45 | – – |

All values are from Engman (1983), unless noted otherwise.

[a] Woolhiser (1975).

[b] Fallow has been idle for one year and is fairly smooth.

[c] Palmer (1946). Weeping love grass, bluegrass, buffalo grass, blue gamma grass, native grass mix (OK), alfalfa, lespedeza.

Note: These values were determined specifically for overland flow conditions and are not appropriate for conventional open channel flow calculations. See the open channel handbook for open channel flow procedures.

**Figure 15–4** Velocity versus slope for shallow concentrated flow

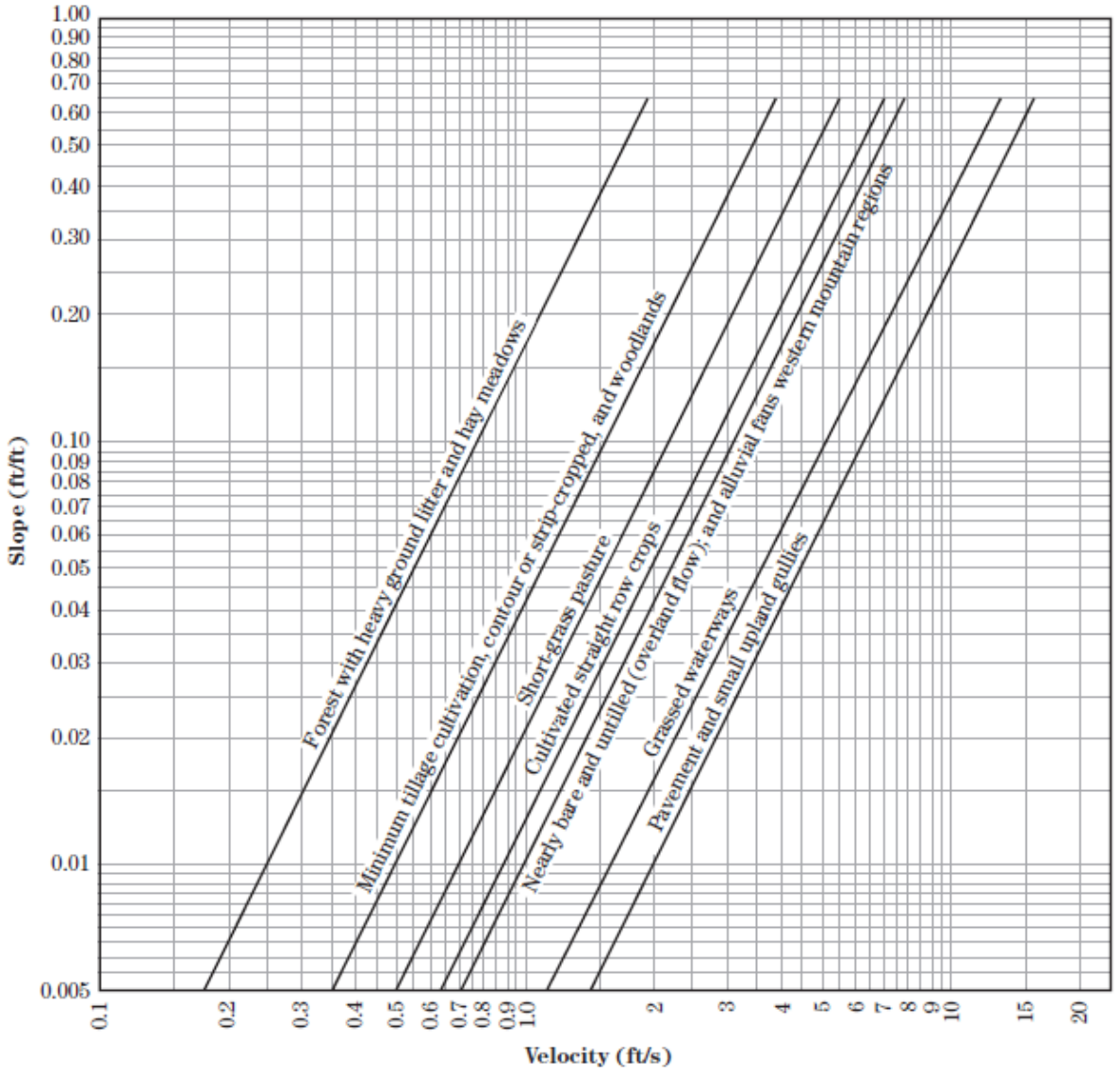


**Table 15–3** Equations and assumptions developed from figure 15–4

| Flow type | Depth (ft) | Manning's *n* | Velocity equation (ft/s) |
|---|---|---|---|
| Pavement and small upland gullies | 0.2 | 0.025 | $V = 20.328(s)^{0.5}$ |
| Grassed waterways | 0.4 | 0.050 | $V = 16.135(s)^{0.5}$ |
| Nearly bare and untilled (overland flow); and alluvial fans in western mountain regions | 0.2 | 0.051 | $V = 9.965(s)^{0.5}$ |
| Cultivated straight row crops | 0.2 | 0.058 | $V = 8.762(s)^{0.5}$ |
| Short-grass pasture | 0.2 | 0.073 | $V = 6.962(s)^{0.5}$ |
| Minimum tillage cultivation, contour or strip-cropped, and woodlands | 0.2 | 0.101 | $V = 5.032(s)^{0.5}$ |
| Forest with heavy ground litter and hay meadows | 0.2 | 0.202 | $V = 2.516(s)^{0.5}$ |

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# Table T-3
# Recommended Manning's n Values for Artificial Channels with Various Linings

| Channel Lining | Lining Description | Design Manning's n Value |
|---|---|---|
| **Bare Earth or Vegetative Linings** | | |
| Bare earth, fairly uniform | Clean, recently completed | 0.022 |
| Bare earth, fairly uniform | Short grass and some weeds | 0.028 |
| Dragline excavated | No vegetation | 0.030 |
| Dragline excavated | Light brush | 0.040 |
| Channels not maintained | Dense weeds to flow depth | 0.100 |
| Channels not maintained | Clear bottom, brush sides | 0.080 |
| Maintained grass or sodded ditches | Good stand, well maintained 2" - 6" | 0.060* |
| Maintained grass or sodded ditches | Fair stand, length 12" - 24" | 0.200* |
| **Rigid Linings** | | |
| Concrete paved | Broomed** | 0.016 |
| Concrete paved | "Roughened" - standard | 0.020 |
| Concrete paved | Gunite | 0.020 |
| Concrete paved | Over rubble | 0.023 |
| Asphalt concrete | Smooth | 0.013 |
| Asphalt concrete | Rough | 0.016 |

* Decrease 30% for flows > 0.7' (maximum flow depth 1.5').

** Because this is not the standard finish, it must be specified.

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# OTHER MANNINGS "N" COEFFICIENTS USED IN DESIGN

Table 3-5 **Estimates of Manning's roughness coefficient for overland flow**

| Source | Ground Cover | n | Range |
|---|---|---|---|
| Crawford and Linsley (1966)[a] | Smooth asphalt | 0.01 | |
| | Asphalt of concrete paving | 0.014 | |
| | Packed clay | 0.03 | |
| | Light turf | 0.20 | |
| | Dense turf | 0.35 | |
| | Dense shrubbery and forest litter | 0.4 | |
| Engman (1986)[b] | Concrete or asphalt | 0.01 I | 0.010-0.013 |
| | Bare sand | 0.010 | 0.01-0.016 |
| | Graveled surface | 0.02 | 0.012-0.03 |
| | Bare clay-loam (eroded) | 0.02 | 0.012-0.033 |
| | Range (natural) | 0.13 | 0.01-0.32 |
| | Bluegrass sod | 0.45 | 0.39-0.63 |
| | Short grass prairie | 0.15 | 0.10-0.20 |
| | Bermuda grass | 0.41 | 0.30-0.48 |
| Yen (2001)[c] | Smooth asphalt pavement | 0.012 | 0.010-0.015 |
| | Smooth impervious surface | 0.013 | 0.011-0.015 |
| | Tar and sand pavement | 0.014 | 0.012-0.016 |
| | Concrete pavement | 0.017 | 0.014-0.020 |
| | Rough impervious surface | 0.019 | 0.015-0.023 |
| | Smooth bare packed soil | 0.021 | 0.017-0.025 |
| | Moderate bare packed soil | 0.030 | 0.025-0.035 |
| | Rough bare packed soil | 0.038 | 0.032-0.045 |
| | Gravel soil | 0.032 | 0.025-0.045 |
| | Mowed poor grass | 0.038 | 0.030-0.045 |
| | Average grass, closely clipped sod | 0.050 | 0.040-0.060 |
| | Pasture | 0.055 | 0.040-0.070 |
| | Timberland | 0.090 | 0.060-0.120 |
| | Dense grass | 0.090 | 0.060-0.120 |
| | Shrubs and bushes | 0.120 | 0.080-0.180 |
| | Business land use | 0.022 | 0.014-0.035 |
| | Semi-business land use | 0.035 | 0.022-0.050 |
| | Industrial land use | 0.035 | 0.020-0.050 |
| | Dense residential land use | 0.040 | 0.025-0.060 |
| | Suburban residential land use | 0.055 | 0.030-0.080 |
| | Parks and lawns | 0.075 | 0.040-0.120 |

'Obtained by calibration of Stanford Watershed Model.
[b]Computed by Engman (1986) by kinematic wave and storage analysis of measured rainfall-runoff data.
'Computed on basis of Cinematic wave analysis.

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# WET POND DESIGN

## PERMANENT POOL CALCULATIONS

LITTORAL ZONE
- ○ Yes
- ○ No

INCREASE RESIDENCE TIME BY 50% TO 21 DAYS WITHOUT A LITTORAL ZONE

MINIMUM PERMANENT POOL VOLUME $= DA \times C_{PST} \times \frac{WSR}{12} \times \frac{RT}{WSD}$

| | | | | |
|---|---|---|---|---|
| where: | DA = | Drainage Area (ft²) | => | 63597.60 |
| | $C_{PST}$ = | Post-Developed Runoff Coefficient | => | 0.54 |
| | WSR = | Wet Season Rainfall (inches) | => | 30 |
| | RT = | Residence Time (days) | => | 21 |
| | WSD = | Wet Season Duration (days) | => | 153 |
| | MINIMUM PERMANENT POOL VOLUME | | => | 11791 |
| | PROVIDED PERMANENT POOL VOLUME | | => | 17591 |

| | ELEV (ft) | AREA (ft²) |
|---|---|---|
| TOP OF PERMANENT POOL | 160.25 | 5818 |
| BOTTOM OF WET DETENTION BASIN | 155.05 | 955 |

OK

## BLEED-DOWN ORIFICE CALCULATIONS

- ◉ Suwannee River Water Management District
- ○ Northwest Florida Water Management District
- ○ St. Johns River Water Management District

- ○ Discharge to other than OFW or active sink
- ○ Discharge to OFW
- ◉ Discharge to active sink

WATER QUALITY REQUIREMENT: RUNOFF FROM THE FIRST TWO INCHES OF RAINFALL

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WATER QUALITY VOLUME REQUIRED = 5727

WATER QUALITY VOLUME PROVIDED = 6836

| | ELEV (ft) | AREA ($ft^2$) |
|---|---|---|
| TOP OF WATER QUALITY VOLUME | 161.25 | 7868.00 |
| BLEED-DOWN ORIFICE | 160.25 | 5818 |

DRAWDOWN DEPTH (ft) = 1.00

ONE HALF OF WATER QUALITY VOLUME = 3418.073349

MINIMUM FLOW RATE (60 HOURS) = 0.016 cfs

MAXIMUM FLOW RATE (48 HOURS) = 0.020 cfs

MINIMUM ORIFICE AREA = 0.0060 $ft^2$ 1.04 in. diam.

MAXIMUM ORIFICE AREA = 0.0074 $ft^2$ 1.17 in. diam.

SELECTED ORIFICE AREA = 0.0000 $ft^2$

SELECTED ORIFICE DIAM. = inches

PERMANENT POOL VOLUMES

| ELEV (ft) | AREA ($ft^2$) | VOL (CF) | T VOL (CF) |
|---|---|---|---|
| 160.25 | 5818 | 599.41 | 17591.43 |
| 160.15 | 5720.74 | 589.30 | 16992.02 |
| 160.04 | 5623.48 | 579.20 | 16402.72 |
| 159.94 | 5526.22 | 569.09 | 15823.52 |
| 159.83 | 5428.96 | 558.99 | 15254.43 |
| 159.73 | 5331.70 | 548.88 | 14695.44 |
| 159.63 | 5234.44 | 538.78 | 14146.56 |
| 159.52 | 5137.18 | 528.67 | 13607.78 |
| 159.42 | 5039.92 | 518.57 | 13079.11 |
| 159.31 | 4942.66 | 508.46 | 12560.55 |
| 159.21 | 4845.40 | 498.36 | 12052.08 |
| 159.11 | 4748.14 | 488.25 | 11553.73 |
| 159.00 | 4650.88 | 478.15 | 11065.48 |
| 158.90 | 4553.62 | 468.04 | 10587.33 |
| 158.79 | 4456.36 | 457.94 | 10119.29 |

