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Stormwater Analysis Report
Prepared By: Bax Engineering CO., INC.
O'Fallon Fire Protection District
Bax Project No. 13-15872
April 22, 2014

INTRODUCTION:

The currently undeveloped 1.91 acres site is located in the City of O'Fallon, Missouri. The site shall be analyzed for the construction of the proposed firehouse on approximately 1.65 acres of the site. The remaining 0.26 acres shall remain undisturbed. The detention basin shall be designed to provide the Stormwater Attenuation required of the development by the City of O'Fallon Design Standards. The storage volume and outflow rates shall be proportioned to insure that the peak rate of runoff leaving the tract under post-developed conditions is less than or equal to the peak rate of runoff under pre-developed conditions for the 2, 15, 25 and 100 year 20 minute design storms and also analyzed for the safe passage of the 100 year 20 minute design storm assuming the low flow slot is blocked.

GENERAL SITE DATA AND RUNOFF CALCULATIONS

The pre-developed curve numbers used for the analysis are:

2 year	0-5%	Impervious	1.15	cfs/ac
15 year	0-5%	Impervious	1.87	cfs/ac
25 year	0-5%	Impervious	2.31	cfs/ac
100 year	0-5%	Impervious	2.95	cfs/ac

The post-developed curve numbers used for the analysis are:

2 year	0-5%	Impervious	1.15	cfs/ac
15 year	0-5%	Impervious	1.87	cfs/ac
25 year	0-5%	Impervious	2.31	cfs/ac
100 year	0-5%	Impervious	2.95	cfs/ac
2 year	100%	Impervious	2.39	cfs/ac
15 year	100%	Impervious	3.85	cfs/ac
25 year	100%	Impervious	4.75	cfs/ac
100 year	100%	Impervious	6.08	cfs/ac



BAX ENGINEERING CO.
 221 Point West Blvd.
 St. Charles, MO 63301
 (636) 928-5552 Fax: (636) 928-1718
 www.baxengineering.com



WATER QUALITY

To ensure that sedimentation and pollution in receiving streams due to development of this site is minimized, our design will consider the Water Quality Volume requirement as described in "Georgia Stormwater Management Manual Volumes 1, 2 and 3". Water quality volume is defined as "The storage needed to capture and treat the runoff from 90% of the recorded daily rainfall events." Water Quality treatment will be provided by a Bioretention Area which collects the stormwater runoff from the impervious area and treats it prior to releasing it in to the detention basin.

WATER QUALITY VOLUME (WQ_v)

$$WQ_v = PR_v A / 12$$

$$\text{Where: } P = 1.14''$$

$$R_v = 0.05 + 0.009(I)$$

$$I = \% \text{ Impervious}$$

$$A = \text{Watershed Area} = 1.04 \text{ ac}$$

$$A_I = \text{Impervious Area} = 0.69 \text{ ac}$$

$$I = A_I / A$$

$$I = 0.69 \text{ ac} / 1.04 \text{ ac} = 0.6634 = 66.34\%$$

$$R_v = 0.05 + 0.009(66.34) = 0.647$$

$$WQ_v = 1.14(0.647)(1.04) / 12 = 0.0639 \text{ ac-ft} = 2,785 \text{ ft}^3$$

The total water quality volume for this watershed is 2,785 ft³.

Water quality Treatment

A Bioretention Facility will be constructed to treat the drainage from this watershed.

$$\text{Required Filter Bed Area } (A_f) = (WQ_v) (d_f) / (k * (h_f + d_f) * t_f)$$

$$WQ_v = 2,785 \text{ ft}^3 = \text{Total Water Quality Volume (ft}^3)$$

$$d_f = 3.25 \text{ ft} = \text{filter bed depth (ft)}$$

$$k = 2 \text{ ft/day} = \text{Coefficient of Permeability ft/day}$$

$$h_f = 0.375 \text{ ft} = \text{average height of water above filter bed (ft)}$$

$$t_f = 2 \text{ days} = \text{filter bed drain time (days)}$$

$$(A_f) \text{ required} = (2,785)(3.0) / (2(.375 + 3.25)2) = 570.62 \text{ ft}^2$$

$$(A_f) \text{ provided} = 995 \text{ ft}^2$$



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$$\begin{aligned}\text{Water Quality Volume Required} &= 75\% \text{ WQ}_v \\ &= 0.75 * 2,785 = 2,089 \text{ ft}^3\end{aligned}$$

Water Quality Volume Provided

$$\begin{aligned}\text{Treatment Volume} &= (A_f)(h)+(v)(A_f)(d_f) \\ &= (995)(0.75)+(0.40)(995)(3.5) \\ &= 2,139 \text{ ft}^3 \\ \text{Total Volume Provided} &= 2,139 \text{ ft}^3 > 2,785 \text{ ft}^3\end{aligned}$$

DETENTION BASIN CALCULATIONS

PREDEVELOPED CONDITIONS:

The Predeveloped site discharges to a channel in the Northeast area of the site. The total runoff from the watershed will be calculated using the rational method to determine the Predeveloped Runoff rates leaving the site. For this analysis the Predeveloped runoff for the 2, 15, 25, and 100 year 20 minute design storms will be calculated for comparison to the Postdeveloped runoff to determine the quantity of detention that will be required.

25 Year

$$1.91 \text{ ac} \times 2.31 \text{ cfs/ac} = \frac{4.41 \text{ cfs}}{\text{Total} = 4.41 \text{ cfs}}$$

2 year-20 minute storm:	2.20 cfs
15 year-20 minute storm:	3.57 cfs
25 year-20 minute storm:	4.41 cfs
100 year-20 minute storm:	5.63 cfs

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St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
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POSTDEVELOPED CONDITIONS:

The Postdeveloped watershed discharges to a channel in the Northeast area of the site. The total runoff from the watershed will be calculated using the rational method to determine the Postdeveloped Runoff rates leaving the site. For this analysis the Postdeveloped runoff for the 2, 15, 25, and 100 year 20 minute design storms will be calculated for comparison to the previously calculated Predeveloped runoff to determine the quantity of detention that will be required.

25 Year

Green Space	1.17 ac	x	2.31 cfs/ac	=	2.70 cfs
Pavement / Building	0.69 ac	x	4.75 cfs/ac	=	3.28 cfs
Basin Area	0.05 ac	x	4.75 cfs/ac	=	0.24 cfs
			Total	=	6.22 cfs

2 year-20 minute storm:	3.11 cfs
15 year-20 minute storm:	5.04 cfs
25 year-20 minute storm:	6.22 cfs
100 year-20 minute storm:	7.95 cfs

DIFFERENTIAL RUNOFF

The differential runoff for each discharge point is determined by subtracting the predeveloped runoff rate from the postdeveloped runoff rate.

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 yr	3.11 cfs	2.20 cfs	0.92 cfs
15 yr	5.04 cfs	3.57 cfs	1.47 cfs
25 yr	6.22 cfs	4.41 cfs	1.81 cfs
100 yr	7.95 cfs	5.63 cfs	2.32 cfs

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TIME OF CONCENTRATION:

Of the inflows to the basin, the most remote point lies in the southern entrance of the site adjacent to North Main Street. Flows will travel approximately 177 feet overland to the storm system. Then the runoff is carried 565 to the bioretention area. Time of concentration is estimated as follows:

T(overland): L = 177 feet
 Elevation difference = 4
 Surface Coefficient = 0.4 (pavement)

T(overland) = $0.40 \times 1.8 = 0.72$ minutes:
See figure 1 in Appendix A

T(storm system): L = 565 feet
 Average Velocity = 7 ft/s

T(storm system) = $565 \text{ (ft)} / 7 \text{ (ft/s)} / 60 \text{ (s/min)} = 1.34 \text{ min}$

Total time = $0.72 + 1.34 = 2.06$ use **2 minutes**

Basin Peak Inflow

25 Year

Green Space	0.47 ac	x	2.31 cfs/ac	=	1.09 cfs
Pavement / Building	0.69 ac	x	4.75 cfs/ac	=	3.28 cfs
Basin Area	0.05 ac	x	4.75 cfs/ac	=	0.24 cfs
			Total	=	4.60 cfs

2 year-20 minute storm:	2.31 cfs
15 year-20 minute storm:	3.73 cfs
25 year-20 minute storm:	4.60 cfs
100 year-20 minute storm:	5.89 cfs

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ALLOWABLE RELEASE RATE

STORM	BASIN INFLOW	-	DIFFERENTIAL RUNOFF RATE	=	ALLOWABLE RELEASE RATE
2 yr	2.31 cfs	-	0.92 cfs	=	1.39 cfs
15 yr	3.73 cfs	-	1.47 cfs	=	2.26 cfs
25 yr	4.60 cfs	-	1.81 cfs	=	2.80 cfs
100 yr	5.89 cfs	-	2.32 cfs	=	3.57 cfs

STORM ROUTING CALCULATIONS AND RESULTS

A computer program PONDPACK was used in routing the 2, 15, 25 and 100 year storms through the basin. The routing calculations can be found in Appendix B for the 2, 15, 25 and 100 year storms for the watershed. The 100 year calculations with the low flow slots blocked and water ponded to the crest of the structure are found in Appendixes C. As found in the routing calculations, the results are as follows:

STORM (24 HR)	PEAK INFLOW	ALLOWABLE RELEASE RATE	CALCULATED RELEASE	PEAK ELEVATION
2 yr	2.31 cfs	1.39 cfs	1.29 cfs	494.22 ft
15 yr	3.73 cfs	2.26 cfs	2.19 cfs	494.96 ft
25 yr	4.60 cfs	2.80 cfs	2.77 cfs	495.28 ft
100 yr	5.89 cfs	3.57 cfs	3.40 cfs	495.74 ft



LOW FLOW BLOCKED

The detention basin and outfall structure must be capable of passing and temporarily impounding the runoff produced by a 100 yr, 20 minute design storm assuming the low flow slot to be completely blocked. A minimum of 1.00 feet of freeboard must be maintained from the ponding limits of the low flow blocked and the top of the berm.