WATER QUALITY VOLUMES

| ELEV (ft) | AREA ($ft^2$) | VOL (CF) | T VOL (CF) |
|---|---|---|---|
| 161.25 | 7868 | 156.79 | 6836.15 |
| 161.23 | 7827.00 | 155.97 | 6679.35 |
| 161.21 | 7786.00 | 155.15 | 6523.38 |
| 161.19 | 7745.00 | 154.34 | 6368.23 |
| 161.17 | 7704.00 | 153.52 | 6213.89 |
| 161.15 | 7663.00 | 152.70 | 6060.37 |
| 161.13 | 7622.00 | 151.88 | 5907.68 |
| 161.11 | 7581.00 | 151.06 | 5755.80 |
| 161.09 | 7540.00 | 150.24 | 5604.74 |
| 161.07 | 7499.00 | 149.42 | 5454.50 |
| 161.05 | 7458.00 | 148.60 | 5305.08 |
| 161.03 | 7417.00 | 147.78 | 5156.48 |
| 161.01 | 7376.00 | 146.96 | |
| 160.99 | 7335.00 | 146.14 | 4861.74 |
| 160.97 | 7294.00 | 145.32 | 4715.59 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 158.69 | 4359.10 | 447.83 | 9661.35 | 160.95 | 7253.00 | 144.51 | 4570.27 |
| 158.59 | 4261.84 | 437.73 | 9213.52 | 160.93 | 7212.00 | 143.69 | 4425.76 |
| 158.48 | 4164.58 | 427.62 | 8775.79 | 160.91 | 7171.00 | 142.87 | 4282.08 |
| 158.38 | 4067.32 | 417.52 | 8348.17 | 160.89 | 7130.00 | 142.05 | 4139.21 |
| 158.27 | 3970.06 | 407.41 | 7930.66 | 160.87 | 7089.00 | 141.23 | 3997.16 |
| 158.17 | 3872.80 | 397.31 | 7523.25 | 160.85 | 7048.00 | 140.41 | 3855.93 |
| 158.07 | 3775.54 | 387.20 | 7125.94 | 160.83 | 7007.00 | 139.59 | 3715.52 |
| 157.96 | 3678.28 | 377.09 | 6738.74 | 160.81 | 6966.00 | 138.77 | 3575.93 |
| 157.86 | 3581.02 | 366.99 | 6361.65 | 160.79 | 6925.00 | 137.95 | 3437.16 |
| 157.75 | 3483.76 | 356.88 | 5994.66 | 160.77 | 6884.00 | 137.13 | 3299.21 |
| 157.65 | 3386.50 | 346.78 | 5637.77 | 160.75 | 6843.00 | 136.31 | 3162.08 |
| 157.55 | 3289.24 | 336.67 | 5290.99 | 160.73 | 6802.00 | 135.49 | 3025.77 |
| 157.44 | 3191.98 | 326.57 | 4954.32 | 160.71 | 6761.00 | 134.67 | 2890.27 |
| 157.34 | 3094.72 | 316.46 | 4627.75 | 160.69 | 6720.00 | 133.86 | 2755.60 |
| 157.23 | 2997.46 | 306.36 | 4311.29 | 160.67 | 6679.00 | 133.04 | 2621.74 |
| 157.13 | 2900.20 | 296.25 | 4004.93 | 160.65 | 6638.00 | 132.22 | 2488.70 |
| 157.03 | 2802.94 | 286.15 | 3708.68 | 160.63 | 6597.00 | 131.40 | 2356.49 |
| 156.92 | 2705.68 | 276.04 | 3422.53 | 160.61 | 6556.00 | 130.58 | 2225.09 |
| 156.82 | 2608.42 | 265.94 | 3146.49 | 160.59 | 6515.00 | 129.76 | 2094.51 |
| 156.71 | 2511.16 | 255.83 | 2880.55 | 160.57 | 6474.00 | 128.94 | 1964.75 |
| 156.61 | 2413.90 | 245.72 | 2624.72 | 160.55 | 6433.00 | 128.12 | 1835.81 |
| 156.51 | 2316.64 | 235.62 | 2379.00 | 160.53 | 6392.00 | 127.30 | 1707.69 |
| 156.40 | 2219.38 | 225.51 | 2143.38 | 160.51 | 6351.00 | 126.48 | 1580.39 |
| 156.30 | 2122.12 | 215.41 | 1917.87 | 160.49 | 6310.00 | 125.66 | 1453.90 |
| 156.19 | 2024.86 | 205.30 | 1702.46 | 160.47 | 6269.00 | 124.84 | 1328.24 |
| 156.09 | 1927.60 | 195.20 | 1497.16 | 160.45 | 6228.00 | 124.03 | 1203.39 |
| 155.99 | 1830.34 | 185.09 | 1301.96 | 160.43 | 6187.00 | 123.21 | 1079.37 |
| 155.88 | 1733.08 | 174.98 | 1116.87 | 160.41 | 6146.00 | 122.39 | 956.16 |
| 155.78 | 1635.82 | 164.88 | 941.89 | 160.39 | 6105.00 | 121.57 | 833.77 |
| 155.67 | 1538.56 | 154.77 | 777.01 | 160.37 | 6064.00 | 120.75 | 712.21 |
| 155.57 | 1441.30 | 144.66 | 622.24 | 160.35 | 6023.00 | 119.93 | 591.46 |
| 155.47 | 1344.04 | 134.56 | 477.58 | 160.33 | 5982.00 | 119.11 | 471.53 |
| 155.36 | 1246.78 | 124.45 | 343.02 | 160.31 | 5941.00 | 118.29 | 352.42 |
| 155.26 | 1149.52 | 114.34 | 218.57 | 160.29 | 5900.00 | 117.47 | 234.13 |
| 155.15 | 1052.26 | 104.23 | 104.23 | 160.27 | 5859.00 | 116.65 | 116.65 |
| 155.05 | 955.00 | 0.00 | 0.00 | 160.25 | 5818.00 | 0.00 | 0.00 |

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# PRE-DEVELOPMENT MODELING DATA

**PONDS Version 3.3.0278**
**Retention Pond Recovery - Refined Method**
**Copyright 2012**
**Devo Seereeram, Ph.D., P.E.**

## Project Data

| | |
|---|---|
| Project Name: | Florida Gateway Drive RV Park North Pond |
| Simulation Description: | Pre- Development Basin |
| Project Number: | L210121SHA |
| Engineer : | Dalton Kurtz |
| Supervising Engineer: | Terry White |
| Date: | 10-31-2022 |

## Aquifer Data

| | |
|---|---|
| Base Of Aquifer Elevation, [B] (ft datum): | 158.04 |
| Water Table Elevation, [WT] (ft datum): | 158.05 |
| Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): | 13.65 |
| Fillable Porosity, [n] (%): | 25.00 |

Vertical infiltration was not considered.

## Ditch Data

Ditch (or interceptor trench) parallel to length axis is inactive

Ditch (or interceptor trench) parallel to width axis is inactive

## Scenario Input Data

*Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr*

Hydrograph Type: Inline SCS
• **Modflow Routing: Not routed**
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.450 |
| Time Of Concentration (minutes) | 12.4 |
| DCIA (%) | 0.0 |
| Curve Number | 80 |
| Design Rainfall Depth (inches) | 4.2 |
| Design Rainfall Duration (hours) | 1.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 1 Hour |

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

*Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr*

Hydrograph Type: Inline SCS
• **Modflow Routing: Not routed**
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.450 |
| Time Of Concentration (minutes) | 12.4 |
| DCIA (%) | 0.0 |
| Curve Number | 80 |
| Design Rainfall Depth (inches) | 5.1 |
| Design Rainfall Duration (hours) | 2.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 2 Hour |

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

*Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr*

Hydrograph Type: Inline SCS
• **Modflow Routing: Not routed**
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.450 |
| Time Of Concentration (minutes) | 12.4 |
| DCIA (%) | 0.0 |
| Curve Number | 80 |
| Design Rainfall Depth (inches) | 6.1 |
| Design Rainfall Duration (hours) | 4.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 4 Hour |

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

## Scenario Input Data (cont'd.)

*Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr*

Hydrograph Type: Inline SCS
• **Modflow Routing: Not routed**
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.450 |
| Time Of Concentration (minutes) | 12.4 |
| DCIA (%) | 0.0 |
| Curve Number | 80 |
| Design Rainfall Depth (inches) | 7.4 |
| Design Rainfall Duration (hours) | 8.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 8 Hour |

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

*Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr*

Hydrograph Type: Inline SCS
• **Modflow Routing: Not routed**
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.450 |
| Time Of Concentration (minutes) | 12.4 |
| DCIA (%) | 0.0 |
| Curve Number | 80 |
| Design Rainfall Depth (inches) | 9.8 |
| Design Rainfall Duration (hours) | 24.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 24 Hour |

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

*Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr*

Hydrograph Type: Inline SCS
• **Modflow Routing: Not routed**
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.450 |
| Time Of Concentration (minutes) | 12.4 |
| DCIA (%) | 0.0 |
| Curve Number | 80 |
| Design Rainfall Depth (inches) | 12.4 |
| Design Rainfall Duration (hours) | 72.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 72 Hour |

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

## Scenario Input Data (cont'd.)

*Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr*

Hydrograph Type: Inline SCS
• **Modflow Routing: Not routed**
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.450 |
| Time Of Concentration (minutes) | 12.4 |
| DCIA (%) | 0.0 |
| Curve Number | 80 |
| Design Rainfall Depth (inches) | 14.0 |
| Design Rainfall Duration (hours) | 168.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 168 Hour |

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

*Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr*

Hydrograph Type: Inline SCS
• **Modflow Routing: Not routed**
Repetitions: 1

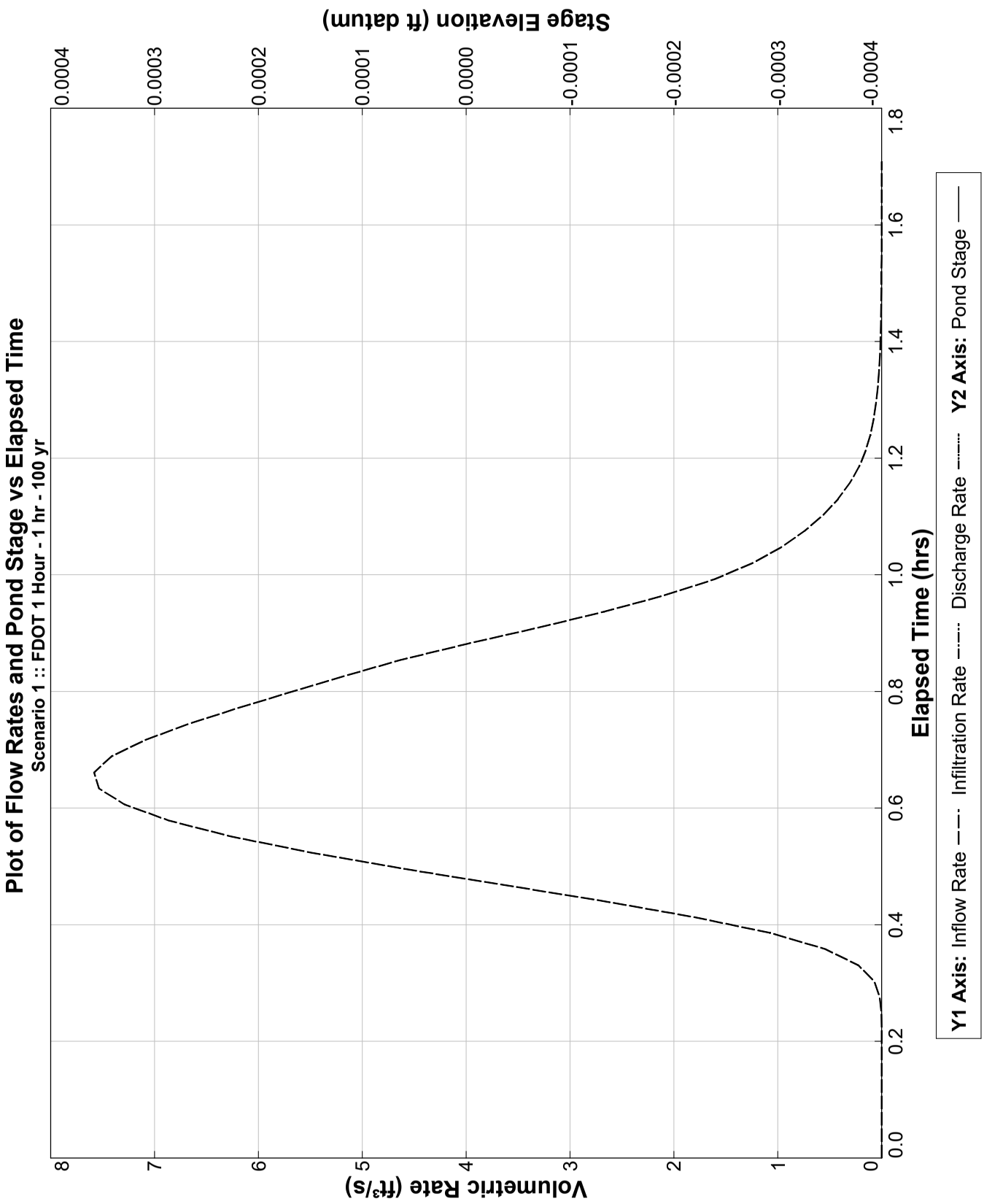
| | |
|---|---|
| Basin Area (acres) | 1.450 |
| Time Of Concentration (minutes) | 12.4 |
| DCIA (%) | 0.0 |
| Curve Number | 80 |
| Design Rainfall Depth (inches) | 16.1 |
| Design Rainfall Duration (hours) | 240.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 240 Hour |

Initial ground water level (ft datum) 158.05 (default)

No times after storm specified.

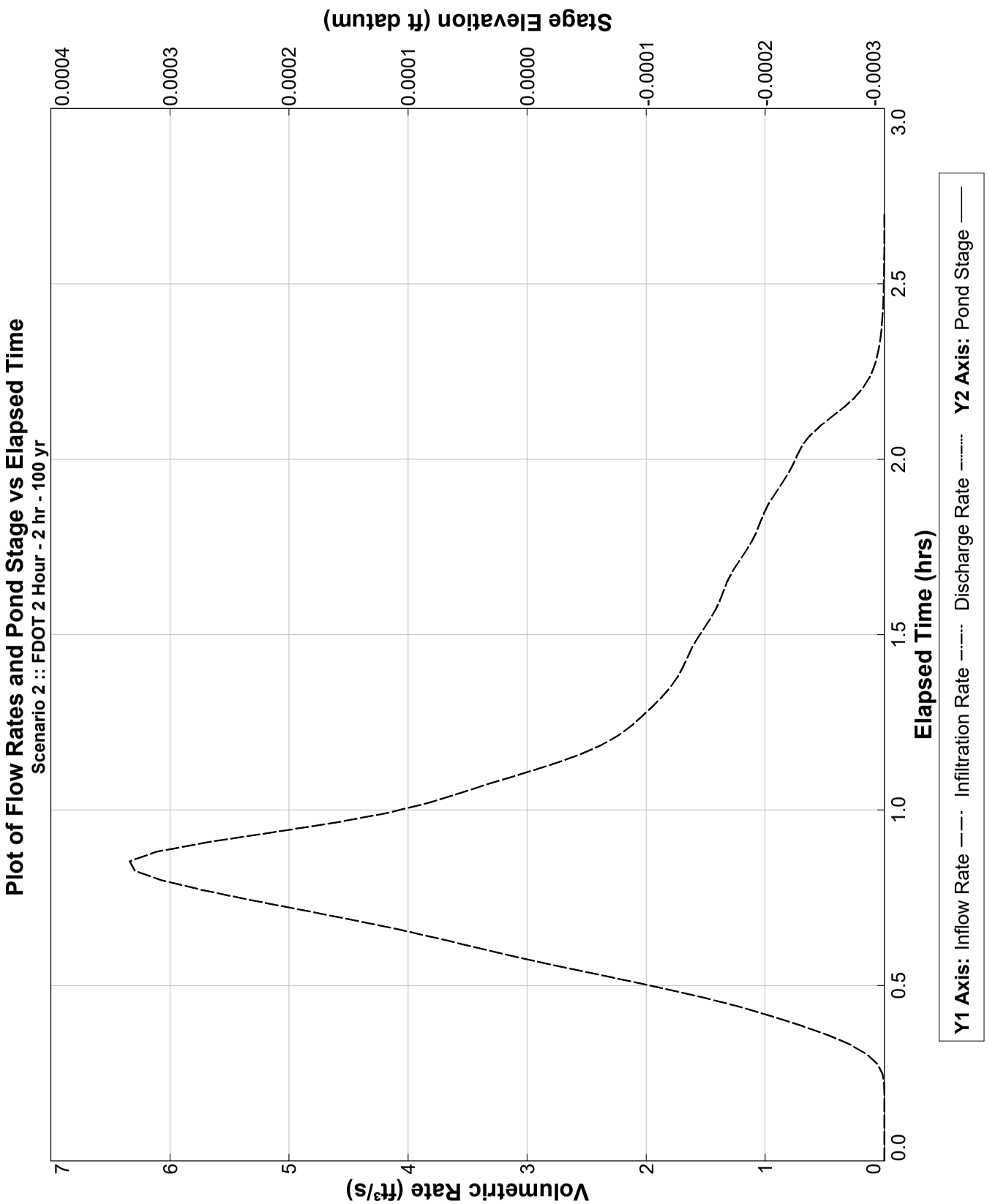
**Summary of Results** *:: Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | Not Available | Not Available | | |
| Maximum | Not Available | Not Available | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 0.661 | | 7.5822 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 1.681 | | | 11627.6 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 1.708 | | | 11627.6 |
| Infiltration | | | | |
| Rate - Maximum - Positive | Not Available | | Not Available | |
| Rate - Maximum - Negative | Not Available | | Not Available | |
| Cumulative Volume - Maximum Positive | Not Available | | | Not Available |
| Cumulative Volume - Maximum Negative | Not Available | | | Not Available |
| Cumulative Volume - End of Simulation | Not Available | | | Not Available |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 0.661 | | 7.5822 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 1.681 | | | 11627.6 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 1.708 | | | 11627.6 |
| Discharge Structure 1 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 2 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 1 :: FDOT 1 Hour - 1 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0.0004
0.0003
0.0002
0.0001
0.0000
-0.0001
-0.0002
-0.0003
-0.0004
0
1
2
3
4
5
6
7
8
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
Y1 Axis: Inflow Rate —-—- Infiltration Rate —-·-·- Discharge Rate ·····
Y2 Axis: Pond Stage ——