WEIR FLOW	$Q = C \times L \times H^{(3/2)}$
Where 100-YEAR FLOW Q =	5.89 cfs
C =	3.0
L =	12.57 ft
H =	0.29 ft
Sill =	495.70 ft
100 yr h/w =	495.99 ft
Top Of Berm =	497.00 ft
Freeboard =	1.00 ft

SUMMARY:

	<u>Flow Rate</u>	<u>High Water</u>
2 Year	1.29 cfs	494.22 ft
15 Year	2.19 cfs	494.96 ft
25 Year	2.77 cfs	495.28 ft
100 Year	3.40 cfs	495.74 ft
100 Year –LOW FLOW BLOCKED		495.99 ft
LOW FLOW SLOT		4" W x 7" H
ELEVATION		492.00
LOW FLOW SLOT		5" W x 10" H
ELEVATION		494.3
STRUCTURE TYPE	48" Precast Manhole Base	
CREST ELEVATION		495.70
TOP OF BASIN BERM		497.00 ft
FREEBOARD		1.01 ft

Appendix A

-Structure Details

-Misc Figures

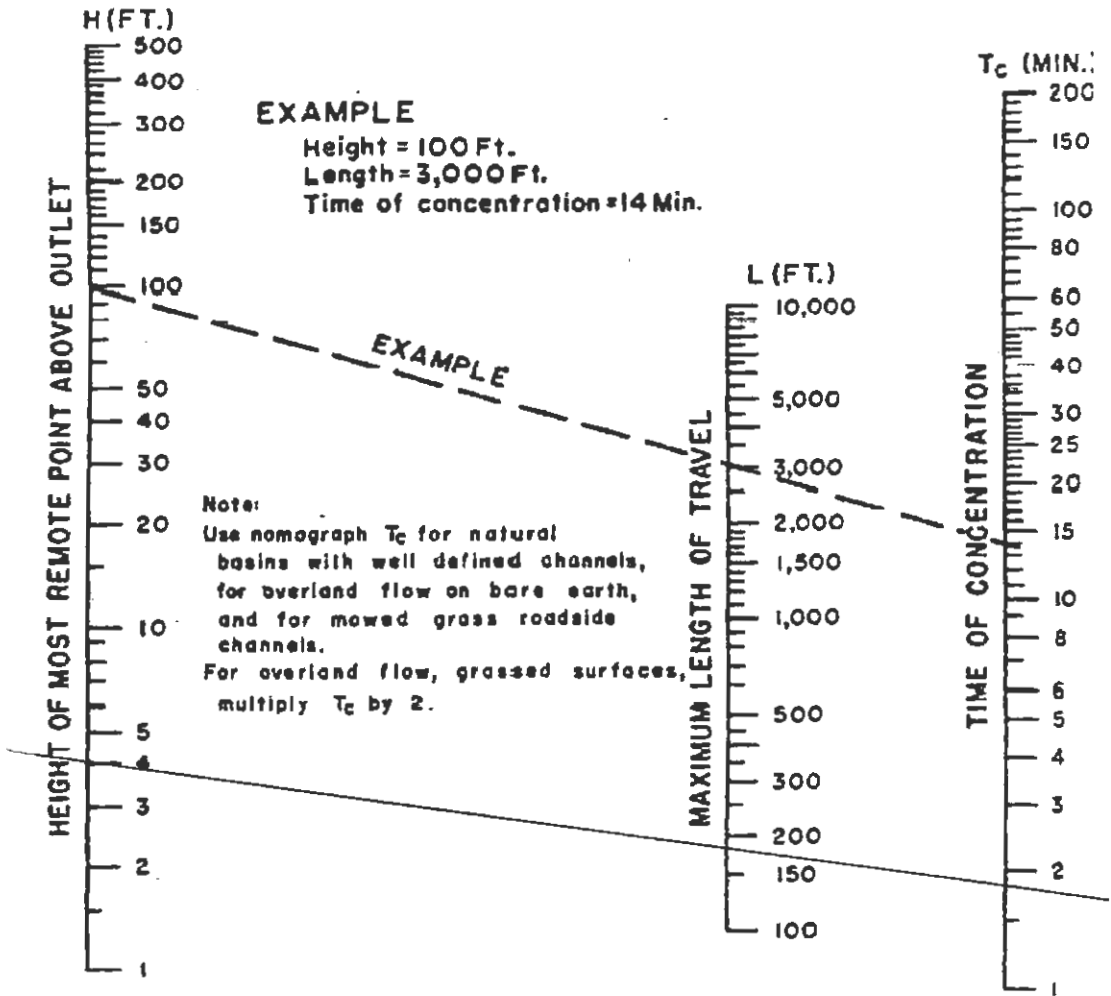


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Engineering - Planning - Surveying
 221 Point West Blvd.
 St. Charles, MO 63301
 636 928-5552 FAX 636 928-1718

Project: O'Fallon Fire
 Date: 4/23/14 Project No: 13-15872
 Designer: TCF Checked: TCF

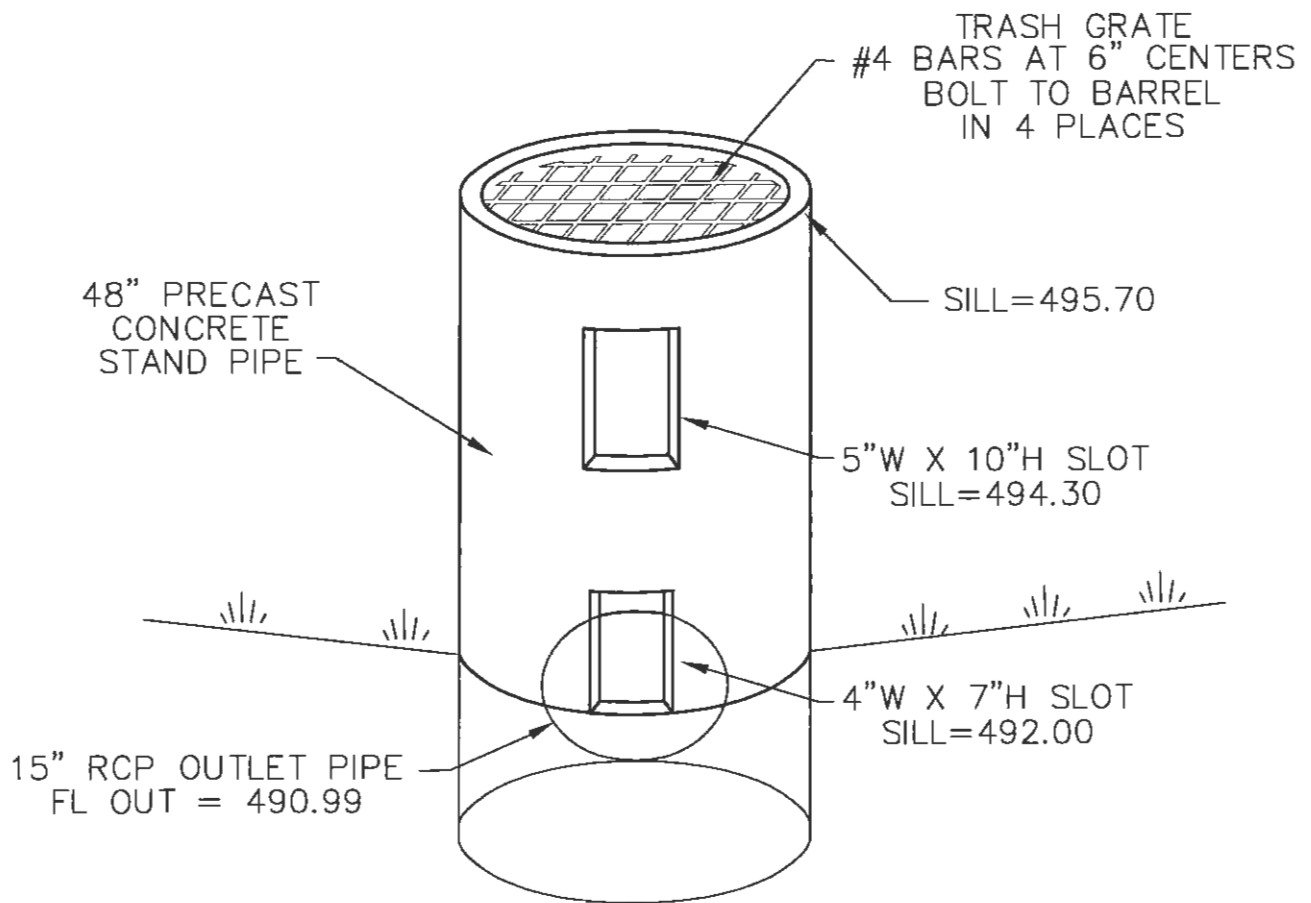
TIME OF CONCENTRATION FOR SMALL DRAINAGE BASINS



Δ Height = 4

Length = 177

$T_c = 0.4(1.8) = 0.72 \text{ min}$



OVERFLOW STRUCTURE '101' DETAIL

NOT TO SCALE

Appendix B

- Basin Routing

-Basin Inflow

- 2 year Detention Routing
- 15 year Detention Routing
- 25 year Detention Routing
- 100 year Detention Routing

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Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft ³ /s)
Hyd Queue 10	Watershed - 002	0	0.064	2.00	2.31
Hyd Queue 10	Watershed - 015	0	0.103	2.00	3.73
Hyd Queue 10	Watershed - 025	0	0.127	2.00	4.60
Hyd Queue 10	Watershed - 100	0	0.162	2.00	5.89

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft ³ /s)
Out 10	Watershed - 002	0	0.064	21.00	1.29
Out 10	Watershed - 015	0	0.103	20.00	2.19
Out 10	Watershed - 025	0	0.127	19.00	2.77
Out 10	Watershed - 100	0	0.162	21.00	3.40

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft ³ /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Pond 10 (IN)	Watershed - 002	0	0.064	2.00	2.31	(N/A)	(N/A)
Pond 10 (OUT)	Watershed - 002	0	0.064	21.00	1.29	494.22	0.034
Pond 10 (IN)	Watershed - 015	0	0.103	2.00	3.73	(N/A)	(N/A)
Pond 10 (OUT)	Watershed - 015	0	0.103	20.00	2.19	494.96	0.062
Pond 10 (IN)	Watershed - 025	0	0.127	2.00	4.60	(N/A)	(N/A)
Pond 10 (OUT)	Watershed - 025	0	0.127	19.00	2.77	495.28	0.078
Pond 10 (IN)	Watershed - 100	0	0.162	2.00	5.89	(N/A)	(N/A)
Pond 10 (OUT)	Watershed - 100	0	0.162	21.00	3.40	495.74	0.102

Subsection: Elevation-Area Volume Curve
 Label: Pond 10

Return Event: 2 years
 Storm Event:

Elevation (ft)	Planimeter (ft ²)	Area (ft ²)	A1+A2+sqr (A1*A2) (ft ²)	Volume (ac-ft)	Volume (Total) (ac-ft)
492.00	0.00	0.000	0.000	0.000	0.000
493.00	0.00	660.000	660.000	0.005	0.005
494.00	0.00	1,291.000	2,874.071	0.022	0.027
495.00	0.00	1,978.000	4,866.998	0.037	0.064
496.00	0.00	2,722.000	7,020.370	0.054	0.118
497.00	0.00	3,522.000	9,340.269	0.071	0.189