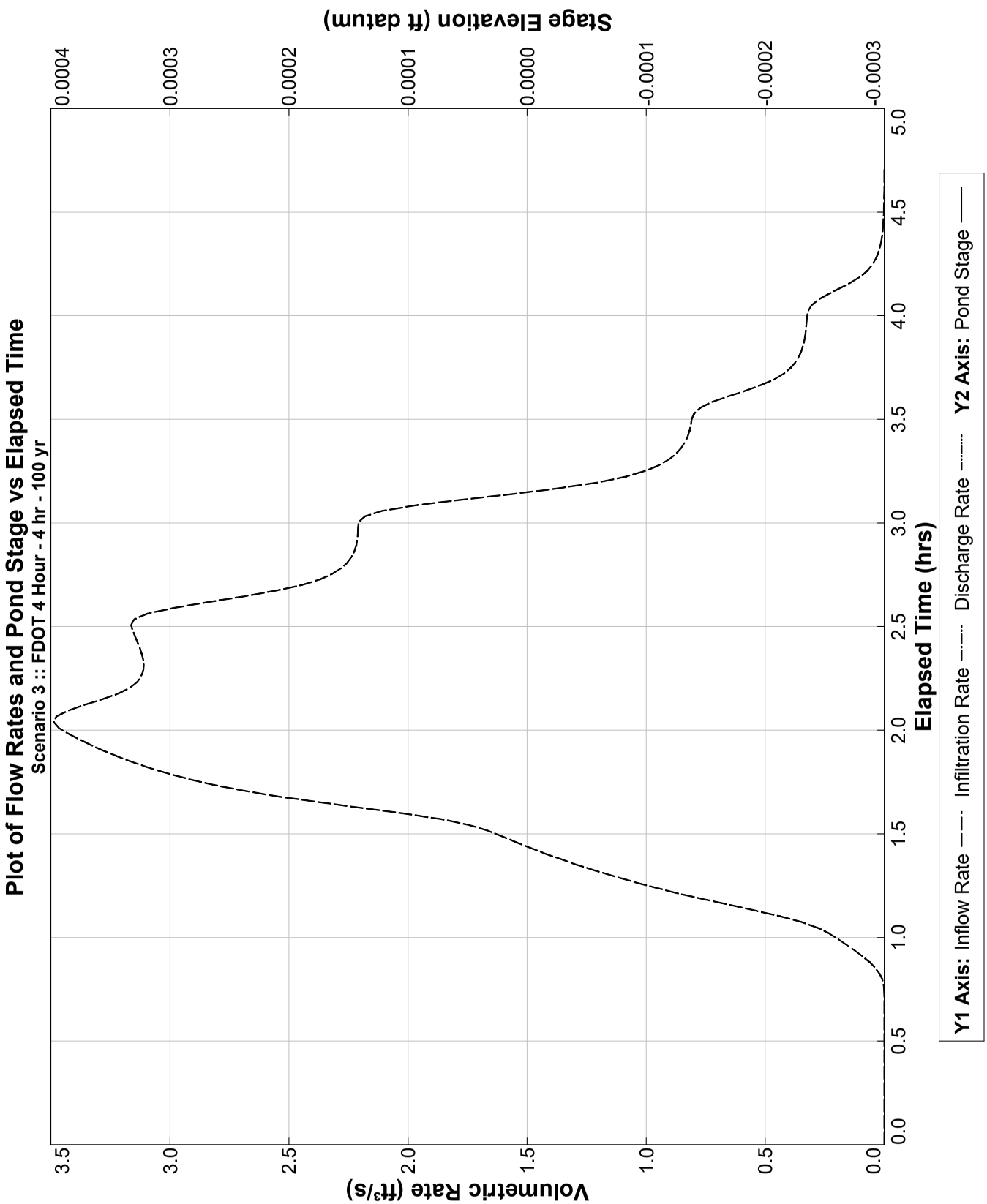
**Summary of Results** *:: Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | Not Available | Not Available | | |
| Maximum | Not Available | Not Available | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 0.854 | | 6.3374 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 2.673 | | | 15694.1 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 2.700 | | | 15694.1 |
| Infiltration | | | | |
| Rate - Maximum - Positive | Not Available | | Not Available | |
| Rate - Maximum - Negative | Not Available | | Not Available | |
| Cumulative Volume - Maximum Positive | Not Available | | | Not Available |
| Cumulative Volume - Maximum Negative | Not Available | | | Not Available |
| Cumulative Volume - End of Simulation | Not Available | | | Not Available |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 0.854 | | 6.3374 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 2.673 | | | 15694.1 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 2.700 | | | 15694.1 |
| Discharge Structure 1 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 2 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 2 :: FDOT 2 Hour - 2 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0
1
2
3
4
5
6
7
0.0004
0.0003
0.0002
0.0001
0.0000
-0.0001
-0.0002
-0.0003
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Y1 Axis: Inflow Rate
Infiltration Rate
Discharge Rate
Y2 Axis: Pond Stage

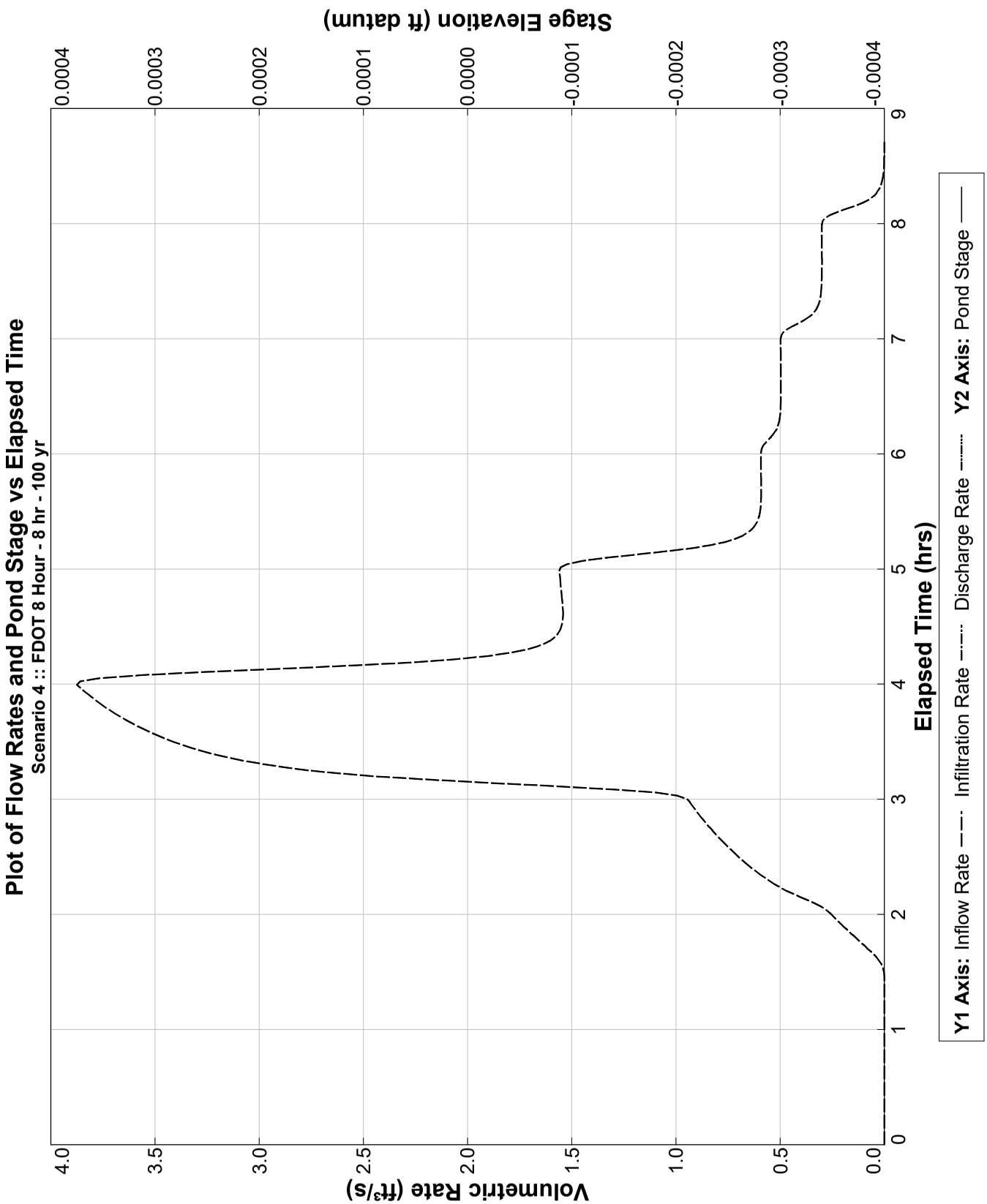
**Summary of Results** *:: Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | Not Available | Not Available | | |
| Maximum | Not Available | Not Available | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 2.039 | | 3.4874 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 4.684 | | | 20292.5 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 4.712 | | | 20292.5 |
| Infiltration | | | | |
| Rate - Maximum - Positive | Not Available | | Not Available | |
| Rate - Maximum - Negative | Not Available | | Not Available | |
| Cumulative Volume - Maximum Positive | Not Available | | | Not Available |
| Cumulative Volume - Maximum Negative | Not Available | | | Not Available |
| Cumulative Volume - End of Simulation | Not Available | | | Not Available |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 2.039 | | 3.4874 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 4.684 | | | 20292.5 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 4.712 | | | 20292.5 |
| Discharge Structure 1 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 2 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 3 :: FDOT 4 Hour - 4 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
0.0004
0.0003
0.0002
0.0001
0.0000
-0.0001
-0.0002
-0.0003
Y1 Axis: Inflow Rate —·— Infiltration Rate – – – Discharge Rate ····· Y2 Axis: Pond Stage ——

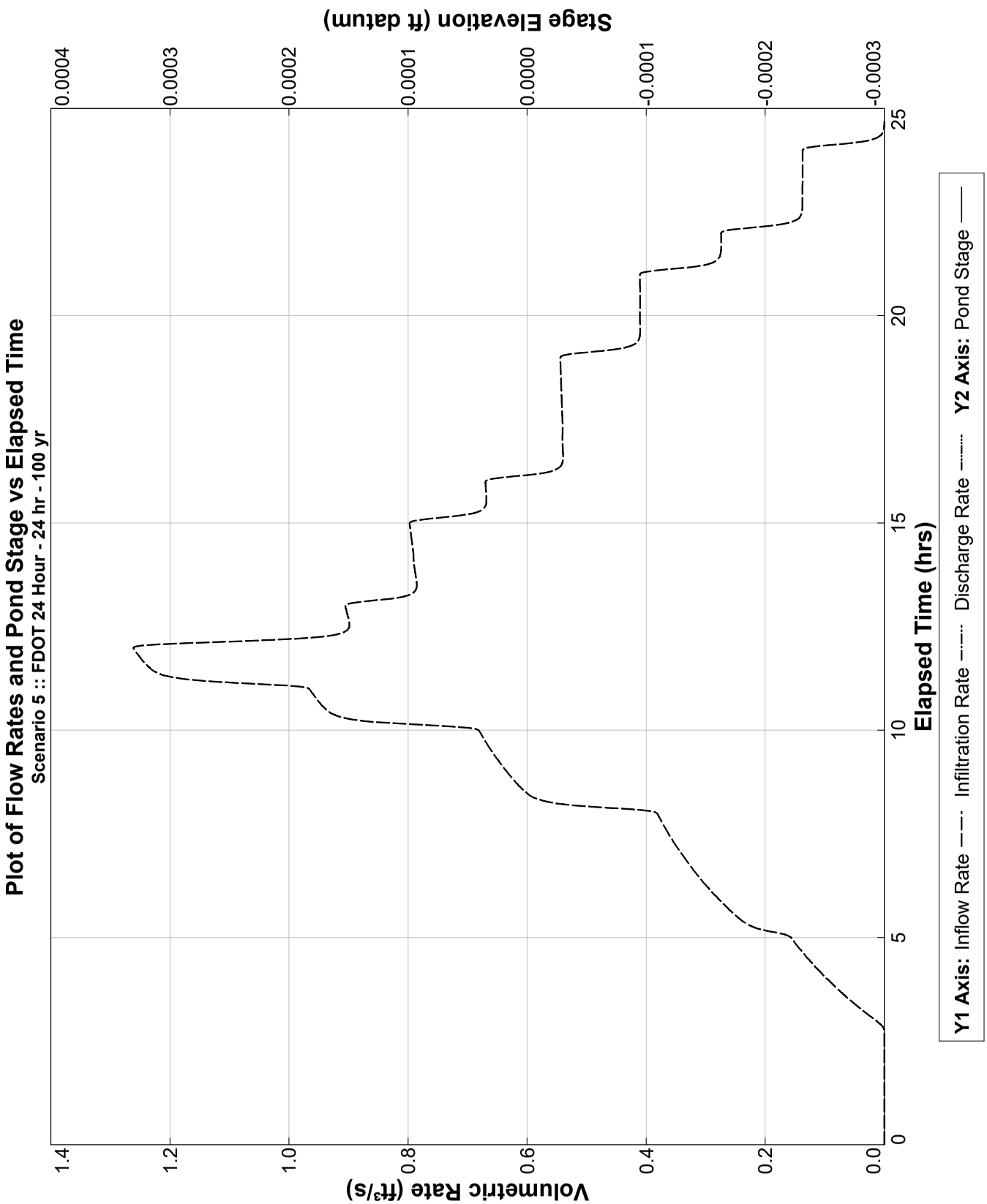
**Summary of Results** *:: Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | Not Available | Not Available | | |
| Maximum | Not Available | Not Available | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 3.996 | | 3.8751 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 8.680 | | | 26475.9 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 8.708 | | | 26475.9 |
| Infiltration | | | | |
| Rate - Maximum - Positive | Not Available | | Not Available | |
| Rate - Maximum - Negative | Not Available | | Not Available | |
| Cumulative Volume - Maximum Positive | Not Available | | | Not Available |
| Cumulative Volume - Maximum Negative | Not Available | | | Not Available |
| Cumulative Volume - End of Simulation | Not Available | | | Not Available |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 3.996 | | 3.8751 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 8.680 | | | 26475.9 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 8.708 | | | 26475.9 |
| Discharge Structure 1 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 2 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 4 :: FDOT 8 Hour - 8 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
0.0004
0.0003
0.0002
0.0001
0.0000
-0.0001
-0.0002
-0.0003
-0.0004
0
1
2
3
4
5
6
7
8
9
Y1 Axis: Inflow Rate —·— Infiltration Rate —·-·— Discharge Rate ·····
Y2 Axis: Pond Stage ——

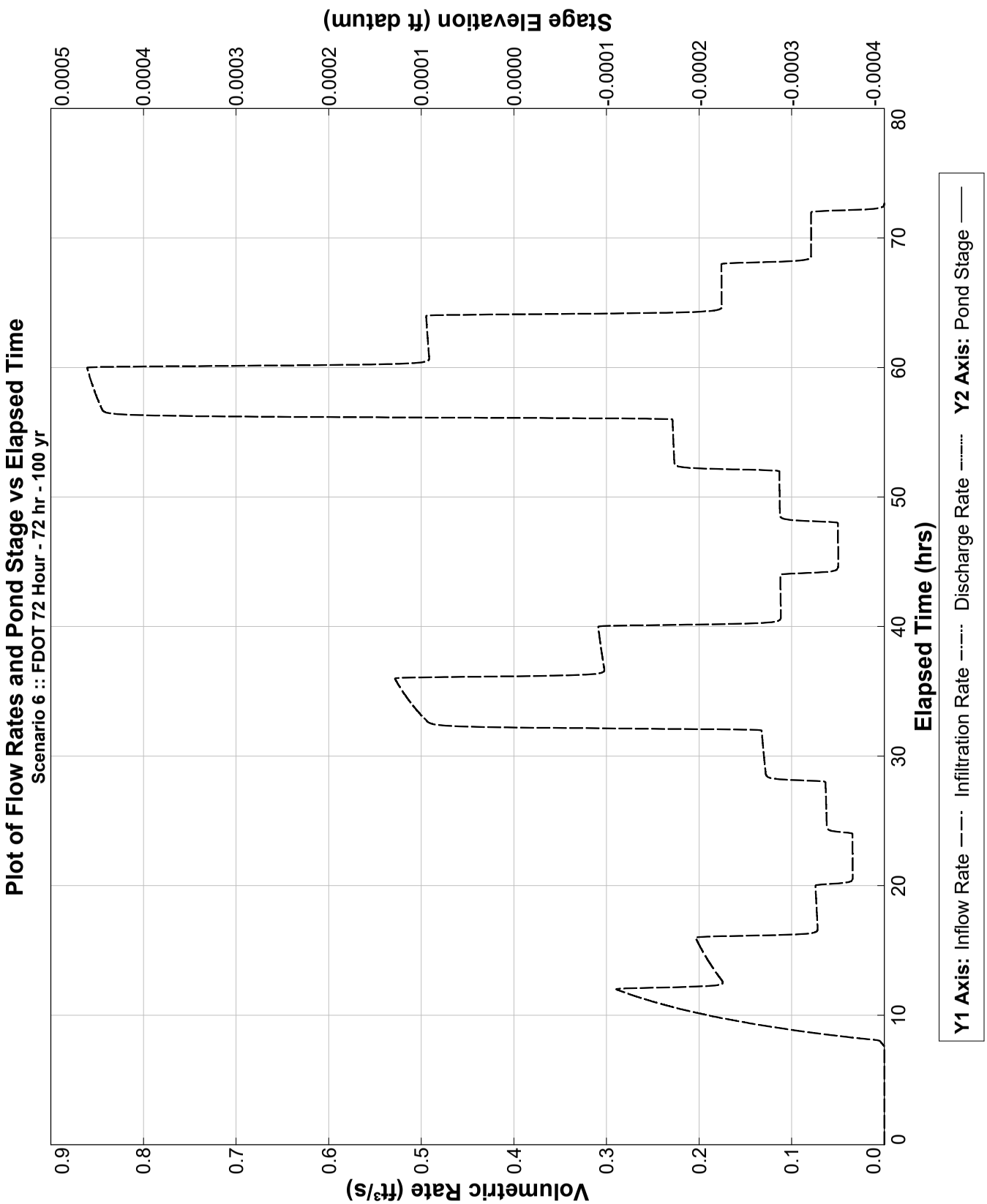
**Summary of Results** *:: Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | Not Available | Not Available | | |
| Maximum | Not Available | Not Available | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 11.987 | | 1.2618 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 24.662 | | | 38799.0 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 24.690 | | | 38799.0 |
| Infiltration | | | | |
| Rate - Maximum - Positive | Not Available | | Not Available | |
| Rate - Maximum - Negative | Not Available | | Not Available | |
| Cumulative Volume - Maximum Positive | Not Available | | | Not Available |
| Cumulative Volume - Maximum Negative | Not Available | | | Not Available |
| Cumulative Volume - End of Simulation | Not Available | | | Not Available |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 11.987 | | 1.2618 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 24.662 | | | 38799.0 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 24.690 | | | 38799.0 |
| Discharge Structure 1 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 2 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 5 :: FDOT 24 Hour - 24 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0.0004
0.0003
0.0002
0.0001
0.0000
-0.0001
-0.0002
-0.0003
0
5
10
15
20
25
Y1 Axis: Inflow Rate —·— Infiltration Rate —·-·— Discharge Rate ·····
Y2 Axis: Pond Stage ——

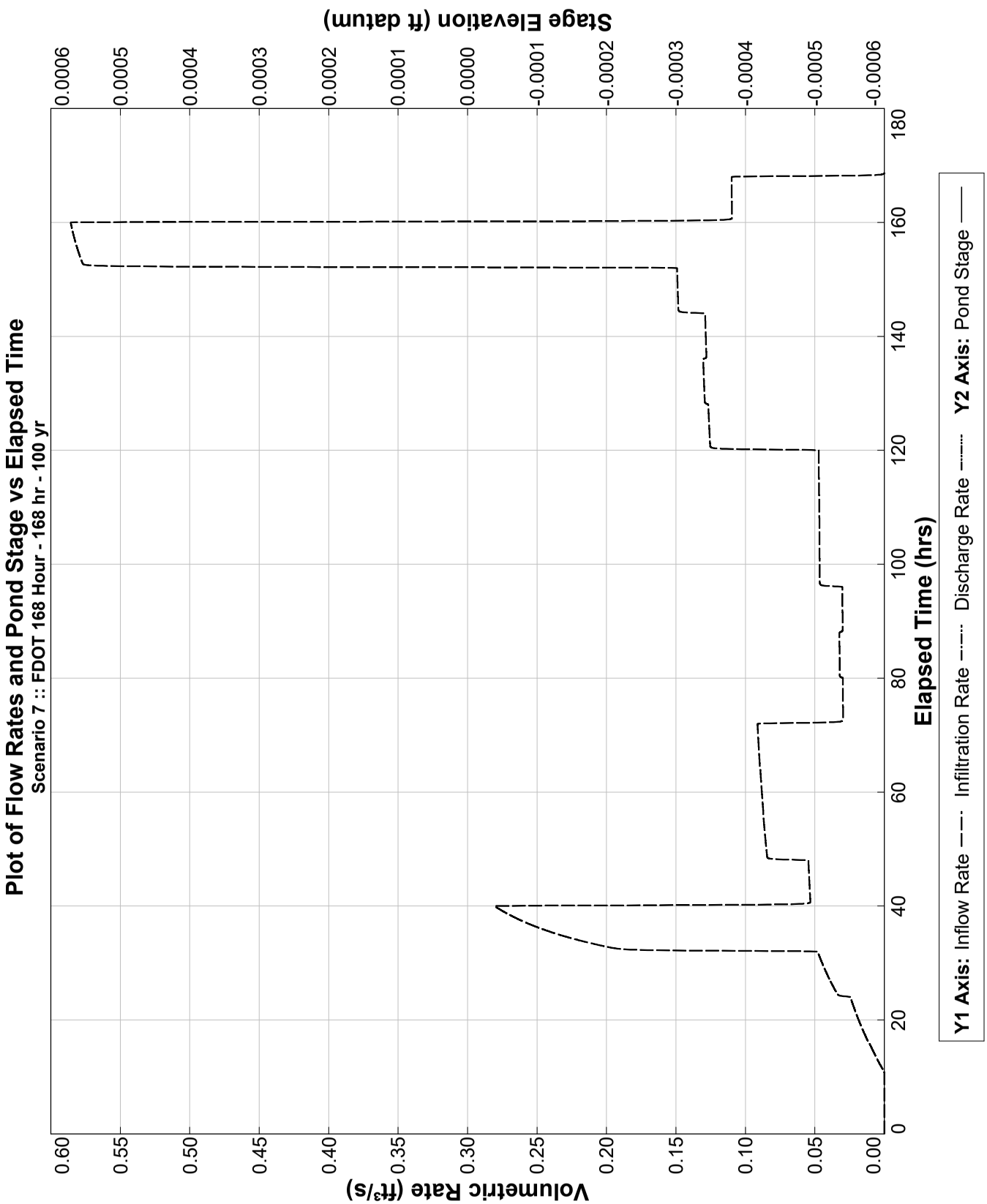
**Summary of Results** *:: Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | Not Available | Not Available | | |
| Maximum | Not Available | Not Available | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 59.988 | | 0.8608 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 72.664 | | | 51785.8 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 72.692 | | | 51785.8 |
| Infiltration | | | | |
| Rate - Maximum - Positive | Not Available | | Not Available | |
| Rate - Maximum - Negative | Not Available | | Not Available | |
| Cumulative Volume - Maximum Positive | Not Available | | | Not Available |
| Cumulative Volume - Maximum Negative | Not Available | | | Not Available |
| Cumulative Volume - End of Simulation | Not Available | | | Not Available |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 59.988 | | 0.8608 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 72.664 | | | 51785.8 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 72.692 | | | 51785.8 |
| Discharge Structure 1 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 2 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 6 :: FDOT 72 Hour - 72 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
0.0005
0.0004
0.0003
0.0002
0.0001
0.0000
-0.0001
-0.0002
-0.0003
-0.0004
0
10
20
30
40
50
60
70
80
Y1 Axis: Inflow Rate —·— Infiltration Rate —·-·— Discharge Rate ·····
Y2 Axis: Pond Stage ——

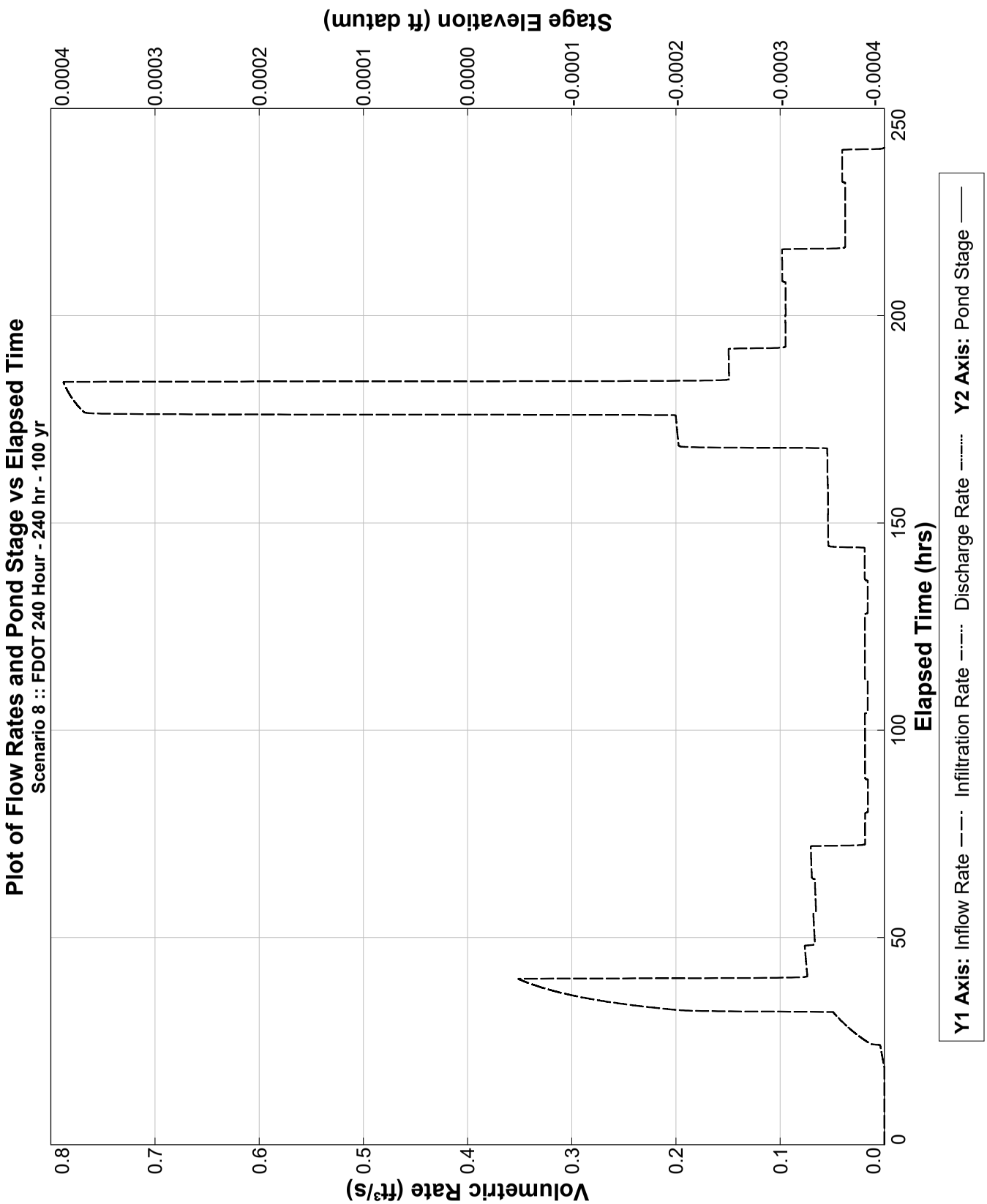
**Summary of Results** *:: Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | Not Available | Not Available | | |
| Maximum | Not Available | Not Available | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 159.988 | | 0.5858 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 168.668 | | | 59982.8 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 168.695 | | | 59982.8 |
| Infiltration | | | | |
| Rate - Maximum - Positive | Not Available | | Not Available | |
| Rate - Maximum - Negative | Not Available | | Not Available | |
| Cumulative Volume - Maximum Positive | Not Available | | | Not Available |
| Cumulative Volume - Maximum Negative | Not Available | | | Not Available |
| Cumulative Volume - End of Simulation | Not Available | | | Not Available |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 159.988 | | 0.5858 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 168.668 | | | 59982.8 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 168.695 | | | 59982.8 |
| Discharge Structure 1 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 2 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 7 :: FDOT 168 Hour - 168 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0.60
0.55
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0.0000
-0.0001
-0.0002
-0.0003
-0.0004
-0.0005
-0.0006
0
20
40
60
80
100
120
140
160
180
Y1 Axis: Inflow Rate
Infiltration Rate
Discharge Rate
Y2 Axis: Pond Stage