Subsection: Volume Equations
Label: Pond 10

Return Event: 2 years
Storm Event:

Pond Volume Equations

*** Incremental volume computed by the Conic Method for Reservoir Volumes.**

$$\text{Volume} = (1/3) * (\text{EL2} - \text{EL1}) * (\text{Area1} + \text{Area2} + \text{sqr}(\text{Area1} * \text{Area2}))$$

where: EL1, EL2 Lower and upper elevations of the increment
 Area1, Area2 Areas computed for EL1, EL2, respectively
 Volume Incremental volume between EL1 and EL2

Subsection: Outlet Input Data
 Label: os

Return Event: 2 years
 Storm Event:

Requested Pond Water Surface Elevations	
Minimum (Headwater)	492.00 ft
Increment (Headwater)	0.03 ft
Maximum (Headwater)	497.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	1	Forward	Culvert - 1	443.00	444.00
Stand Pipe	Riser - 1	Forward	Culvert - 1	446.00	448.00
Orifice-Area	2	Forward	Culvert - 1	444.00	448.00
Culvert-Circular	Culvert - 1	Forward	TW	442.00	448.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: os

Return Event: 2 years

Storm Event:

Structure ID: 1	
Structure Type: Rectangular Weir	
<hr/>	
Number of Openings	1
Elevation	492.00 ft
Weir Length	0.33 ft
Weir Coefficient	3.00 (ft ^{0.5})/s

Structure ID: 2	
Structure Type: Orifice-Area	
<hr/>	
Number of Openings	1
Elevation	492.00 ft
Orifice Area	0.19 ft ²
Top Elevation	492.58 ft
Datum Elevation	492.29 ft
Orifice Coefficient	0.600

Subsection: Outlet Input Data

Label: os

Return Event: 2 years

Storm Event:

Structure ID: Culvert - 1	
Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	15.0 in
Length	38.95 ft
Length (Computed Barrel)	38.95 ft
Slope (Computed)	0.010 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.023
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.090
T2 ratio (HW/D)	1.192
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.

Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control, interpolate between flows at T1 & T2...

T1 Elevation	492.35 ft	T1 Flow	4.80 ft ³ /s
T2 Elevation	492.48 ft	T2 Flow	5.49 ft ³ /s

Subsection: Outlet Input Data

Label: os

Return Event: 2 years

Storm Event:

Structure ID: Riser - 1
Structure Type: Stand Pipe

Number of Openings	1
Elevation	495.70 ft
Diameter	48.0 in
Orifice Area	12.57 ft ²
Orifice Coefficient	0.600
Weir Length	12.57 ft
Weir Coefficient	3.00 (ft ^{0.5})/s
K Reverse	1.000
Manning's n	0.000
Key, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

Structure ID: Weir - 2
Structure Type: Rectangular Weir

Number of Openings	1
Elevation	494.30 ft
Weir Length	0.42 ft
Weir Coefficient	3.00 (ft ^{0.5})/s

Structure ID: Orifice - 2
Structure Type: Orifice-Area

Number of Openings	1
Elevation	494.30 ft
Orifice Area	0.35 ft ²
Top Elevation	495.13 ft
Datum Elevation	494.72 ft
Orifice Coefficient	0.600

Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall
----------------	--------------

Convergence Tolerances

Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft

Subsection: Outlet Input Data
Label: os

Return Event: 2 years
Storm Event:

Convergence Tolerances	
Flow Tolerance (Minimum)	0.100 ft ³ /s
Flow Tolerance (Maximum)	10.000 ft ³ /s

Subsection: Composite Rating Curve
 Label: os

Return Event: 2 years
 Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
492.00	0.00	(N/A)	0.00
492.03	0.01	(N/A)	0.00
492.06	0.01	(N/A)	0.00
492.09	0.03	(N/A)	0.00
492.12	0.04	(N/A)	0.00
492.15	0.06	(N/A)	0.00
492.18	0.08	(N/A)	0.00
492.21	0.10	(N/A)	0.00
492.24	0.13	(N/A)	0.00
492.27	0.13	(N/A)	0.00
492.30	0.13	(N/A)	0.00
492.33	0.13	(N/A)	0.00
492.36	0.13	(N/A)	0.00
492.39	0.24	(N/A)	0.00
492.42	0.27	(N/A)	0.00
492.45	0.30	(N/A)	0.00
492.48	0.33	(N/A)	0.00
492.51	0.36	(N/A)	0.00
492.54	0.46	(N/A)	0.00
492.57	0.46	(N/A)	0.00
492.60	0.47	(N/A)	0.00
492.63	0.54	(N/A)	0.00
492.66	0.57	(N/A)	0.00
492.69	0.59	(N/A)	0.00
492.72	0.61	(N/A)	0.00
492.75	0.63	(N/A)	0.00
492.78	0.74	(N/A)	0.00
492.81	0.74	(N/A)	0.00
492.84	0.74	(N/A)	0.00
492.87	0.74	(N/A)	0.00
492.90	0.74	(N/A)	0.00
492.93	0.78	(N/A)	0.00
492.96	0.78	(N/A)	0.00
492.99	0.78	(N/A)	0.00
493.02	0.78	(N/A)	0.00
493.05	0.78	(N/A)	0.00
493.08	0.78	(N/A)	0.00
493.11	0.78	(N/A)	0.00
493.14	0.78	(N/A)	0.00
493.17	0.78	(N/A)	0.00
493.20	0.95	(N/A)	0.00
493.23	0.95	(N/A)	0.00
493.26	0.95	(N/A)	0.00
493.29	0.95	(N/A)	0.00

Subsection: Composite Rating Curve
 Label: os

Return Event: 2 years
 Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
493.32	0.95	(N/A)	0.00
493.35	0.95	(N/A)	0.00
493.38	0.95	(N/A)	0.00
493.41	0.95	(N/A)	0.00
493.44	0.95	(N/A)	0.00
493.47	0.95	(N/A)	0.00
493.50	0.95	(N/A)	0.00
493.53	0.95	(N/A)	0.00
493.56	0.95	(N/A)	0.00
493.59	1.06	(N/A)	0.00
493.62	1.07	(N/A)	0.00
493.65	1.09	(N/A)	0.00
493.68	1.14	(N/A)	0.00
493.71	1.14	(N/A)	0.00
493.74	1.14	(N/A)	0.00
493.77	1.14	(N/A)	0.00
493.80	1.14	(N/A)	0.00
493.83	1.14	(N/A)	0.00
493.86	1.14	(N/A)	0.00
493.89	1.14	(N/A)	0.00
493.92	1.14	(N/A)	0.00
493.95	1.14	(N/A)	0.00
493.98	1.14	(N/A)	0.00
494.01	1.14	(N/A)	0.00
494.04	1.14	(N/A)	0.00
494.07	1.24	(N/A)	0.00
494.10	1.25	(N/A)	0.00
494.13	1.26	(N/A)	0.00
494.16	1.27	(N/A)	0.00
494.19	1.28	(N/A)	0.00
494.22	1.29	(N/A)	0.00
494.25	1.29	(N/A)	0.00
494.28	1.35	(N/A)	0.00
494.30	1.35	(N/A)	0.00
494.31	1.35	(N/A)	0.00
494.34	1.35	(N/A)	0.00
494.37	1.35	(N/A)	0.00
494.40	1.35	(N/A)	0.00
494.43	1.35	(N/A)	0.00
494.46	1.45	(N/A)	0.00
494.49	1.48	(N/A)	0.00
494.52	1.52	(N/A)	0.00
494.55	1.56	(N/A)	0.00
494.58	1.56	(N/A)	0.00

Subsection: Composite Rating Curve
 Label: os

Return Event: 2 years
 Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
494.61	1.56	(N/A)	0.00
494.64	1.67	(N/A)	0.00
494.67	1.72	(N/A)	0.00
494.70	1.74	(N/A)	0.00
494.73	1.80	(N/A)	0.00
494.76	1.80	(N/A)	0.00
494.79	1.90	(N/A)	0.00
494.82	1.95	(N/A)	0.00
494.85	2.04	(N/A)	0.00
494.88	2.04	(N/A)	0.00
494.91	2.19	(N/A)	0.00
494.94	2.19	(N/A)	0.00
494.97	2.19	(N/A)	0.00
495.00	2.19	(N/A)	0.00
495.03	2.32	(N/A)	0.00
495.06	2.38	(N/A)	0.00
495.09	2.47	(N/A)	0.00
495.12	2.47	(N/A)	0.00
495.15	2.47	(N/A)	0.00
495.18	2.47	(N/A)	0.00
495.21	2.77	(N/A)	0.00
495.24	2.77	(N/A)	0.00
495.27	2.77	(N/A)	0.00
495.30	2.77	(N/A)	0.00
495.33	2.77	(N/A)	0.00
495.36	2.77	(N/A)	0.00
495.39	2.77	(N/A)	0.00
495.42	2.77	(N/A)	0.00
495.45	3.07	(N/A)	0.00
495.48	3.07	(N/A)	0.00
495.51	3.07	(N/A)	0.00
495.54	3.07	(N/A)	0.00
495.57	3.07	(N/A)	0.00
495.60	3.07	(N/A)	0.00
495.63	3.07	(N/A)	0.00
495.66	3.07	(N/A)	0.00
495.69	3.07	(N/A)	0.00
495.70	3.07	(N/A)	0.00
495.72	3.22	(N/A)	0.00
495.75	3.52	(N/A)	0.00
495.78	4.07	(N/A)	0.00
495.81	4.40	(N/A)	0.00
495.84	5.12	(N/A)	0.00
495.87	5.89	(N/A)	0.00