**Summary of Results** *:: Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | Not Available | Not Available | | |
| Maximum | Not Available | Not Available | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 183.988 | | 0.7881 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 240.670 | | | 70802.6 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 240.698 | | | 70802.6 |
| Infiltration | | | | |
| Rate - Maximum - Positive | Not Available | | Not Available | |
| Rate - Maximum - Negative | Not Available | | Not Available | |
| Cumulative Volume - Maximum Positive | Not Available | | | Not Available |
| Cumulative Volume - Maximum Negative | Not Available | | | Not Available |
| Cumulative Volume - End of Simulation | Not Available | | | Not Available |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 183.988 | | 0.7881 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 240.670 | | | 70802.6 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 240.698 | | | 70802.6 |
| Discharge Structure 1 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 2 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 8 :: FDOT 240 Hour - 240 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.0004
0.0003
0.0002
0.0001
0.0000
-0.0001
-0.0002
-0.0003
-0.0004
0
50
100
150
200
250
Y1 Axis: Inflow Rate — Infiltration Rate — Discharge Rate
Y2 Axis: Pond Stage

NFPS
PO BOX 3823
LAKE CITY, FL 32056
PHONE (386) 752-4675
FAX (386) 752-4674
www.nfps.net

# POST-DEVELOPMENT MODELING DATA

**PONDS Version 3.3.0278**
**Retention Pond Recovery - Refined Method**
**Copyright 2012**
**Devo Seereeram, Ph.D., P.E.**

## Project Data

| | |
|---|---|
| Project Name: | RV PARK POST DEVELOPMENT NORTH BASIN |
| Simulation Description: | Post Development Basin |
| Project Number: | L210112SHA |
| Engineer : | Dalton Kurtz |
| Supervising Engineer: | Terry White |
| Date: | 10-31-2022 |

## Aquifer Data

| | |
|---|---|
| Base Of Aquifer Elevation, [B] (ft datum): | 158.04 |
| Water Table Elevation, [WT] (ft datum): | 158.05 |
| Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): | 13.65 |
| Fillable Porosity, [n] (%): | 25.00 |

Vertical infiltration was not considered.

## Geometry Data

| | |
|---|---|
| Equivalent Pond Length, [L] (ft): | 116.0 |
| Equivalent Pond Width, [W] (ft): | 116.0 |

Ground water mound is expected to intersect the pond bottom

## Stage vs Area Data

| Stage (ft datum) | Area (ft²) |
|---|---|
| 155.05 | 63.0 |
| 163.75 | 13498.0 |

## Discharge Structures

**Discharge Structure #1 is active as weir**

Structure Parameters

Description: 2' concrete weir

| | |
|---|---|
| Weir elevation, (ft datum): | 162.5 |
| Weir coefficient: | 3.13 |
| Weir length, (ft): | 2 |
| Weir exponent: | 1.5 |

Tailwater - disabled, free discharge

## Discharge Structures (cont'd.)

**Discharge Structure #2 is active as orifice**

Structure Parameters

Description: 6" Bleeder

| | |
|---|---|
| Orifice elevation, (ft datum): | 161.75 |
| Orifice coefficient: | 4.9 |
| Orifice area, (ft²): | 0.196 |
| Orifice exponent: | 0.5 |

Tailwater - disabled, free discharge

**Discharge Structure #3 is inactive**

## Scenario Input Data

*Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr*

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.460 |
| Time Of Concentration (minutes) | 6.8 |
| DCIA (%) | 0.0 |
| Curve Number | 89 |
| Design Rainfall Depth (inches) | 4.2 |
| Design Rainfall Duration (hours) | 1.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 24 Hour |

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 0.100 | 5.000 | 11.500 | 18.000 | 24.500 |
| 0.200 | 5.500 | 12.000 | 18.500 | 25.000 |
| 0.300 | 6.000 | 12.500 | 19.000 | 25.500 |
| 0.400 | 6.500 | 13.000 | 19.500 | 26.000 |
| 0.500 | 7.000 | 13.500 | 20.000 | 26.500 |
| 1.000 | 7.500 | 14.000 | 20.500 | 27.000 |
| 1.500 | 8.000 | 14.500 | 21.000 | 27.500 |
| 2.000 | 8.500 | 15.000 | 21.500 | 28.000 |
| 2.500 | 9.000 | 15.500 | 22.000 | 28.500 |
| 3.000 | 9.500 | 16.000 | 22.500 | 29.000 |
| 3.500 | 10.000 | 16.500 | 23.000 | 29.500 |
| 4.000 | 10.500 | 17.000 | 23.500 | 30.000 |
| 4.500 | 11.000 | 17.500 | 24.000 | |

*Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr*

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.460 |
| Time Of Concentration (minutes) | 6.8 |
| DCIA (%) | 0.0 |
| Curve Number | 89 |
| Design Rainfall Depth (inches) | 5.1 |
| Design Rainfall Duration (hours) | 2.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 2 Hour |

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 0.100 | 1.500 | 4.500 | 7.500 | 10.500 |
| 0.200 | 2.000 | 5.000 | 8.000 | 11.000 |
| 0.300 | 2.500 | 5.500 | 8.500 | 11.500 |
| 0.400 | 3.000 | 6.000 | 9.000 | 12.000 |
| 0.500 | 3.500 | 6.500 | 9.500 | 12.500 |
| 1.000 | 4.000 | 7.000 | 10.000 | 13.000 |

## Scenario Input Data (cont'd.)

*Scenario 10 (cont'd.) :: SCS :: FDOT 2 Hour - 2 hr - 100 yr*

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 13.500 | 17.000 | 20.500 | 24.000 | 27.500 |
| 14.000 | 17.500 | 21.000 | 24.500 | 28.000 |
| 14.500 | 18.000 | 21.500 | 25.000 | 28.500 |
| 15.000 | 18.500 | 22.000 | 25.500 | 29.000 |
| 15.500 | 19.000 | 22.500 | 26.000 | 29.500 |
| 16.000 | 19.500 | 23.000 | 26.500 | 30.000 |
| 16.500 | 20.000 | 23.500 | 27.000 | |

*Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr*

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.460 |
| Time Of Concentration (minutes) | 6.8 |
| DCIA (%) | 0.0 |
| Curve Number | 89 |
| Design Rainfall Depth (inches) | 6.1 |
| Design Rainfall Duration (hours) | 4.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 4 Hour |

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 0.100 | 5.000 | 11.500 | 18.000 | 24.500 |
| 0.200 | 5.500 | 12.000 | 18.500 | 25.000 |
| 0.300 | 6.000 | 12.500 | 19.000 | 25.500 |
| 0.400 | 6.500 | 13.000 | 19.500 | 26.000 |
| 0.500 | 7.000 | 13.500 | 20.000 | 26.500 |
| 1.000 | 7.500 | 14.000 | 20.500 | 27.000 |
| 1.500 | 8.000 | 14.500 | 21.000 | 27.500 |
| 2.000 | 8.500 | 15.000 | 21.500 | 28.000 |
| 2.500 | 9.000 | 15.500 | 22.000 | 28.500 |
| 3.000 | 9.500 | 16.000 | 22.500 | 29.000 |
| 3.500 | 10.000 | 16.500 | 23.000 | 29.500 |
| 4.000 | 10.500 | 17.000 | 23.500 | 30.000 |
| 4.500 | 11.000 | 17.500 | 24.000 | |

## Scenario Input Data (cont'd.)

*Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr*

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.460 |
| Time Of Concentration (minutes) | 6.8 |
| DCIA (%) | 0.0 |
| Curve Number | 89 |
| Design Rainfall Depth (inches) | 7.4 |
| Design Rainfall Duration (hours) | 8.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 8 Hour |

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 0.100 | 5.000 | 11.500 | 18.000 | 24.500 |
| 0.200 | 5.500 | 12.000 | 18.500 | 25.000 |
| 0.300 | 6.000 | 12.500 | 19.000 | 25.500 |
| 0.400 | 6.500 | 13.000 | 19.500 | 26.000 |
| 0.500 | 7.000 | 13.500 | 20.000 | 26.500 |
| 1.000 | 7.500 | 14.000 | 20.500 | 27.000 |
| 1.500 | 8.000 | 14.500 | 21.000 | 27.500 |
| 2.000 | 8.500 | 15.000 | 21.500 | 28.000 |
| 2.500 | 9.000 | 15.500 | 22.000 | 28.500 |
| 3.000 | 9.500 | 16.000 | 22.500 | 29.000 |
| 3.500 | 10.000 | 16.500 | 23.000 | 29.500 |
| 4.000 | 10.500 | 17.000 | 23.500 | 30.000 |
| 4.500 | 11.000 | 17.500 | 24.000 | |

*Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr*

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.460 |
| Time Of Concentration (minutes) | 6.8 |
| DCIA (%) | 0.0 |
| Curve Number | 89 |
| Design Rainfall Depth (inches) | 9.8 |
| Design Rainfall Duration (hours) | 24.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 24 Hour |

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 0.100 | 1.500 | 4.500 | 7.500 | 10.500 |
| 0.200 | 2.000 | 5.000 | 8.000 | 11.000 |
| 0.300 | 2.500 | 5.500 | 8.500 | 11.500 |
| 0.400 | 3.000 | 6.000 | 9.000 | 12.000 |
| 0.500 | 3.500 | 6.500 | 9.500 | 12.500 |
| 1.000 | 4.000 | 7.000 | 10.000 | 13.000 |

## Scenario Input Data (cont'd.)

*Scenario 13 (cont'd.) :: SCS :: FDOT 24 Hour - 24 hr - 100 yr*

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 13.500 | 17.000 | 20.500 | 24.000 | 27.500 |
| 14.000 | 17.500 | 21.000 | 24.500 | 28.000 |
| 14.500 | 18.000 | 21.500 | 25.000 | 28.500 |
| 15.000 | 18.500 | 22.000 | 25.500 | 29.000 |
| 15.500 | 19.000 | 22.500 | 26.000 | 29.500 |
| 16.000 | 19.500 | 23.000 | 26.500 | 30.000 |
| 16.500 | 20.000 | 23.500 | 27.000 | |

*Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr*

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.460 |
| Time Of Concentration (minutes) | 6.8 |
| DCIA (%) | 0.0 |
| Curve Number | 89 |
| Design Rainfall Depth (inches) | 12.4 |
| Design Rainfall Duration (hours) | 72.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 72 Hour |

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 0.100 | 5.000 | 11.500 | 18.000 | 24.500 |
| 0.200 | 5.500 | 12.000 | 18.500 | 25.000 |
| 0.300 | 6.000 | 12.500 | 19.000 | 25.500 |
| 0.400 | 6.500 | 13.000 | 19.500 | 26.000 |
| 0.500 | 7.000 | 13.500 | 20.000 | 26.500 |
| 1.000 | 7.500 | 14.000 | 20.500 | 27.000 |
| 1.500 | 8.000 | 14.500 | 21.000 | 27.500 |
| 2.000 | 8.500 | 15.000 | 21.500 | 28.000 |
| 2.500 | 9.000 | 15.500 | 22.000 | 28.500 |
| 3.000 | 9.500 | 16.000 | 22.500 | 29.000 |
| 3.500 | 10.000 | 16.500 | 23.000 | 29.500 |
| 4.000 | 10.500 | 17.000 | 23.500 | 30.000 |
| 4.500 | 11.000 | 17.500 | 24.000 | |

## Scenario Input Data (cont'd.)

*Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr*

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.460 |
| Time Of Concentration (minutes) | 6.8 |
| DCIA (%) | 0.0 |
| Curve Number | 89 |
| Design Rainfall Depth (inches) | 14.0 |
| Design Rainfall Duration (hours) | 168.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 168 Hour |

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 0.100 | 5.000 | 11.500 | 18.000 | 24.500 |
| 0.200 | 5.500 | 12.000 | 18.500 | 25.000 |
| 0.300 | 6.000 | 12.500 | 19.000 | 25.500 |
| 0.400 | 6.500 | 13.000 | 19.500 | 26.000 |
| 0.500 | 7.000 | 13.500 | 20.000 | 26.500 |
| 1.000 | 7.500 | 14.000 | 20.500 | 27.000 |
| 1.500 | 8.000 | 14.500 | 21.000 | 27.500 |
| 2.000 | 8.500 | 15.000 | 21.500 | 28.000 |
| 2.500 | 9.000 | 15.500 | 22.000 | 28.500 |
| 3.000 | 9.500 | 16.000 | 22.500 | 29.000 |
| 3.500 | 10.000 | 16.500 | 23.000 | 29.500 |
| 4.000 | 10.500 | 17.000 | 23.500 | 30.000 |
| 4.500 | 11.000 | 17.500 | 24.000 | |

*Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr*

Hydrograph Type: Inline SCS
Modflow Routing: Routed with infiltration
Repetitions: 1

| | |
|---|---|
| Basin Area (acres) | 1.460 |
| Time Of Concentration (minutes) | 6.8 |
| DCIA (%) | 0.0 |
| Curve Number | 89 |
| Design Rainfall Depth (inches) | 16.1 |
| Design Rainfall Duration (hours) | 240.0 |
| Shape Factor | UHG 484 |
| Rainfall Distribution | FDOT 240 Hour |

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 0.100 | 1.500 | 4.500 | 7.500 | 10.500 |
| 0.200 | 2.000 | 5.000 | 8.000 | 11.000 |
| 0.300 | 2.500 | 5.500 | 8.500 | 11.500 |
| 0.400 | 3.000 | 6.000 | 9.000 | 12.000 |
| 0.500 | 3.500 | 6.500 | 9.500 | 12.500 |
| 1.000 | 4.000 | 7.000 | 10.000 | 13.000 |

## Scenario Input Data (cont'd.)

*Scenario 16 (cont'd.) :: SCS :: FDOT 240 Hour - 240 hr - 100 yr*

| Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|---|---|---|
| 13.500 | 17.000 | 20.500 | 24.000 | 27.500 |
| 14.000 | 17.500 | 21.000 | 24.500 | 28.000 |
| 14.500 | 18.000 | 21.500 | 25.000 | 28.500 |
| 15.000 | 18.500 | 22.000 | 25.500 | 29.000 |
| 15.500 | 19.000 | 22.500 | 26.000 | 29.500 |
| 16.000 | 19.500 | 23.000 | 26.500 | 30.000 |
| 16.500 | 20.000 | 23.500 | 27.000 | |

*Scenario 17 :: 2" over drainage area*

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

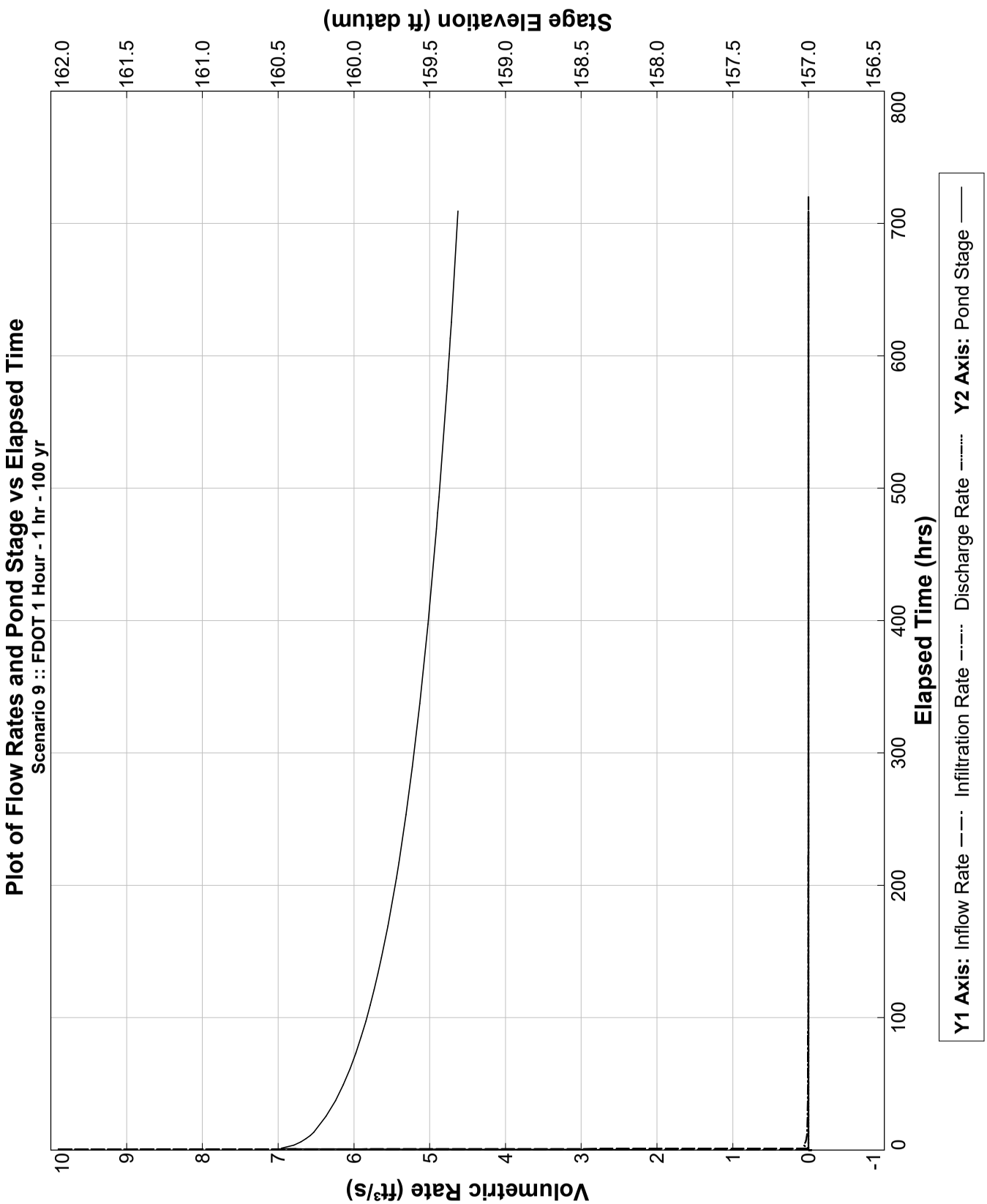
Treatment Volume ($ft^3$) 6627

Initial ground water level (ft datum) 158.05 (default)

| Time After Storm Event (days) | Time After Storm Event (days) |
|---|---|
| 0.100 | 2.000 |
| 0.250 | 2.500 |
| 0.500 | 3.000 |
| 1.000 | 3.500 |
| 1.500 | 4.000 |

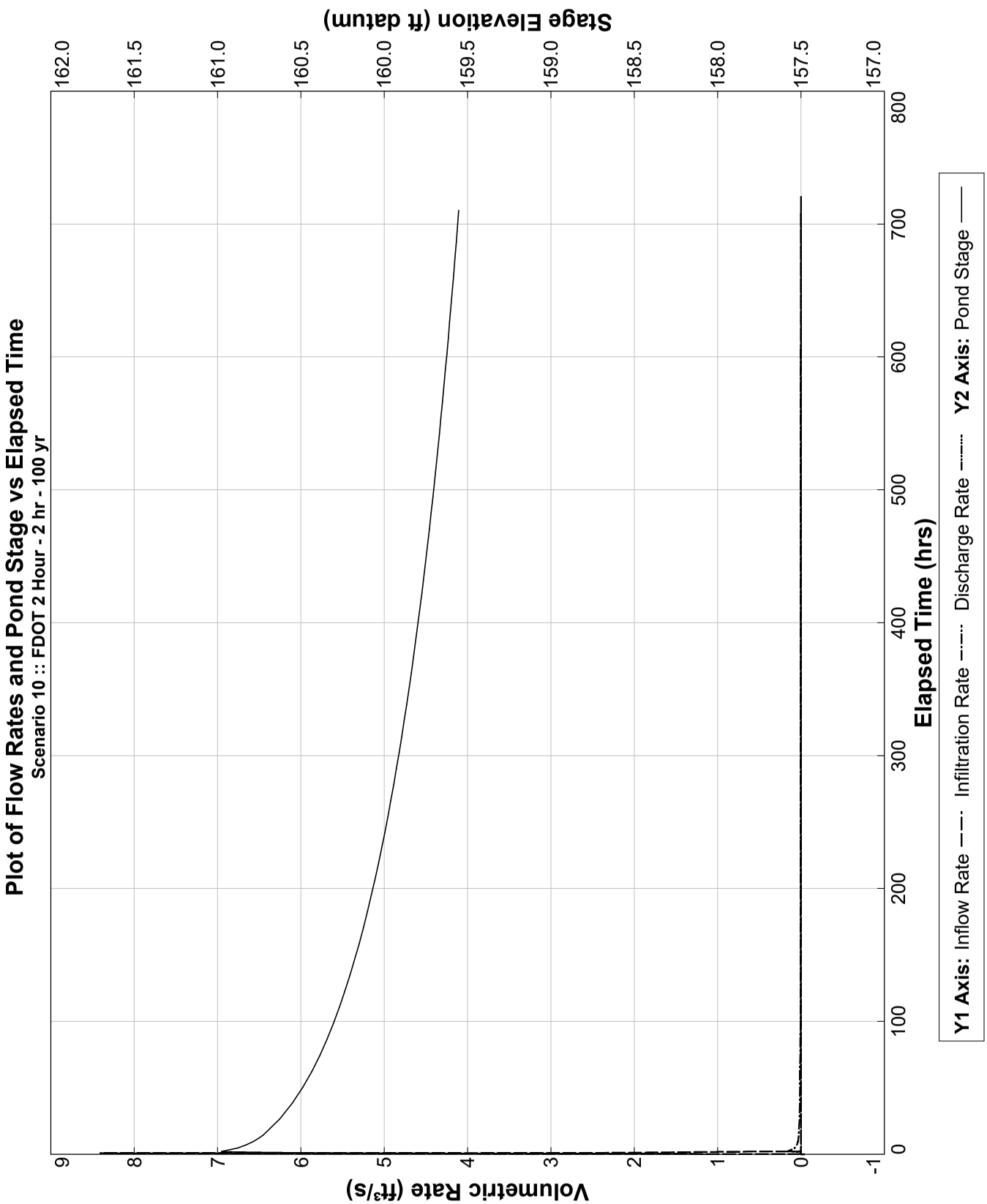
**Summary of Results** *:: Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 1.269 | 160.48 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 0.559 | | 9.9205 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 1.375 | | | 15966.6 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 721.390 | | | 15966.6 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 3.790 | | 0.0622 | |
| Rate - Maximum - Negative | 0.015 | | -0.0432 | |
| Cumulative Volume - Maximum Positive | 721.390 | | | 8842.6 |
| Cumulative Volume - Maximum Negative | 0.015 | | | -4.7 |
| Cumulative Volume - End of Simulation | 721.390 | | | 8842.6 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 721.390 | | | 0.0 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 721.390 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 721.390 | | | 0.0 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 9 :: FDOT 1 Hour - 1 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
Y1 Axis: Inflow Rate —·— Infiltration Rate —·—·— Discharge Rate ····· Y2 Axis: Pond Stage ——

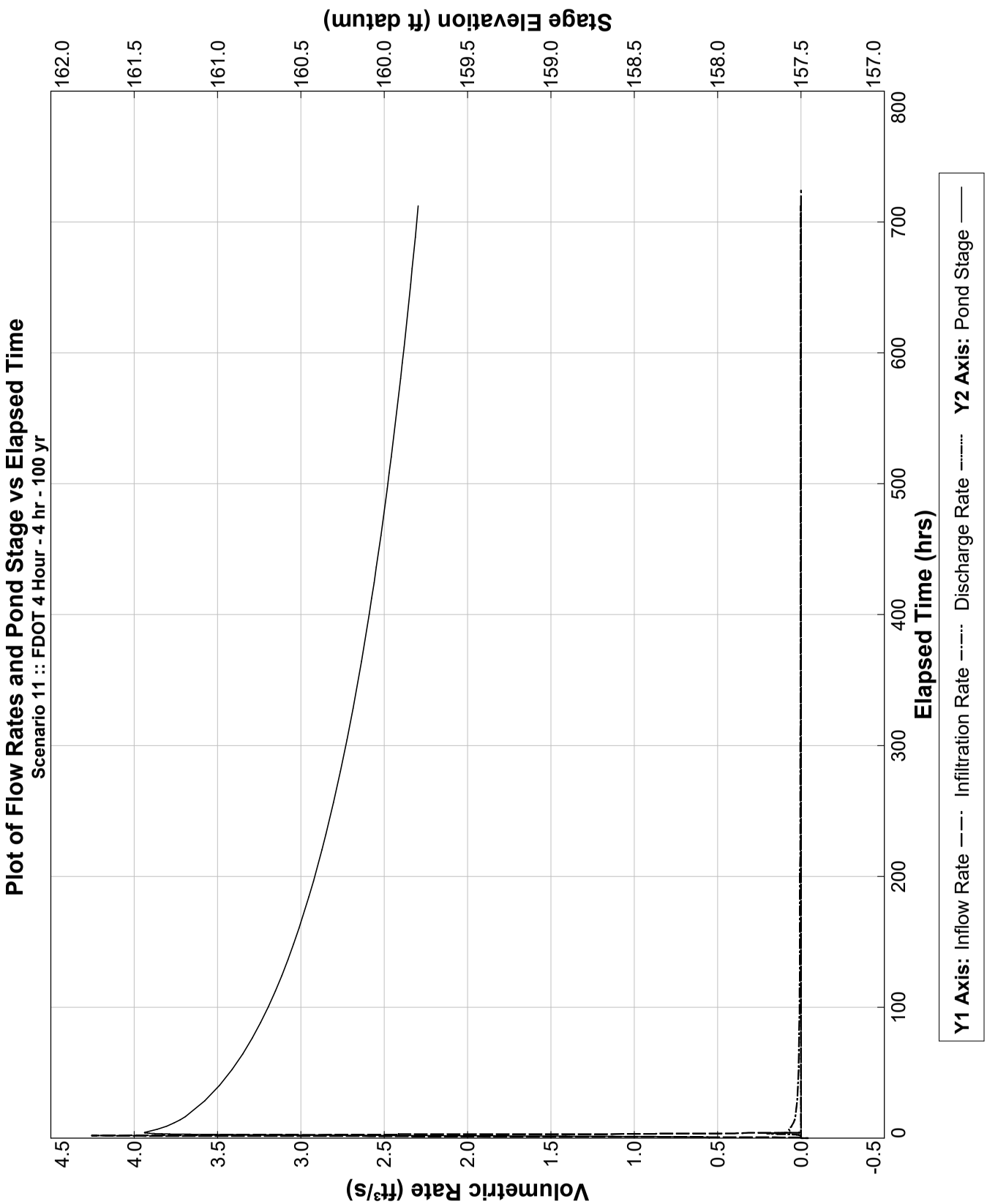
**Summary of Results** *:: Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 2.131 | 160.98 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 0.801 | | 8.4074 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 2.372 | | | 20507.9 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 722.388 | | | 20507.9 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 2.388 | | 0.1509 | |
| Rate - Maximum - Negative | 0.015 | | -0.0432 | |
| Cumulative Volume - Maximum Positive | 722.388 | | | 11755.4 |
| Cumulative Volume - Maximum Negative | 0.015 | | | -4.7 |
| Cumulative Volume - End of Simulation | 722.388 | | | 11755.4 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 722.388 | | | 0.0 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 722.388 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 722.388 | | | 0.0 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 10 :: FDOT 2 Hour - 2 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
Y1 Axis: Inflow Rate Infiltration Rate Discharge Rate Y2 Axis: Pond Stage