Subsection: Composite Rating Curve
 Label: os

Return Event: 2 years
 Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
495.90	6.65	(N/A)	0.00
495.93	7.46	(N/A)	0.00
495.96	8.78	(N/A)	0.00
495.99	8.81	(N/A)	0.00
496.02	9.74	(N/A)	0.00
496.05	10.52	(N/A)	0.00
496.08	12.36	(N/A)	0.00
496.11	12.39	(N/A)	0.00
496.14	12.41	(N/A)	0.00
496.17	13.30	(N/A)	0.00
496.20	13.76	(N/A)	0.00
496.23	14.01	(N/A)	0.00
496.26	14.26	(N/A)	0.00
496.29	14.31	(N/A)	0.00
496.32	14.36	(N/A)	0.00
496.35	14.40	(N/A)	0.00
496.38	14.45	(N/A)	0.00
496.41	14.50	(N/A)	0.00
496.44	14.55	(N/A)	0.00
496.47	14.59	(N/A)	0.00
496.50	14.64	(N/A)	0.00
496.53	14.69	(N/A)	0.00
496.56	14.73	(N/A)	0.00
496.59	14.78	(N/A)	0.00
496.62	14.83	(N/A)	0.00
496.65	14.87	(N/A)	0.00
496.68	14.92	(N/A)	0.00
496.71	14.97	(N/A)	0.00
496.74	15.01	(N/A)	0.00
496.77	15.06	(N/A)	0.00
496.80	15.10	(N/A)	0.00
496.83	15.15	(N/A)	0.00
496.86	15.19	(N/A)	0.00
496.89	15.24	(N/A)	0.00
496.92	15.28	(N/A)	0.00
496.95	15.33	(N/A)	0.00
496.98	15.38	(N/A)	0.00
497.00	15.41	(N/A)	0.00

Contributing Structures

(no Q: 1,Orifice - 2,Weir - 2,Riser - 1,2,Culvert - 1)
 None Contributing
 None Contributing
 None Contributing

Subsection: Composite Rating Curve
Label: os

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures

None Contributing
None Contributing
None Contributing
None Contributing
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
1,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Riser - 1,2)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)
2,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,Riser - 1)

Subsection: Composite Rating Curve
Label: os

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures

Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Orifice - 2,Riser - 1,2,Culvert - 1 (no Q: 1,Weir - 2)
Riser - 1,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,2)
Riser - 1,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,2)
Riser - 1,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,2)
Riser - 1,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,2)
Riser - 1,Culvert - 1 (no Q: 1,Orifice - 2,Weir - 2,2)

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond 10

Return Event: 2 years

Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration
Initial Conditions	
Elevation (Water Surface, Initial)	492.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	1.00 min

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
492.00	0.00	0.000	0.000	0.00	0.00	0.00
492.03	0.01	0.000	0.594	0.00	0.01	0.01
492.06	0.01	0.000	2.376	0.00	0.01	0.02
492.09	0.03	0.000	5.346	0.00	0.03	0.03
492.12	0.04	0.000	9.504	0.00	0.04	0.05
492.15	0.06	0.000	14.850	0.00	0.06	0.08
492.18	0.08	0.000	21.384	0.00	0.08	0.12
492.21	0.10	0.000	29.106	0.00	0.10	0.16
492.24	0.13	0.000	38.016	0.00	0.13	0.23
492.27	0.13	0.000	48.114	0.00	0.13	0.28
492.30	0.13	0.000	59.400	0.00	0.13	0.33
492.33	0.13	0.000	71.874	0.00	0.13	0.40
492.36	0.13	0.000	85.536	0.00	0.13	0.47
492.39	0.24	0.000	100.386	0.00	0.24	0.68
492.42	0.27	0.000	116.424	0.00	0.27	0.81
492.45	0.30	0.000	133.650	0.00	0.30	0.97
492.48	0.33	0.001	152.064	0.00	0.33	1.14
492.51	0.36	0.001	171.666	0.00	0.36	1.33
492.54	0.46	0.001	192.456	0.00	0.46	1.62
492.57	0.46	0.001	214.434	0.00	0.46	1.82
492.60	0.47	0.001	237.600	0.00	0.47	2.06
492.63	0.54	0.001	261.954	0.00	0.54	2.38
492.66	0.57	0.001	287.496	0.00	0.57	2.67
492.69	0.59	0.002	314.226	0.00	0.59	3.00
492.72	0.61	0.002	342.144	0.00	0.61	3.35
492.75	0.63	0.002	371.250	0.00	0.63	3.72
492.78	0.74	0.002	401.544	0.00	0.74	4.22
492.81	0.74	0.003	433.026	0.00	0.74	4.64
492.84	0.74	0.003	465.696	0.00	0.74	5.09
492.87	0.74	0.003	499.554	0.00	0.74	5.57
492.90	0.74	0.004	534.600	0.00	0.74	6.09

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond 10

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
492.93	0.78	0.004	570.834	0.00	0.78	6.67
492.96	0.78	0.004	608.256	0.00	0.78	7.26
492.99	0.78	0.005	646.866	0.00	0.78	7.89
493.02	0.78	0.005	670.565	0.00	0.78	8.55
493.05	0.78	0.006	686.569	0.00	0.78	9.23
493.08	0.78	0.006	702.762	0.00	0.78	9.93
493.11	0.78	0.007	719.144	0.00	0.78	10.64
493.14	0.78	0.007	735.715	0.00	0.78	11.36
493.17	0.78	0.008	752.475	0.00	0.78	12.11
493.20	0.95	0.008	769.423	0.00	0.95	13.04
493.23	0.95	0.009	786.560	0.00	0.95	13.82
493.26	0.95	0.009	803.885	0.00	0.95	14.62
493.29	0.95	0.010	821.400	0.00	0.95	15.43
493.32	0.95	0.011	839.103	0.00	0.95	16.26
493.35	0.95	0.011	856.995	0.00	0.95	17.11
493.38	0.95	0.012	875.075	0.00	0.95	17.97
493.41	0.95	0.012	893.345	0.00	0.95	18.86
493.44	0.95	0.013	911.803	0.00	0.95	19.76
493.47	0.95	0.014	930.450	0.00	0.95	20.68
493.50	0.95	0.014	949.285	0.00	0.95	21.62
493.53	0.95	0.015	968.310	0.00	0.95	22.58
493.56	0.95	0.016	987.523	0.00	0.95	23.56
493.59	1.06	0.016	1,006.925	0.00	1.06	24.67
493.62	1.07	0.017	1,026.515	0.00	1.07	25.69
493.65	1.09	0.018	1,046.295	0.00	1.09	26.74
493.68	1.14	0.018	1,066.263	0.00	1.14	27.86
493.71	1.14	0.019	1,086.420	0.00	1.14	28.93
493.74	1.14	0.020	1,106.765	0.00	1.14	30.03
493.77	1.14	0.021	1,127.300	0.00	1.14	31.15
493.80	1.14	0.021	1,148.023	0.00	1.14	32.28
493.83	1.14	0.022	1,168.935	0.00	1.14	33.44
493.86	1.14	0.023	1,190.035	0.00	1.14	34.62
493.89	1.14	0.024	1,211.324	0.00	1.14	35.82
493.92	1.14	0.025	1,232.802	0.00	1.14	37.04
493.95	1.14	0.026	1,254.469	0.00	1.14	38.29
493.98	1.14	0.026	1,276.325	0.00	1.14	39.55
494.01	1.14	0.027	1,297.147	0.00	1.14	40.84
494.04	1.14	0.028	1,315.677	0.00	1.14	42.15
494.07	1.24	0.029	1,334.337	0.00	1.24	43.57
494.10	1.25	0.030	1,353.130	0.00	1.25	44.93
494.13	1.26	0.031	1,372.053	0.00	1.26	46.30
494.16	1.27	0.032	1,391.108	0.00	1.27	47.69
494.19	1.28	0.033	1,410.295	0.00	1.28	49.10
494.22	1.29	0.034	1,429.613	0.00	1.29	50.53
494.25	1.29	0.035	1,449.062	0.00	1.29	51.97

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond 10

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
494.28	1.35	0.036	1,468.642	0.00	1.35	53.48
494.30	1.35	0.037	1,481.769	0.00	1.35	54.47
494.31	1.35	0.037	1,488.354	0.00	1.35	54.96
494.34	1.35	0.038	1,508.198	0.00	1.35	56.46
494.37	1.35	0.039	1,528.173	0.00	1.35	57.98
494.40	1.35	0.040	1,548.279	0.00	1.35	59.52
494.43	1.35	0.041	1,568.517	0.00	1.35	61.07
494.46	1.45	0.042	1,588.886	0.00	1.45	62.76
494.49	1.48	0.043	1,609.386	0.00	1.48	64.39
494.52	1.52	0.044	1,630.018	0.00	1.52	66.05
494.55	1.56	0.046	1,650.782	0.00	1.56	67.73
494.58	1.56	0.047	1,671.676	0.00	1.56	69.39
494.61	1.56	0.048	1,692.702	0.00	1.56	71.07
494.64	1.67	0.049	1,713.860	0.00	1.67	72.89
494.67	1.72	0.050	1,735.149	0.00	1.72	74.65
494.70	1.74	0.051	1,756.569	0.00	1.74	76.42
494.73	1.80	0.053	1,778.121	0.00	1.80	78.25
494.76	1.80	0.054	1,799.804	0.00	1.80	80.04
494.79	1.90	0.055	1,821.619	0.00	1.90	81.95
494.82	1.95	0.056	1,843.565	0.00	1.95	83.83
494.85	2.04	0.058	1,865.642	0.00	2.04	85.78
494.88	2.04	0.059	1,887.851	0.00	2.04	87.66
494.91	2.19	0.060	1,910.191	0.00	2.19	89.70
494.94	2.19	0.062	1,932.663	0.00	2.19	91.62
494.97	2.19	0.063	1,955.266	0.00	2.19	93.57
495.00	2.19	0.064	1,978.000	0.00	2.19	95.54
495.03	2.32	0.066	1,998.596	0.00	2.32	97.65
495.06	2.38	0.067	2,019.298	0.00	2.38	99.72
495.09	2.47	0.068	2,040.107	0.00	2.47	101.84
495.12	2.47	0.070	2,061.022	0.00	2.47	103.89
495.15	2.47	0.071	2,082.044	0.00	2.47	105.96
495.18	2.47	0.073	2,103.173	0.00	2.47	108.06
495.21	2.77	0.074	2,124.409	0.00	2.77	110.47
495.24	2.77	0.076	2,145.751	0.00	2.77	112.60
495.27	2.77	0.077	2,167.200	0.00	2.77	114.76
495.30	2.77	0.079	2,188.755	0.00	2.77	116.94
495.33	2.77	0.080	2,210.418	0.00	2.77	119.14
495.36	2.77	0.082	2,232.186	0.00	2.77	121.36
495.39	2.77	0.083	2,254.062	0.00	2.77	123.60
495.42	2.77	0.085	2,276.044	0.00	2.77	125.87
495.45	3.07	0.086	2,298.133	0.00	3.07	128.46
495.48	3.07	0.088	2,320.329	0.00	3.07	130.77
495.51	3.07	0.090	2,342.631	0.00	3.07	133.10
495.54	3.07	0.091	2,365.040	0.00	3.07	135.45
495.57	3.07	0.093	2,387.555	0.00	3.07	137.83

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond 10

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
495.60	3.07	0.094	2,410.178	0.00	3.07	140.23
495.63	3.07	0.096	2,432.906	0.00	3.07	142.65
495.66	3.07	0.098	2,455.742	0.00	3.07	145.10
495.69	3.07	0.100	2,478.684	0.00	3.07	147.56
495.70	3.07	0.100	2,486.355	0.00	3.07	148.39
495.72	3.22	0.101	2,501.733	0.00	3.22	150.20
495.75	3.52	0.103	2,524.889	0.00	3.52	153.01
495.78	4.07	0.105	2,548.151	0.00	4.07	156.10
495.81	4.40	0.106	2,571.520	0.00	4.40	158.99
495.84	5.12	0.108	2,594.995	0.00	5.12	162.30
495.87	5.89	0.110	2,618.578	0.00	5.89	165.67
495.90	6.65	0.112	2,642.267	0.00	6.65	169.06
495.93	7.46	0.114	2,666.062	0.00	7.46	172.53
495.96	8.78	0.116	2,689.964	0.00	8.78	176.52
495.99	8.81	0.117	2,713.973	0.00	8.81	179.26
496.02	9.74	0.119	2,736.991	0.00	9.74	182.91
496.05	10.52	0.121	2,759.556	0.00	10.52	186.43
496.08	12.36	0.123	2,782.212	0.00	12.36	191.05
496.11	12.39	0.125	2,804.962	0.00	12.39	193.87
496.14	12.41	0.127	2,827.804	0.00	12.41	196.71
496.17	13.30	0.129	2,850.739	0.00	13.30	200.44
496.20	13.76	0.131	2,873.766	0.00	13.76	203.76
496.23	14.01	0.133	2,896.886	0.00	14.01	206.89
496.26	14.26	0.135	2,920.099	0.00	14.26	210.05
496.29	14.31	0.137	2,943.404	0.00	14.31	213.03
496.32	14.36	0.139	2,966.802	0.00	14.36	216.04
496.35	14.40	0.141	2,990.293	0.00	14.40	219.06
496.38	14.45	0.143	3,013.876	0.00	14.45	222.11
496.41	14.50	0.145	3,037.552	0.00	14.50	225.19
496.44	14.55	0.147	3,061.320	0.00	14.55	228.28
496.47	14.59	0.149	3,085.181	0.00	14.59	231.40
496.50	14.64	0.151	3,109.135	0.00	14.64	234.55
496.53	14.69	0.154	3,133.181	0.00	14.69	237.71
496.56	14.73	0.156	3,157.320	0.00	14.73	240.91
496.59	14.78	0.158	3,181.552	0.00	14.78	244.12
496.62	14.83	0.160	3,205.876	0.00	14.83	247.36
496.65	14.87	0.162	3,230.293	0.00	14.87	250.63
496.68	14.92	0.165	3,254.802	0.00	14.92	253.92
496.71	14.97	0.167	3,279.404	0.00	14.97	257.23
496.74	15.01	0.169	3,304.099	0.00	15.01	260.57
496.77	15.06	0.171	3,328.886	0.00	15.06	263.93
496.80	15.10	0.174	3,353.766	0.00	15.10	267.32
496.83	15.15	0.176	3,378.739	0.00	15.15	270.73
496.86	15.19	0.178	3,403.804	0.00	15.19	274.16
496.89	15.24	0.181	3,428.962	0.00	15.24	277.63

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond 10

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
496.92	15.28	0.183	3,454.212	0.00	15.28	281.11
496.95	15.33	0.185	3,479.556	0.00	15.33	284.63
496.98	15.38	0.188	3,504.991	0.00	15.38	288.16
497.00	15.41	0.189	3,522.000	0.00	15.41	290.54

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond 10

Return Event: 15 years

Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	492.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	1.00 min

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
492.00	0.00	0.000	0.000	0.00	0.00	0.00
492.03	0.01	0.000	0.594	0.00	0.01	0.01
492.06	0.01	0.000	2.376	0.00	0.01	0.02
492.09	0.03	0.000	5.346	0.00	0.03	0.03
492.12	0.04	0.000	9.504	0.00	0.04	0.05
492.15	0.06	0.000	14.850	0.00	0.06	0.08
492.18	0.08	0.000	21.384	0.00	0.08	0.12
492.21	0.10	0.000	29.106	0.00	0.10	0.16
492.24	0.13	0.000	38.016	0.00	0.13	0.23
492.27	0.13	0.000	48.114	0.00	0.13	0.28
492.30	0.13	0.000	59.400	0.00	0.13	0.33
492.33	0.13	0.000	71.874	0.00	0.13	0.40
492.36	0.13	0.000	85.536	0.00	0.13	0.47
492.39	0.24	0.000	100.386	0.00	0.24	0.68
492.42	0.27	0.000	116.424	0.00	0.27	0.81
492.45	0.30	0.000	133.650	0.00	0.30	0.97
492.48	0.33	0.001	152.064	0.00	0.33	1.14
492.51	0.36	0.001	171.666	0.00	0.36	1.33
492.54	0.46	0.001	192.456	0.00	0.46	1.62
492.57	0.46	0.001	214.434	0.00	0.46	1.82
492.60	0.47	0.001	237.600	0.00	0.47	2.06
492.63	0.54	0.001	261.954	0.00	0.54	2.38
492.66	0.57	0.001	287.496	0.00	0.57	2.67
492.69	0.59	0.002	314.226	0.00	0.59	3.00
492.72	0.61	0.002	342.144	0.00	0.61	3.35
492.75	0.63	0.002	371.250	0.00	0.63	3.72
492.78	0.74	0.002	401.544	0.00	0.74	4.22
492.81	0.74	0.003	433.026	0.00	0.74	4.64
492.84	0.74	0.003	465.696	0.00	0.74	5.09
492.87	0.74	0.003	499.554	0.00	0.74	5.57
492.90	0.74	0.004	534.600	0.00	0.74	6.09

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 15 years

Label: Pond 10

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
492.93	0.78	0.004	570.834	0.00	0.78	6.67
492.96	0.78	0.004	608.256	0.00	0.78	7.26
492.99	0.78	0.005	646.866	0.00	0.78	7.89
493.02	0.78	0.005	670.565	0.00	0.78	8.55
493.05	0.78	0.006	686.569	0.00	0.78	9.23
493.08	0.78	0.006	702.762	0.00	0.78	9.93
493.11	0.78	0.007	719.144	0.00	0.78	10.64
493.14	0.78	0.007	735.715	0.00	0.78	11.36
493.17	0.78	0.008	752.475	0.00	0.78	12.11
493.20	0.95	0.008	769.423	0.00	0.95	13.04
493.23	0.95	0.009	786.560	0.00	0.95	13.82
493.26	0.95	0.009	803.885	0.00	0.95	14.62
493.29	0.95	0.010	821.400	0.00	0.95	15.43
493.32	0.95	0.011	839.103	0.00	0.95	16.26
493.35	0.95	0.011	856.995	0.00	0.95	17.11
493.38	0.95	0.012	875.075	0.00	0.95	17.97
493.41	0.95	0.012	893.345	0.00	0.95	18.86
493.44	0.95	0.013	911.803	0.00	0.95	19.76
493.47	0.95	0.014	930.450	0.00	0.95	20.68
493.50	0.95	0.014	949.285	0.00	0.95	21.62
493.53	0.95	0.015	968.310	0.00	0.95	22.58
493.56	0.95	0.016	987.523	0.00	0.95	23.56
493.59	1.06	0.016	1,006.925	0.00	1.06	24.67
493.62	1.07	0.017	1,026.515	0.00	1.07	25.69
493.65	1.09	0.018	1,046.295	0.00	1.09	26.74
493.68	1.14	0.018	1,066.263	0.00	1.14	27.86
493.71	1.14	0.019	1,086.420	0.00	1.14	28.93
493.74	1.14	0.020	1,106.765	0.00	1.14	30.03
493.77	1.14	0.021	1,127.300	0.00	1.14	31.15
493.80	1.14	0.021	1,148.023	0.00	1.14	32.28
493.83	1.14	0.022	1,168.935	0.00	1.14	33.44
493.86	1.14	0.023	1,190.035	0.00	1.14	34.62
493.89	1.14	0.024	1,211.324	0.00	1.14	35.82
493.92	1.14	0.025	1,232.802	0.00	1.14	37.04
493.95	1.14	0.026	1,254.469	0.00	1.14	38.29
493.98	1.14	0.026	1,276.325	0.00	1.14	39.55
494.01	1.14	0.027	1,297.147	0.00	1.14	40.84
494.04	1.14	0.028	1,315.677	0.00	1.14	42.15
494.07	1.24	0.029	1,334.337	0.00	1.24	43.57
494.10	1.25	0.030	1,353.130	0.00	1.25	44.93
494.13	1.26	0.031	1,372.053	0.00	1.26	46.30
494.16	1.27	0.032	1,391.108	0.00	1.27	47.69
494.19	1.28	0.033	1,410.295	0.00	1.28	49.10
494.22	1.29	0.034	1,429.613	0.00	1.29	50.53
494.25	1.29	0.035	1,449.062	0.00	1.29	51.97