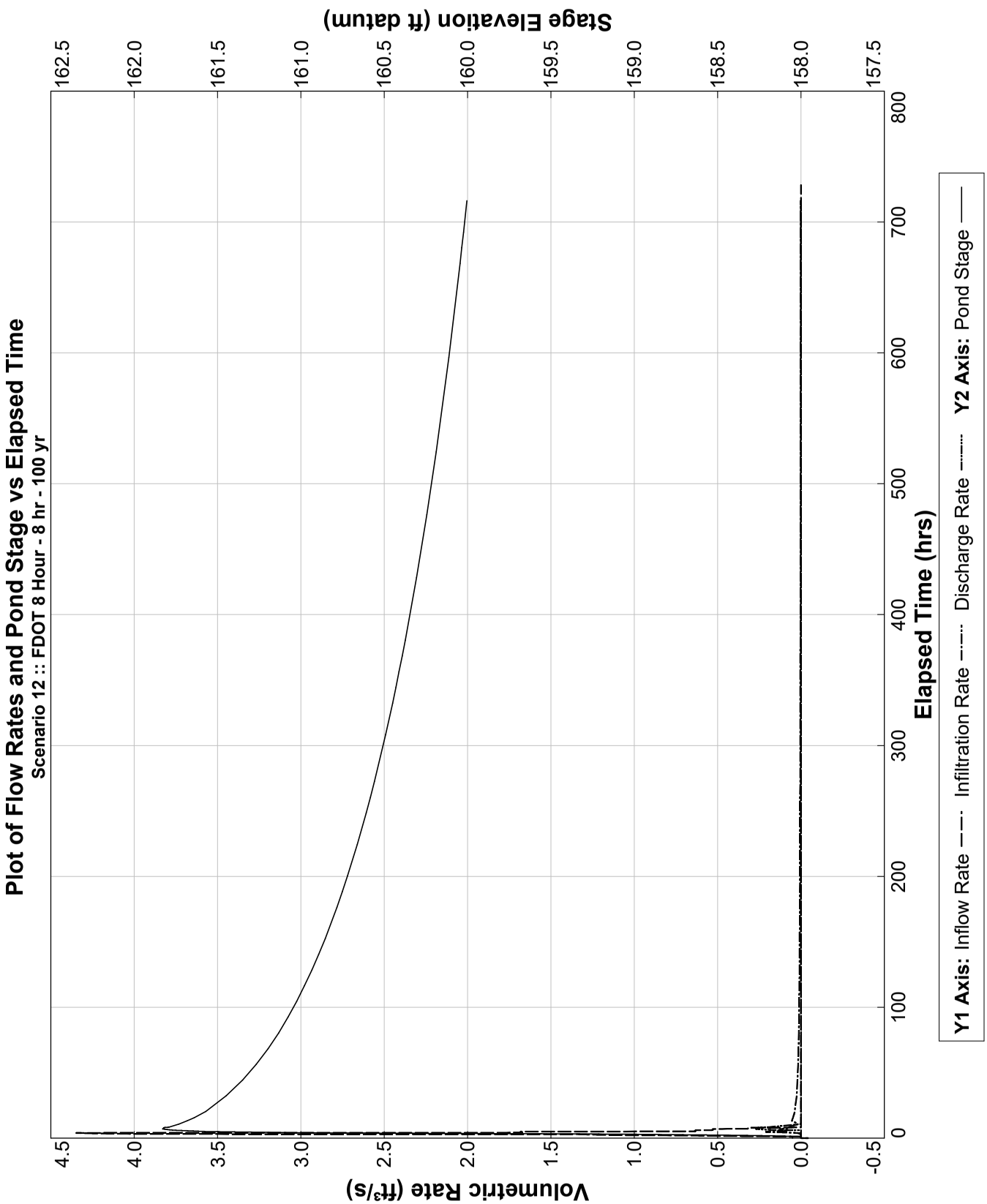
**Summary of Results** *:: Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 4.110 | 161.44 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 2.010 | | 4.2551 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 4.367 | | | 25519.7 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 724.382 | | | 25519.7 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 3.491 | | 0.2041 | |
| Rate - Maximum - Negative | 0.015 | | -0.0432 | |
| Cumulative Volume - Maximum Positive | 724.382 | | | 15030.5 |
| Cumulative Volume - Maximum Negative | 0.015 | | | -4.7 |
| Cumulative Volume - End of Simulation | 724.382 | | | 15030.5 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 724.382 | | | 0.0 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 724.382 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 724.382 | | | 0.0 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 11 :: FDOT 4 Hour - 4 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
Y1 Axis: Inflow Rate —·— Infiltration Rate –·–·– Discharge Rate ····· Y2 Axis: Pond Stage ——
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
162.0
161.5
161.0
160.5
160.0
159.5
159.0
158.5
158.0
157.5
157.0
0
100
200
300
400
500
600
700
800

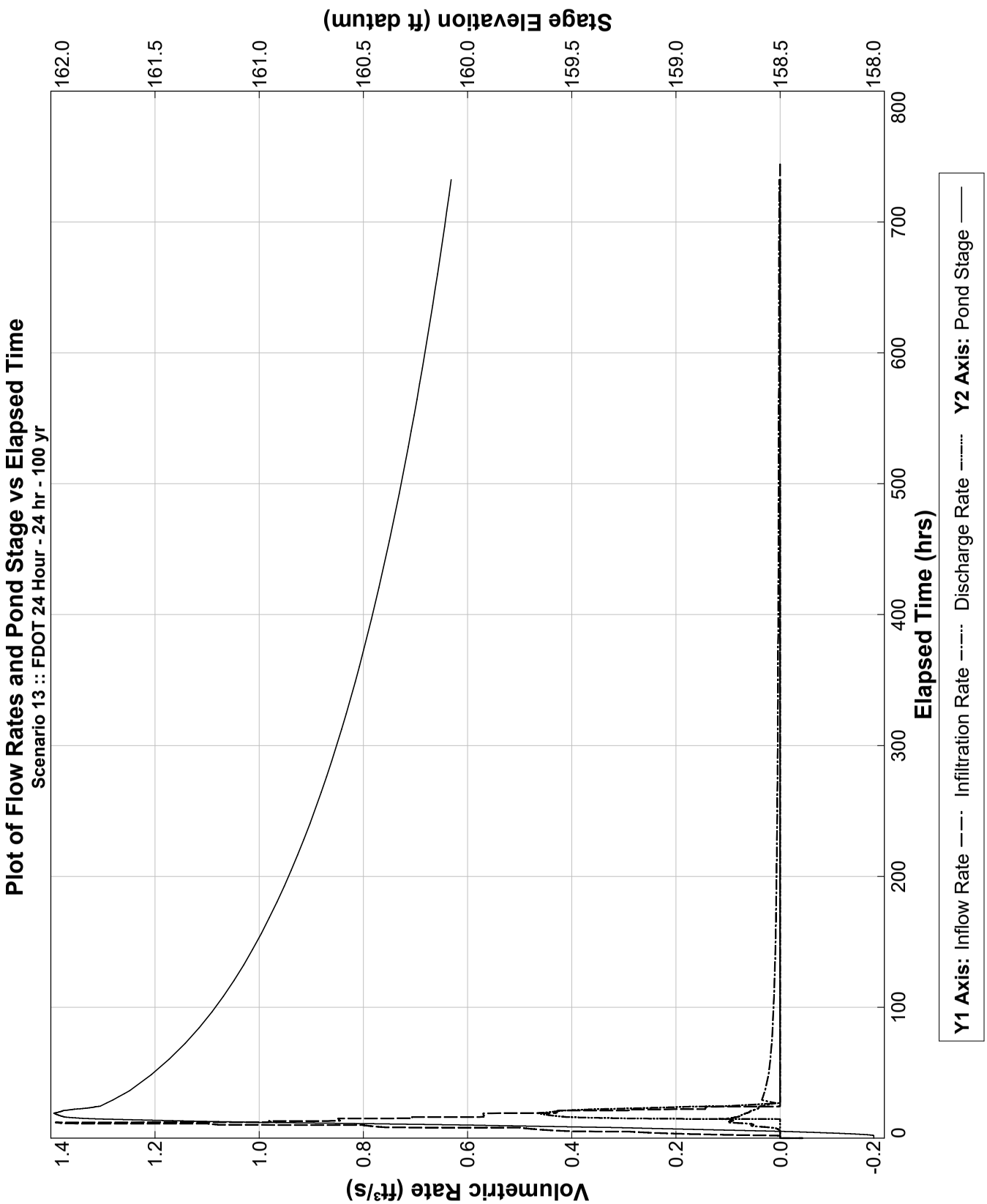
**Summary of Results** *:: Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 7.102 | 161.83 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 3.989 | | 4.3478 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 8.372 | | | 32131.0 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 728.387 | | | 32131.0 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 4.851 | | 0.2125 | |
| Rate - Maximum - Negative | 0.015 | | -0.0432 | |
| Cumulative Volume - Maximum Positive | 728.387 | | | 17283.7 |
| Cumulative Volume - Maximum Negative | 0.015 | | | -4.7 |
| Cumulative Volume - End of Simulation | 728.387 | | | 17283.7 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 7.102 | | 0.2704 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 10.787 | | | 2802.0 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 728.387 | | | 2802.0 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 728.387 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | 7.102 | | 0.2704 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 10.787 | | | 2802.0 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 728.387 | | | 2802.0 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 12 :: FDOT 8 Hour - 8 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
Y1 Axis: Inflow Rate — Infiltration Rate — Discharge Rate
Y2 Axis: Pond Stage

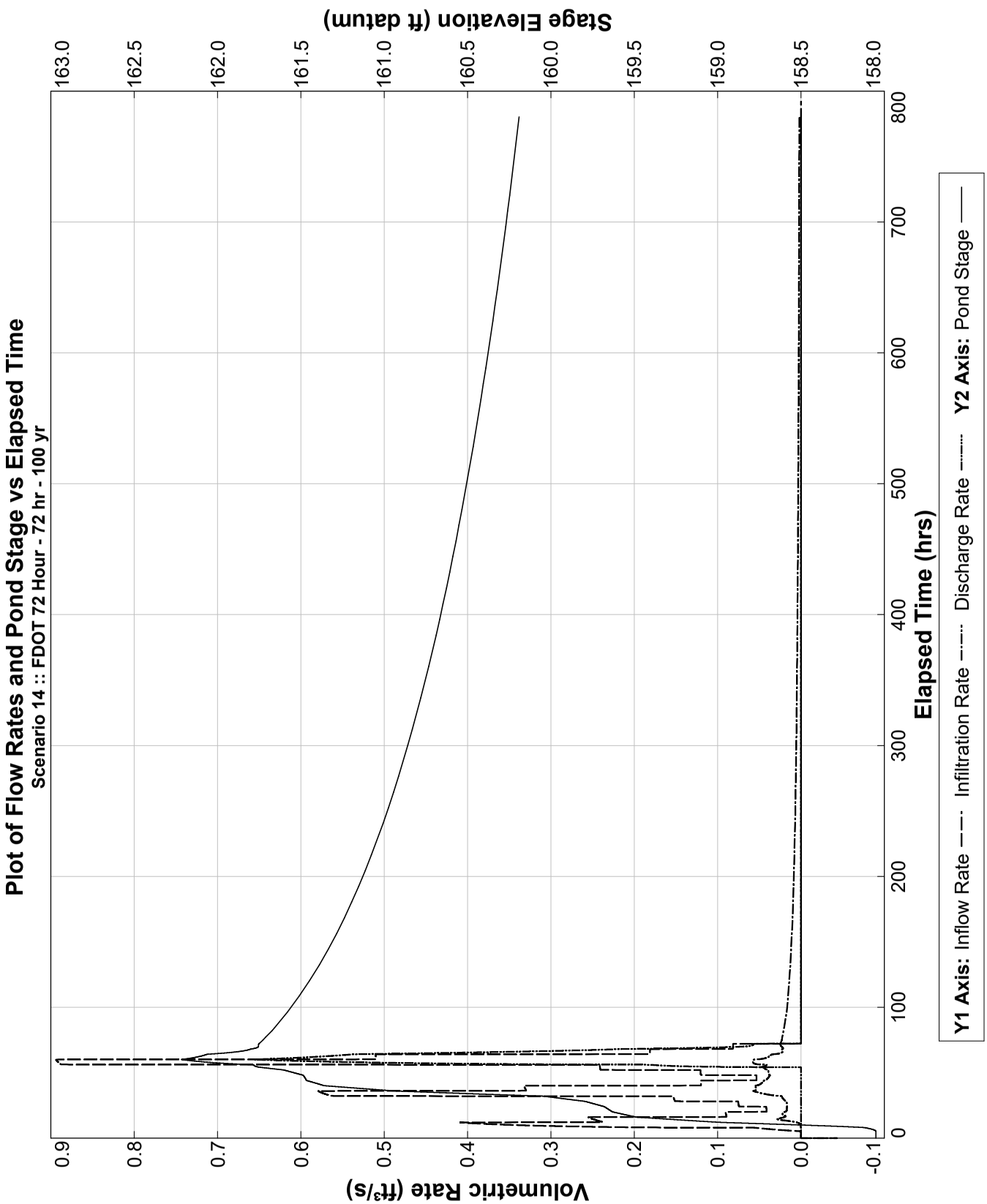
**Summary of Results** *:: Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 19.055 | 161.99 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 11.998 | | 1.3908 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 24.374 | | | 45058.5 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 744.389 | | | 45058.5 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 14.597 | | 0.1179 | |
| Rate - Maximum - Negative | 0.015 | | -0.0432 | |
| Cumulative Volume - Maximum Positive | 744.389 | | | 18965.5 |
| Cumulative Volume - Maximum Negative | 0.015 | | | -4.7 |
| Cumulative Volume - End of Simulation | 744.389 | | | 18965.5 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 19.055 | | 0.4656 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 26.789 | | | 13470.0 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 744.389 | | | 13470.0 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 744.389 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | 19.055 | | 0.4656 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 26.789 | | | 13470.0 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 744.389 | | | 13470.0 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 13 :: FDOT 24 Hour - 24 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
162.0
161.5
161.0
160.5
160.0
159.5
159.0
158.5
158.0
0
100
200
300
400
500
600
700
800
Y1 Axis: Inflow Rate
Infiltration Rate
Discharge Rate
Y2 Axis: Pond Stage