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond 10

Return Event: 15 years

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
494.28	1.35	0.036	1,468.642	0.00	1.35	53.48
494.30	1.35	0.037	1,481.769	0.00	1.35	54.47
494.31	1.35	0.037	1,488.354	0.00	1.35	54.96
494.34	1.35	0.038	1,508.198	0.00	1.35	56.46
494.37	1.35	0.039	1,528.173	0.00	1.35	57.98
494.40	1.35	0.040	1,548.279	0.00	1.35	59.52
494.43	1.35	0.041	1,568.517	0.00	1.35	61.07
494.46	1.45	0.042	1,588.886	0.00	1.45	62.76
494.49	1.48	0.043	1,609.386	0.00	1.48	64.39
494.52	1.52	0.044	1,630.018	0.00	1.52	66.05
494.55	1.56	0.046	1,650.782	0.00	1.56	67.73
494.58	1.56	0.047	1,671.676	0.00	1.56	69.39
494.61	1.56	0.048	1,692.702	0.00	1.56	71.07
494.64	1.67	0.049	1,713.860	0.00	1.67	72.89
494.67	1.72	0.050	1,735.149	0.00	1.72	74.65
494.70	1.74	0.051	1,756.569	0.00	1.74	76.42
494.73	1.80	0.053	1,778.121	0.00	1.80	78.25
494.76	1.80	0.054	1,799.804	0.00	1.80	80.04
494.79	1.90	0.055	1,821.619	0.00	1.90	81.95
494.82	1.95	0.056	1,843.565	0.00	1.95	83.83
494.85	2.04	0.058	1,865.642	0.00	2.04	85.78
494.88	2.04	0.059	1,887.851	0.00	2.04	87.66
494.91	2.19	0.060	1,910.191	0.00	2.19	89.70
494.94	2.19	0.062	1,932.663	0.00	2.19	91.62
494.97	2.19	0.063	1,955.266	0.00	2.19	93.57
495.00	2.19	0.064	1,978.000	0.00	2.19	95.54
495.03	2.32	0.066	1,998.596	0.00	2.32	97.65
495.06	2.38	0.067	2,019.298	0.00	2.38	99.72
495.09	2.47	0.068	2,040.107	0.00	2.47	101.84
495.12	2.47	0.070	2,061.022	0.00	2.47	103.89
495.15	2.47	0.071	2,082.044	0.00	2.47	105.96
495.18	2.47	0.073	2,103.173	0.00	2.47	108.06
495.21	2.77	0.074	2,124.409	0.00	2.77	110.47
495.24	2.77	0.076	2,145.751	0.00	2.77	112.60
495.27	2.77	0.077	2,167.200	0.00	2.77	114.76
495.30	2.77	0.079	2,188.755	0.00	2.77	116.94
495.33	2.77	0.080	2,210.418	0.00	2.77	119.14
495.36	2.77	0.082	2,232.186	0.00	2.77	121.36
495.39	2.77	0.083	2,254.062	0.00	2.77	123.60
495.42	2.77	0.085	2,276.044	0.00	2.77	125.87
495.45	3.07	0.086	2,298.133	0.00	3.07	128.46
495.48	3.07	0.088	2,320.329	0.00	3.07	130.77
495.51	3.07	0.090	2,342.631	0.00	3.07	133.10
495.54	3.07	0.091	2,365.040	0.00	3.07	135.45
495.57	3.07	0.093	2,387.555	0.00	3.07	137.83

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond 10

Return Event: 15 years

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
495.60	3.07	0.094	2,410.178	0.00	3.07	140.23
495.63	3.07	0.096	2,432.906	0.00	3.07	142.65
495.66	3.07	0.098	2,455.742	0.00	3.07	145.10
495.69	3.07	0.100	2,478.684	0.00	3.07	147.56
495.70	3.07	0.100	2,486.355	0.00	3.07	148.39
495.72	3.22	0.101	2,501.733	0.00	3.22	150.20
495.75	3.52	0.103	2,524.889	0.00	3.52	153.01
495.78	4.07	0.105	2,548.151	0.00	4.07	156.10
495.81	4.45	0.106	2,571.520	0.00	4.45	159.04
495.84	5.07	0.108	2,594.995	0.00	5.07	162.24
495.87	5.89	0.110	2,618.578	0.00	5.89	165.67
495.90	6.65	0.112	2,642.267	0.00	6.65	169.06
495.93	7.46	0.114	2,666.062	0.00	7.46	172.53
495.96	8.78	0.116	2,689.964	0.00	8.78	176.52
495.99	8.81	0.117	2,713.973	0.00	8.81	179.26
496.02	9.74	0.119	2,736.991	0.00	9.74	182.91
496.05	10.52	0.121	2,759.556	0.00	10.52	186.43
496.08	12.36	0.123	2,782.212	0.00	12.36	191.05
496.11	12.39	0.125	2,804.962	0.00	12.39	193.87
496.14	12.41	0.127	2,827.804	0.00	12.41	196.71
496.17	13.30	0.129	2,850.739	0.00	13.30	200.44
496.20	13.76	0.131	2,873.766	0.00	13.76	203.76
496.23	14.01	0.133	2,896.886	0.00	14.01	206.89
496.26	14.26	0.135	2,920.099	0.00	14.26	210.05
496.29	14.31	0.137	2,943.404	0.00	14.31	213.03
496.32	14.36	0.139	2,966.802	0.00	14.36	216.04
496.35	14.40	0.141	2,990.293	0.00	14.40	219.06
496.38	14.45	0.143	3,013.876	0.00	14.45	222.11
496.41	14.50	0.145	3,037.552	0.00	14.50	225.19
496.44	14.55	0.147	3,061.320	0.00	14.55	228.28
496.47	14.59	0.149	3,085.181	0.00	14.59	231.40
496.50	14.64	0.151	3,109.135	0.00	14.64	234.55
496.53	14.69	0.154	3,133.181	0.00	14.69	237.71
496.56	14.73	0.156	3,157.320	0.00	14.73	240.91
496.59	14.78	0.158	3,181.552	0.00	14.78	244.12
496.62	14.83	0.160	3,205.876	0.00	14.83	247.36
496.65	14.87	0.162	3,230.293	0.00	14.87	250.63
496.68	14.92	0.165	3,254.802	0.00	14.92	253.92
496.71	14.97	0.167	3,279.404	0.00	14.97	257.23
496.74	15.01	0.169	3,304.099	0.00	15.01	260.57
496.77	15.06	0.171	3,328.886	0.00	15.06	263.93
496.80	15.10	0.174	3,353.766	0.00	15.10	267.32
496.83	15.15	0.176	3,378.739	0.00	15.15	270.73
496.86	15.19	0.178	3,403.804	0.00	15.19	274.16
496.89	15.24	0.181	3,428.962	0.00	15.24	277.63

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Pond 10

Return Event: 15 years
Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
496.92	15.28	0.183	3,454.212	0.00	15.28	281.11
496.95	15.33	0.185	3,479.556	0.00	15.33	284.63
496.98	15.38	0.188	3,504.991	0.00	15.38	288.16
497.00	15.41	0.189	3,522.000	0.00	15.41	290.54

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: Pond 10

Return Event: 25 years
 Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration
Initial Conditions	
Elevation (Water Surface, Initial)	492.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	1.00 min

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
492.00	0.00	0.000	0.000	0.00	0.00	0.00
492.03	0.01	0.000	0.594	0.00	0.01	0.01
492.06	0.01	0.000	2.376	0.00	0.01	0.02
492.09	0.03	0.000	5.346	0.00	0.03	0.03
492.12	0.04	0.000	9.504	0.00	0.04	0.05
492.15	0.06	0.000	14.850	0.00	0.06	0.08
492.18	0.08	0.000	21.384	0.00	0.08	0.12
492.21	0.10	0.000	29.106	0.00	0.10	0.16
492.24	0.13	0.000	38.016	0.00	0.13	0.23
492.27	0.13	0.000	48.114	0.00	0.13	0.28
492.30	0.13	0.000	59.400	0.00	0.13	0.33
492.33	0.13	0.000	71.874	0.00	0.13	0.40
492.36	0.13	0.000	85.536	0.00	0.13	0.47
492.39	0.24	0.000	100.386	0.00	0.24	0.68
492.42	0.27	0.000	116.424	0.00	0.27	0.81
492.45	0.30	0.000	133.650	0.00	0.30	0.97
492.48	0.33	0.001	152.064	0.00	0.33	1.14
492.51	0.36	0.001	171.666	0.00	0.36	1.33
492.54	0.46	0.001	192.456	0.00	0.46	1.62
492.57	0.46	0.001	214.434	0.00	0.46	1.82
492.60	0.47	0.001	237.600	0.00	0.47	2.06
492.63	0.54	0.001	261.954	0.00	0.54	2.38
492.66	0.57	0.001	287.496	0.00	0.57	2.67
492.69	0.59	0.002	314.226	0.00	0.59	3.00
492.72	0.61	0.002	342.144	0.00	0.61	3.35
492.75	0.63	0.002	371.250	0.00	0.63	3.72
492.78	0.74	0.002	401.544	0.00	0.74	4.22
492.81	0.74	0.003	433.026	0.00	0.74	4.64
492.84	0.74	0.003	465.696	0.00	0.74	5.09
492.87	0.74	0.003	499.554	0.00	0.74	5.57
492.90	0.74	0.004	534.600	0.00	0.74	6.09

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: Pond 10

Return Event: 25 years
 Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
492.93	0.78	0.004	570.834	0.00	0.78	6.67
492.96	0.78	0.004	608.256	0.00	0.78	7.26
492.99	0.78	0.005	646.866	0.00	0.78	7.89
493.02	0.78	0.005	670.565	0.00	0.78	8.55
493.05	0.78	0.006	686.569	0.00	0.78	9.23
493.08	0.78	0.006	702.762	0.00	0.78	9.93
493.11	0.78	0.007	719.144	0.00	0.78	10.64
493.14	0.78	0.007	735.715	0.00	0.78	11.36
493.17	0.78	0.008	752.475	0.00	0.78	12.11
493.20	0.95	0.008	769.423	0.00	0.95	13.04
493.23	0.95	0.009	786.560	0.00	0.95	13.82
493.26	0.95	0.009	803.885	0.00	0.95	14.62
493.29	0.95	0.010	821.400	0.00	0.95	15.43
493.32	0.95	0.011	839.103	0.00	0.95	16.26
493.35	0.95	0.011	856.995	0.00	0.95	17.11
493.38	0.95	0.012	875.075	0.00	0.95	17.97
493.41	0.95	0.012	893.345	0.00	0.95	18.86
493.44	0.95	0.013	911.803	0.00	0.95	19.76
493.47	0.95	0.014	930.450	0.00	0.95	20.68
493.50	0.95	0.014	949.285	0.00	0.95	21.62
493.53	0.95	0.015	968.310	0.00	0.95	22.58
493.56	0.95	0.016	987.523	0.00	0.95	23.56
493.59	1.06	0.016	1,006.925	0.00	1.06	24.67
493.62	1.07	0.017	1,026.515	0.00	1.07	25.69
493.65	1.09	0.018	1,046.295	0.00	1.09	26.74
493.68	1.14	0.018	1,066.263	0.00	1.14	27.86
493.71	1.14	0.019	1,086.420	0.00	1.14	28.93
493.74	1.14	0.020	1,106.765	0.00	1.14	30.03
493.77	1.14	0.021	1,127.300	0.00	1.14	31.15
493.80	1.14	0.021	1,148.023	0.00	1.14	32.28
493.83	1.14	0.022	1,168.935	0.00	1.14	33.44
493.86	1.14	0.023	1,190.035	0.00	1.14	34.62
493.89	1.14	0.024	1,211.324	0.00	1.14	35.82
493.92	1.14	0.025	1,232.802	0.00	1.14	37.04
493.95	1.14	0.026	1,254.469	0.00	1.14	38.29
493.98	1.14	0.026	1,276.325	0.00	1.14	39.55
494.01	1.14	0.027	1,297.147	0.00	1.14	40.84
494.04	1.14	0.028	1,315.677	0.00	1.14	42.15
494.07	1.24	0.029	1,334.337	0.00	1.24	43.57
494.10	1.25	0.030	1,353.130	0.00	1.25	44.93
494.13	1.26	0.031	1,372.053	0.00	1.26	46.30
494.16	1.27	0.032	1,391.108	0.00	1.27	47.69
494.19	1.28	0.033	1,410.295	0.00	1.28	49.10
494.22	1.29	0.034	1,429.613	0.00	1.29	50.53
494.25	1.29	0.035	1,449.062	0.00	1.29	51.97

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond 10

Return Event: 25 years

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
494.28	1.35	0.036	1,468.642	0.00	1.35	53.48
494.30	1.35	0.037	1,481.769	0.00	1.35	54.47
494.31	1.35	0.037	1,488.354	0.00	1.35	54.96
494.34	1.35	0.038	1,508.198	0.00	1.35	56.46
494.37	1.35	0.039	1,528.173	0.00	1.35	57.98
494.40	1.35	0.040	1,548.279	0.00	1.35	59.52
494.43	1.35	0.041	1,568.517	0.00	1.35	61.07
494.46	1.45	0.042	1,588.886	0.00	1.45	62.76
494.49	1.48	0.043	1,609.386	0.00	1.48	64.39
494.52	1.52	0.044	1,630.018	0.00	1.52	66.05
494.55	1.56	0.046	1,650.782	0.00	1.56	67.73
494.58	1.56	0.047	1,671.676	0.00	1.56	69.39
494.61	1.56	0.048	1,692.702	0.00	1.56	71.07
494.64	1.67	0.049	1,713.860	0.00	1.67	72.89
494.67	1.72	0.050	1,735.149	0.00	1.72	74.65
494.70	1.74	0.051	1,756.569	0.00	1.74	76.42
494.73	1.80	0.053	1,778.121	0.00	1.80	78.25
494.76	1.80	0.054	1,799.804	0.00	1.80	80.04
494.79	1.90	0.055	1,821.619	0.00	1.90	81.95
494.82	1.95	0.056	1,843.565	0.00	1.95	83.83
494.85	2.04	0.058	1,865.642	0.00	2.04	85.78
494.88	2.04	0.059	1,887.851	0.00	2.04	87.66
494.91	2.19	0.060	1,910.191	0.00	2.19	89.70
494.94	2.19	0.062	1,932.663	0.00	2.19	91.62
494.97	2.19	0.063	1,955.266	0.00	2.19	93.57
495.00	2.19	0.064	1,978.000	0.00	2.19	95.54
495.03	2.32	0.066	1,998.596	0.00	2.32	97.65
495.06	2.38	0.067	2,019.298	0.00	2.38	99.72
495.09	2.47	0.068	2,040.107	0.00	2.47	101.84
495.12	2.47	0.070	2,061.022	0.00	2.47	103.89
495.15	2.47	0.071	2,082.044	0.00	2.47	105.96
495.18	2.47	0.073	2,103.173	0.00	2.47	108.06
495.21	2.77	0.074	2,124.409	0.00	2.77	110.47
495.24	2.77	0.076	2,145.751	0.00	2.77	112.60
495.27	2.77	0.077	2,167.200	0.00	2.77	114.76
495.30	2.77	0.079	2,188.755	0.00	2.77	116.94
495.33	2.77	0.080	2,210.418	0.00	2.77	119.14
495.36	2.77	0.082	2,232.186	0.00	2.77	121.36
495.39	2.77	0.083	2,254.062	0.00	2.77	123.60
495.42	2.77	0.085	2,276.044	0.00	2.77	125.87
495.45	3.07	0.086	2,298.133	0.00	3.07	128.46
495.48	3.07	0.088	2,320.329	0.00	3.07	130.77
495.51	3.07	0.090	2,342.631	0.00	3.07	133.10
495.54	3.07	0.091	2,365.040	0.00	3.07	135.45
495.57	3.07	0.093	2,387.555	0.00	3.07	137.83

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond 10

Return Event: 25 years

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
495.60	3.07	0.094	2,410.178	0.00	3.07	140.23
495.63	3.07	0.096	2,432.906	0.00	3.07	142.65
495.66	3.07	0.098	2,455.742	0.00	3.07	145.10
495.69	3.07	0.100	2,478.684	0.00	3.07	147.56
495.70	3.07	0.100	2,486.355	0.00	3.07	148.39
495.72	3.22	0.101	2,501.733	0.00	3.22	150.20
495.75	3.52	0.103	2,524.889	0.00	3.52	153.01
495.78	4.07	0.105	2,548.151	0.00	4.07	156.10
495.81	4.45	0.106	2,571.520	0.00	4.45	159.04
495.84	5.07	0.108	2,594.995	0.00	5.07	162.24
495.87	5.89	0.110	2,618.578	0.00	5.89	165.67
495.90	6.65	0.112	2,642.267	0.00	6.65	169.06
495.93	7.46	0.114	2,666.062	0.00	7.46	172.53
495.96	8.78	0.116	2,689.964	0.00	8.78	176.52
495.99	8.81	0.117	2,713.973	0.00	8.81	179.26
496.02	9.74	0.119	2,736.991	0.00	9.74	182.91
496.05	10.52	0.121	2,759.556	0.00	10.52	186.43
496.08	12.36	0.123	2,782.212	0.00	12.36	191.05
496.11	12.39	0.125	2,804.962	0.00	12.39	193.87
496.14	12.41	0.127	2,827.804	0.00	12.41	196.71
496.17	13.30	0.129	2,850.739	0.00	13.30	200.44
496.20	13.76	0.131	2,873.766	0.00	13.76	203.76
496.23	14.01	0.133	2,896.886	0.00	14.01	206.89
496.26	14.26	0.135	2,920.099	0.00	14.26	210.05
496.29	14.31	0.137	2,943.404	0.00	14.31	213.03
496.32	14.36	0.139	2,966.802	0.00	14.36	216.04
496.35	14.40	0.141	2,990.293	0.00	14.40	219.06
496.38	14.45	0.143	3,013.876	0.00	14.45	222.11
496.41	14.50	0.145	3,037.552	0.00	14.50	225.19
496.44	14.55	0.147	3,061.320	0.00	14.55	228.28
496.47	14.59	0.149	3,085.181	0.00	14.59	231.40
496.50	14.64	0.151	3,109.135	0.00	14.64	234.55
496.53	14.69	0.154	3,133.181	0.00	14.69	237.71
496.56	14.73	0.156	3,157.320	0.00	14.73	240.91
496.59	14.78	0.158	3,181.552	0.00	14.78	244.12
496.62	14.83	0.160	3,205.876	0.00	14.83	247.36
496.65	14.87	0.162	3,230.293	0.00	14.87	250.63
496.68	14.92	0.165	3,254.802	0.00	14.92	253.92
496.71	14.97	0.167	3,279.404	0.00	14.97	257.23
496.74	15.01	0.169	3,304.099	0.00	15.01	260.57
496.77	15.06	0.171	3,328.886	0.00	15.06	263.93
496.80	15.10	0.174	3,353.766	0.00	15.10	267.32
496.83	15.15	0.176	3,378.739	0.00	15.15	270.73
496.86	15.19	0.178	3,403.804	0.00	15.19	274.16
496.89	15.24	0.181	3,428.962	0.00	15.24	277.63

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond 10

Return Event: 25 years

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
496.92	15.28	0.183	3,454.212	0.00	15.28	281.11
496.95	15.33	0.185	3,479.556	0.00	15.33	284.63
496.98	15.38	0.188	3,504.991	0.00	15.38	288.16
497.00	15.41	0.189	3,522.000	0.00	15.41	290.54

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: Pond 10

Return Event: 100 years
 Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	492.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	1.00 min

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
492.00	0.00	0.000	0.000	0.00	0.00	0.00
492.03	0.01	0.000	0.594	0.00	0.01	0.01
492.06	0.01	0.000	2.376	0.00	0.01	0.02
492.09	0.03	0.000	5.346	0.00	0.03	0.03
492.12	0.04	0.000	9.504	0.00	0.04	0.05
492.15	0.06	0.000	14.850	0.00	0.06	0.08
492.18	0.08	0.000	21.384	0.00	0.08	0.12
492.21	0.10	0.000	29.106	0.00	0.10	0.16
492.24	0.13	0.000	38.016	0.00	0.13	0.23
492.27	0.13	0.000	48.114	0.00	0.13	0.28
492.30	0.13	0.000	59.400	0.00	0.13	0.33
492.33	0.13	0.000	71.874	0.00	0.13	0.40
492.36	0.13	0.000	85.536	0.00	0.13	0.47
492.39	0.24	0.000	100.386	0.00	0.24	0.68
492.42	0.27	0.000	116.424	0.00	0.27	0.81
492.45	0.30	0.000	133.650	0.00	0.30	0.97
492.48	0.33	0.001	152.064	0.00	0.33	1.14
492.51	0.36	0.001	171.666	0.00	0.36	1.33
492.54	0.46	0.001	192.456	0.00	0.46	1.62
492.57	0.46	0.001	214.434	0.00	0.46	1.82
492.60	0.47	0.001	237.600	0.00	0.47	2.06
492.63	0.54	0.001	261.954	0.00	0.54	2.38
492.66	0.57	0.001	287.496	0.00	0.57	2.67
492.69	0.59	0.002	314.226	0.00	0.59	3.00
492.72	0.61	0.002	342.144	0.00	0.61	3.35
492.75	0.63	0.002	371.250	0.00	0.63	3.72
492.78	0.74	0.002	401.544	0.00	0.74	4.22
492.81	0.74	0.003	433.026	0.00	0.74	4.64
492.84	0.74	0.003	465.696	0.00	0.74	5.09
492.87	0.74	0.003	499.554	0.00	0.74	5.57
492.90	0.74	0.004	534.600	0.00	0.74	6.09