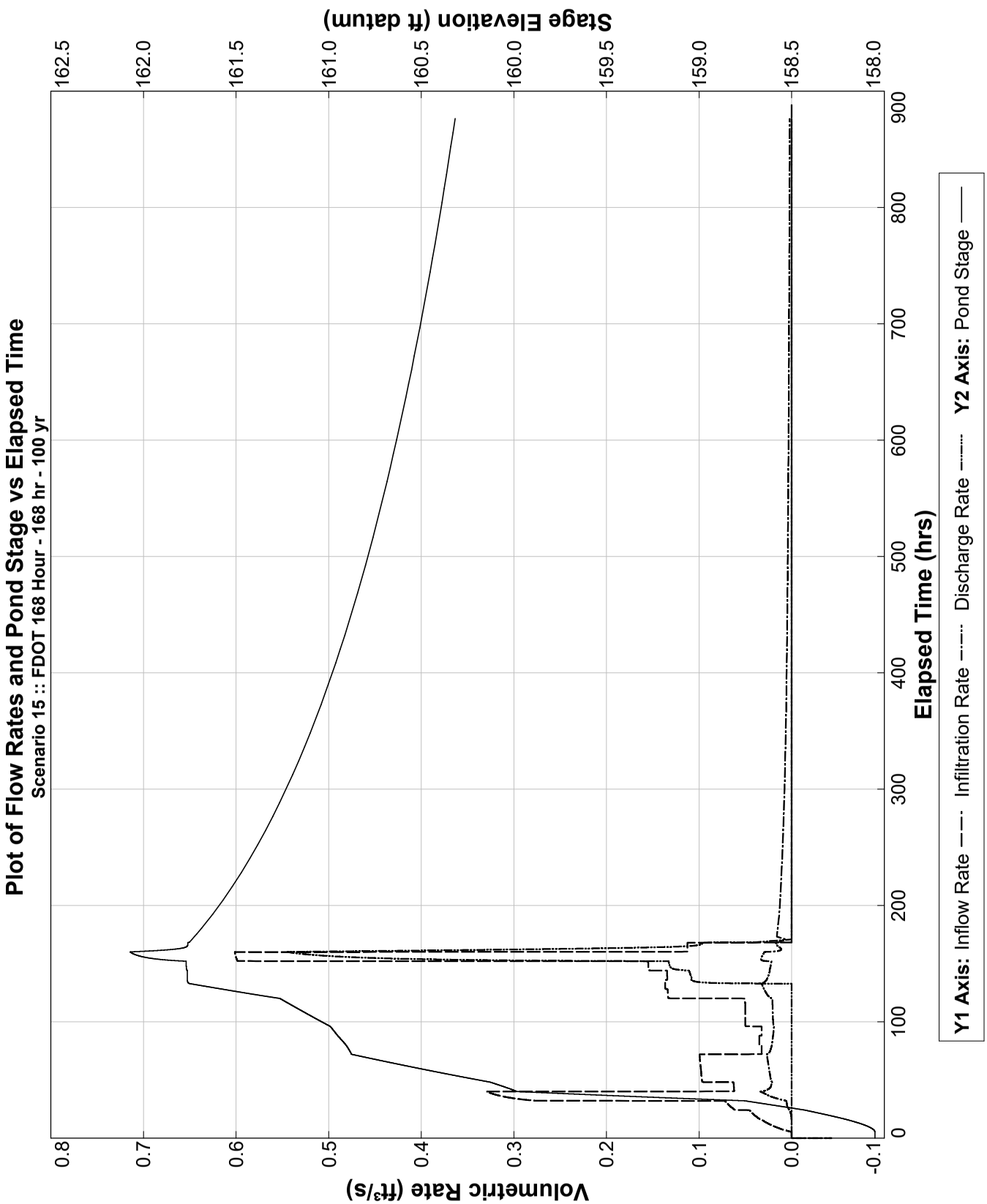
**Summary of Results** *:: Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 60.082 | 162.22 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 59.991 | | 0.8939 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 72.367 | | | 58489.3 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 792.382 | | | 58489.3 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 58.268 | | 0.0575 | |
| Rate - Maximum - Negative | 0.015 | | -0.0432 | |
| Cumulative Volume - Maximum Positive | 792.382 | | | 21783.2 |
| Cumulative Volume - Maximum Negative | 0.015 | | | -4.7 |
| Cumulative Volume - End of Simulation | 792.382 | | | 21783.2 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 60.082 | | 0.6554 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 72.292 | | | 23198.6 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 792.382 | | | 23198.6 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 792.382 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | 60.082 | | 0.6554 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 72.292 | | | 23198.6 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 792.382 | | | 23198.6 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 14 :: FDOT 72 Hour - 72 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
163.0
162.5
162.0
161.5
161.0
160.5
160.0
159.5
159.0
158.5
158.0
0
100
200
300
400
500
600
700
800
Y1 Axis: Inflow Rate
Infiltration Rate
Discharge Rate
Y2 Axis: Pond Stage

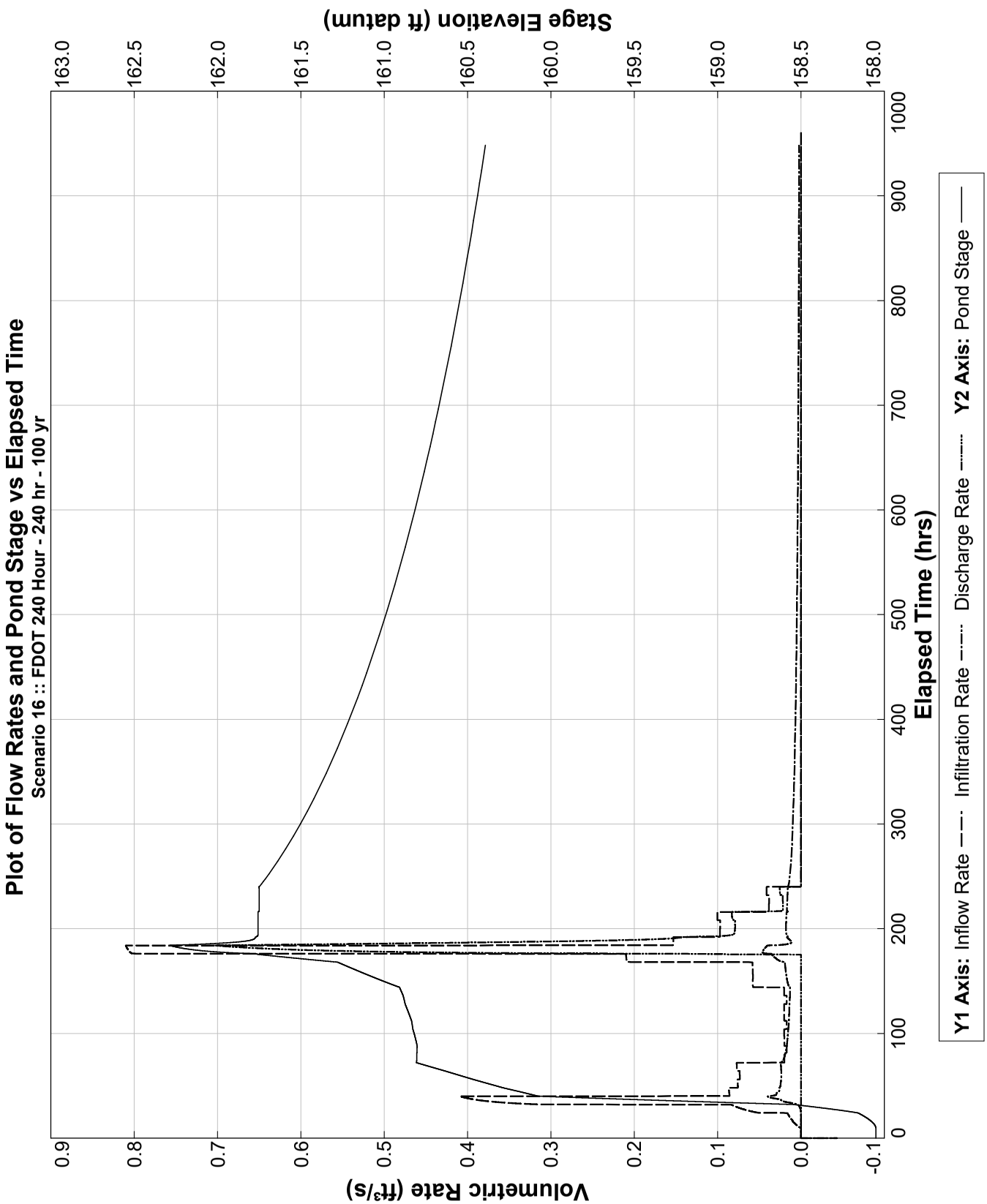
**Summary of Results** *:: Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 160.027 | 162.07 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 159.996 | | 0.6014 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 168.368 | | | 66908.4 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 888.383 | | | 66908.4 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 132.842 | | 0.0389 | |
| Rate - Maximum - Negative | 0.015 | | -0.0432 | |
| Cumulative Volume - Maximum Positive | 888.383 | | | 24842.7 |
| Cumulative Volume - Maximum Negative | 0.015 | | | -4.7 |
| Cumulative Volume - End of Simulation | 888.383 | | | 24842.7 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 160.027 | | 0.5448 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 170.783 | | | 27538.4 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 888.383 | | | 27538.4 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 888.383 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | 160.027 | | 0.5448 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 170.783 | | | 27538.4 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 888.383 | | | 27538.4 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 15 :: FDOT 168 Hour - 168 hr - 100 yr
Stage Elevation (ft datum)
Volumetric Rate (ft³/s)
Elapsed Time (hrs)
Y1 Axis: Inflow Rate —·— Infiltration Rate —·-·— Discharge Rate ·····
Y2 Axis: Pond Stage ——

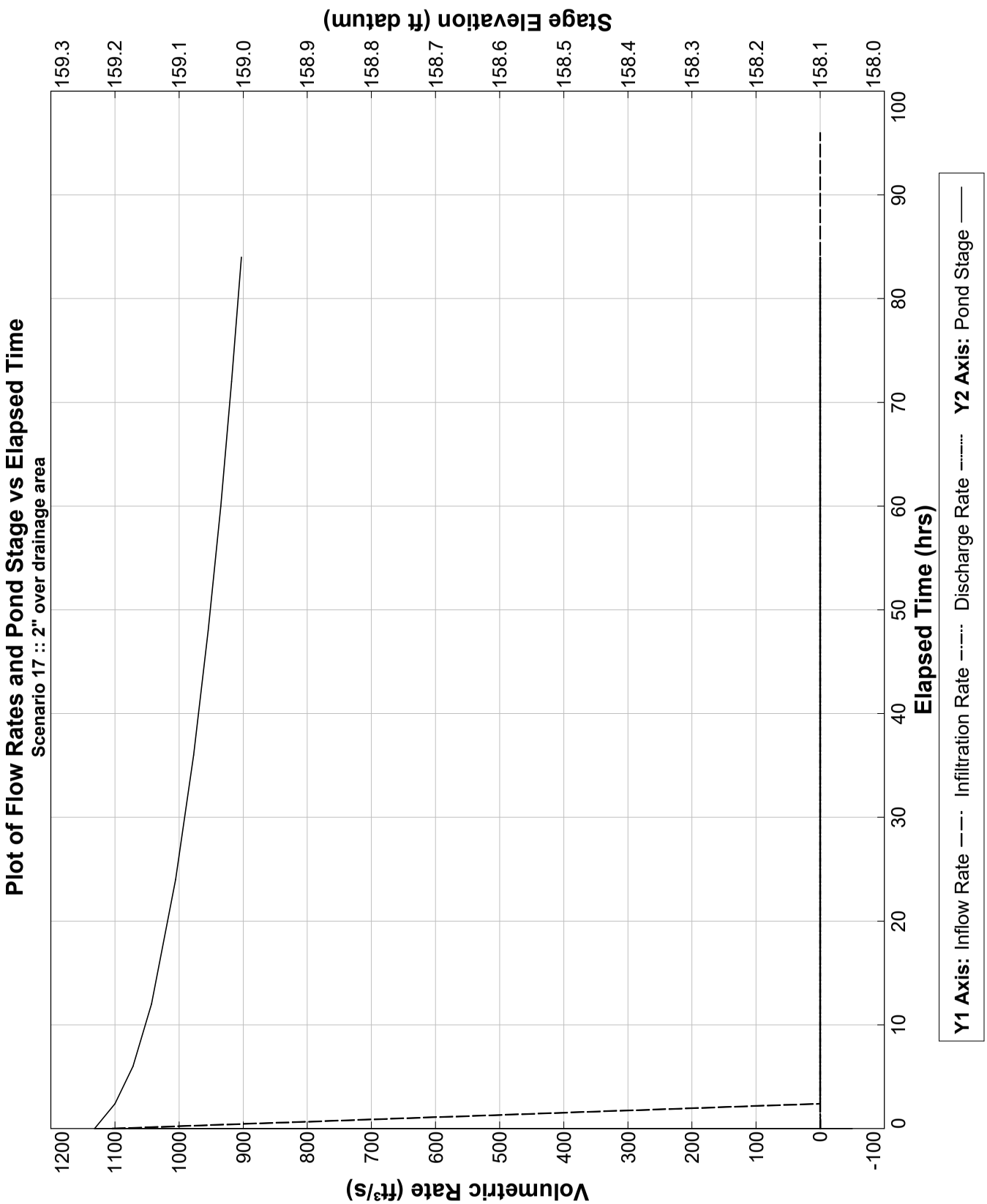
**Summary of Results** *:: Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 184.038 | 162.29 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 184.008 | | 0.8101 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 240.373 | | | 77976.8 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 960.388 | | | 77976.8 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 177.767 | | 0.0464 | |
| Rate - Maximum - Negative | 0.015 | | -0.0432 | |
| Cumulative Volume - Maximum Positive | 960.388 | | | 27447.1 |
| Cumulative Volume - Maximum Negative | 0.015 | | | -4.7 |
| Cumulative Volume - End of Simulation | 960.388 | | | 27447.1 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | 184.038 | | 0.7027 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 240.176 | | | 35379.9 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 960.388 | | | 35379.9 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 960.388 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | 184.038 | | 0.7027 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 240.176 | | | 35379.9 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 960.388 | | | 35379.9 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |
| 72 Hour Stage and Infiltration Volume | N.A. | N.A. | | N.A. |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 16 :: FDOT 240 Hour - 240 hr - 100 yr
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
Y1 Axis: Inflow Rate — Infiltration Rate — Discharge Rate Y2 Axis: Pond Stage

**Summary of Results** *:: Scenario 17 :: 2" over drainage area*

| | Time (hours) | Stage (ft datum) | Rate ($ft^3/s$) | Volume ($ft^3$) |
|---|---|---|---|---|
| Stage | | | | |
| Minimum | 0.000 | 158.05 | | |
| Maximum | 0.002 | 159.23 | | |
| Inflow | | | | |
| Rate - Maximum - Positive | 0.002 | | 1104.5000 | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | 0.002 | | | 6627.0 |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 96.000 | | | 6627.0 |
| Infiltration | | | | |
| Rate - Maximum - Positive | 2.400 | | 0.0200 | |
| Rate - Maximum - Negative | 0.002 | | -0.1692 | |
| Cumulative Volume - Maximum Positive | 96.000 | | | 1536.6 |
| Cumulative Volume - Maximum Negative | 0.002 | | | -1.0 |
| Cumulative Volume - End of Simulation | 96.000 | | | 1536.6 |
| Combined Discharge | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 96.000 | | | 0.0 |
| Discharge Structure 1 - simple weir | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 96.000 | | | 0.0 |
| Discharge Structure 2 - simple orifice | | | | |
| Rate - Maximum - Positive | None | | None | |
| Rate - Maximum - Negative | None | | None | |
| Cumulative Volume - Maximum Positive | None | | | None |
| Cumulative Volume - Maximum Negative | None | | | None |
| Cumulative Volume - End of Simulation | 96.000 | | | 0.0 |
| Discharge Structure 3 - inactive | | | | |
| Rate - Maximum - Positive | disabled | | disabled | |
| Rate - Maximum - Negative | disabled | | disabled | |
| Cumulative Volume - Maximum Positive | disabled | | | disabled |
| Cumulative Volume - Maximum Negative | disabled | | | disabled |
| Cumulative Volume - End of Simulation | disabled | | | disabled |
| Pollution Abatement: | | | | |
| 36 Hour Stage and Infiltration Volume | 36.000 | 159.08 | | 987.5 |
| 72 Hour Stage and Infiltration Volume | 72.000 | 159.02 | | 1357.8 |


Plot of Flow Rates and Pond Stage vs Elapsed Time
Scenario 17 :: 2" over drainage area
Volumetric Rate (ft³/s)
Stage Elevation (ft datum)
Elapsed Time (hrs)
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
-100
159.3
159.2
159.1
159.0
158.9
158.8
158.7
158.6
158.5
158.4
158.3
158.2
158.1
158.0
0
10
20
30
40
50
60
70
80
90
100
Y1 Axis: Inflow Rate — Infiltration Rate — Discharge Rate
Y2 Axis: Pond Stage