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond 10

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
492.93	0.78	0.004	570.834	0.00	0.78	6.67
492.96	0.78	0.004	608.256	0.00	0.78	7.26
492.99	0.78	0.005	646.866	0.00	0.78	7.89
493.02	0.78	0.005	670.565	0.00	0.78	8.55
493.05	0.78	0.006	686.569	0.00	0.78	9.23
493.08	0.78	0.006	702.762	0.00	0.78	9.93
493.11	0.78	0.007	719.144	0.00	0.78	10.64
493.14	0.78	0.007	735.715	0.00	0.78	11.36
493.17	0.78	0.008	752.475	0.00	0.78	12.11
493.20	0.95	0.008	769.423	0.00	0.95	13.04
493.23	0.95	0.009	786.560	0.00	0.95	13.82
493.26	0.95	0.009	803.885	0.00	0.95	14.62
493.29	0.95	0.010	821.400	0.00	0.95	15.43
493.32	0.95	0.011	839.103	0.00	0.95	16.26
493.35	0.95	0.011	856.995	0.00	0.95	17.11
493.38	0.95	0.012	875.075	0.00	0.95	17.97
493.41	0.95	0.012	893.345	0.00	0.95	18.86
493.44	0.95	0.013	911.803	0.00	0.95	19.76
493.47	0.95	0.014	930.450	0.00	0.95	20.68
493.50	0.95	0.014	949.285	0.00	0.95	21.62
493.53	0.95	0.015	968.310	0.00	0.95	22.58
493.56	0.95	0.016	987.523	0.00	0.95	23.56
493.59	1.06	0.016	1,006.925	0.00	1.06	24.67
493.62	1.07	0.017	1,026.515	0.00	1.07	25.69
493.65	1.09	0.018	1,046.295	0.00	1.09	26.74
493.68	1.14	0.018	1,066.263	0.00	1.14	27.86
493.71	1.14	0.019	1,086.420	0.00	1.14	28.93
493.74	1.14	0.020	1,106.765	0.00	1.14	30.03
493.77	1.14	0.021	1,127.300	0.00	1.14	31.15
493.80	1.14	0.021	1,148.023	0.00	1.14	32.28
493.83	1.14	0.022	1,168.935	0.00	1.14	33.44
493.86	1.14	0.023	1,190.035	0.00	1.14	34.62
493.89	1.14	0.024	1,211.324	0.00	1.14	35.82
493.92	1.14	0.025	1,232.802	0.00	1.14	37.04
493.95	1.14	0.026	1,254.469	0.00	1.14	38.29
493.98	1.14	0.026	1,276.325	0.00	1.14	39.55
494.01	1.14	0.027	1,297.147	0.00	1.14	40.84
494.04	1.14	0.028	1,315.677	0.00	1.14	42.15
494.07	1.24	0.029	1,334.337	0.00	1.24	43.57
494.10	1.25	0.030	1,353.130	0.00	1.25	44.93
494.13	1.26	0.031	1,372.053	0.00	1.26	46.30
494.16	1.27	0.032	1,391.108	0.00	1.27	47.69
494.19	1.28	0.033	1,410.295	0.00	1.28	49.10
494.22	1.29	0.034	1,429.613	0.00	1.29	50.53
494.25	1.29	0.035	1,449.062	0.00	1.29	51.97

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond 10

Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
494.28	1.35	0.036	1,468.642	0.00	1.35	53.48
494.30	1.35	0.037	1,481.769	0.00	1.35	54.47
494.31	1.35	0.037	1,488.354	0.00	1.35	54.96
494.34	1.35	0.038	1,508.198	0.00	1.35	56.46
494.37	1.35	0.039	1,528.173	0.00	1.35	57.98
494.40	1.35	0.040	1,548.279	0.00	1.35	59.52
494.43	1.35	0.041	1,568.517	0.00	1.35	61.07
494.46	1.45	0.042	1,588.886	0.00	1.45	62.76
494.49	1.48	0.043	1,609.386	0.00	1.48	64.39
494.52	1.52	0.044	1,630.018	0.00	1.52	66.05
494.55	1.56	0.046	1,650.782	0.00	1.56	67.73
494.58	1.56	0.047	1,671.676	0.00	1.56	69.39
494.61	1.56	0.048	1,692.702	0.00	1.56	71.07
494.64	1.67	0.049	1,713.860	0.00	1.67	72.89
494.67	1.72	0.050	1,735.149	0.00	1.72	74.65
494.70	1.74	0.051	1,756.569	0.00	1.74	76.42
494.73	1.80	0.053	1,778.121	0.00	1.80	78.25
494.76	1.80	0.054	1,799.804	0.00	1.80	80.04
494.79	1.90	0.055	1,821.619	0.00	1.90	81.95
494.82	1.95	0.056	1,843.565	0.00	1.95	83.83
494.85	2.04	0.058	1,865.642	0.00	2.04	85.78
494.88	2.04	0.059	1,887.851	0.00	2.04	87.66
494.91	2.19	0.060	1,910.191	0.00	2.19	89.70
494.94	2.19	0.062	1,932.663	0.00	2.19	91.62
494.97	2.19	0.063	1,955.266	0.00	2.19	93.57
495.00	2.19	0.064	1,978.000	0.00	2.19	95.54
495.03	2.32	0.066	1,998.596	0.00	2.32	97.65
495.06	2.38	0.067	2,019.298	0.00	2.38	99.72
495.09	2.47	0.068	2,040.107	0.00	2.47	101.84
495.12	2.47	0.070	2,061.022	0.00	2.47	103.89
495.15	2.47	0.071	2,082.044	0.00	2.47	105.96
495.18	2.47	0.073	2,103.173	0.00	2.47	108.06
495.21	2.77	0.074	2,124.409	0.00	2.77	110.47
495.24	2.77	0.076	2,145.751	0.00	2.77	112.60
495.27	2.77	0.077	2,167.200	0.00	2.77	114.76
495.30	2.77	0.079	2,188.755	0.00	2.77	116.94
495.33	2.77	0.080	2,210.418	0.00	2.77	119.14
495.36	2.77	0.082	2,232.186	0.00	2.77	121.36
495.39	2.77	0.083	2,254.062	0.00	2.77	123.60
495.42	2.77	0.085	2,276.044	0.00	2.77	125.87
495.45	3.07	0.086	2,298.133	0.00	3.07	128.46
495.48	3.07	0.088	2,320.329	0.00	3.07	130.77
495.51	3.07	0.090	2,342.631	0.00	3.07	133.10
495.54	3.07	0.091	2,365.040	0.00	3.07	135.45
495.57	3.07	0.093	2,387.555	0.00	3.07	137.83

Subsection: Elevation-Volume-Flow Table (Pond)
 Label: Pond 10

Return Event: 100 years
 Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	25/t + O (ft ³ /s)
495.60	3.07	0.094	2,410.178	0.00	3.07	140.23
495.63	3.07	0.096	2,432.906	0.00	3.07	142.65
495.66	3.07	0.098	2,455.742	0.00	3.07	145.10
495.69	3.07	0.100	2,478.684	0.00	3.07	147.56
495.70	3.07	0.100	2,486.355	0.00	3.07	148.39
495.72	3.22	0.101	2,501.733	0.00	3.22	150.20
495.75	3.52	0.103	2,524.889	0.00	3.52	153.01
495.78	4.07	0.105	2,548.151	0.00	4.07	156.10
495.81	4.45	0.106	2,571.520	0.00	4.45	159.04
495.84	5.07	0.108	2,594.995	0.00	5.07	162.24
495.87	5.89	0.110	2,618.578	0.00	5.89	165.67
495.90	6.65	0.112	2,642.267	0.00	6.65	169.06
495.93	7.46	0.114	2,666.062	0.00	7.46	172.53
495.96	8.78	0.116	2,689.964	0.00	8.78	176.52
495.99	8.81	0.117	2,713.973	0.00	8.81	179.26
496.02	9.74	0.119	2,736.991	0.00	9.74	182.91
496.05	10.52	0.121	2,759.556	0.00	10.52	186.43
496.08	12.36	0.123	2,782.212	0.00	12.36	191.05
496.11	12.39	0.125	2,804.962	0.00	12.39	193.87
496.14	12.41	0.127	2,827.804	0.00	12.41	196.71
496.17	13.30	0.129	2,850.739	0.00	13.30	200.44
496.20	13.76	0.131	2,873.766	0.00	13.76	203.76
496.23	14.01	0.133	2,896.886	0.00	14.01	206.89
496.26	14.26	0.135	2,920.099	0.00	14.26	210.05
496.29	14.31	0.137	2,943.404	0.00	14.31	213.03
496.32	14.36	0.139	2,966.802	0.00	14.36	216.04
496.35	14.40	0.141	2,990.293	0.00	14.40	219.06
496.38	14.45	0.143	3,013.876	0.00	14.45	222.11
496.41	14.50	0.145	3,037.552	0.00	14.50	225.19
496.44	14.55	0.147	3,061.320	0.00	14.55	228.28
496.47	14.59	0.149	3,085.181	0.00	14.59	231.40
496.50	14.64	0.151	3,109.135	0.00	14.64	234.55
496.53	14.69	0.154	3,133.181	0.00	14.69	237.71
496.56	14.73	0.156	3,157.320	0.00	14.73	240.91
496.59	14.78	0.158	3,181.552	0.00	14.78	244.12
496.62	14.83	0.160	3,205.876	0.00	14.83	247.36
496.65	14.87	0.162	3,230.293	0.00	14.87	250.63
496.68	14.92	0.165	3,254.802	0.00	14.92	253.92
496.71	14.97	0.167	3,279.404	0.00	14.97	257.23
496.74	15.01	0.169	3,304.099	0.00	15.01	260.57
496.77	15.06	0.171	3,328.886	0.00	15.06	263.93
496.80	15.10	0.174	3,353.766	0.00	15.10	267.32
496.83	15.15	0.176	3,378.739	0.00	15.15	270.73
496.86	15.19	0.178	3,403.804	0.00	15.19	274.16
496.89	15.24	0.181	3,428.962	0.00	15.24	277.63

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Pond 10

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (ft ²)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
496.92	15.28	0.183	3,454.212	0.00	15.28	281.11
496.95	15.33	0.185	3,479.556	0.00	15.33	284.63
496.98	15.38	0.188	3,504.991	0.00	15.38	288.16
497.00	15.41	0.189	3,522.000	0.00	15.41	290.54

Subsection: Level Pool Pond Routing Summary
 Label: Pond 10 (IN)

Return Event: 2 years
 Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	492.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	1.00 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.31 ft ³ /s	Time to Peak (Flow, In)	2.00 min
Flow (Peak Outlet)	1.29 ft ³ /s	Time to Peak (Flow, Outlet)	21.00 min

Elevation (Water Surface, Peak)	494.22 ft
Volume (Peak)	0.034 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	0.064 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.064 ac-ft
Volume (Retained)	0.000 ac-ft
Volume (Unrouted)	0.000 ac-ft
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary
 Label: Pond 10 (IN)

Return Event: 15 years
 Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	492.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	1.00 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	3.73 ft ³ /s	Time to Peak (Flow, In)	2.00 min
Flow (Peak Outlet)	2.19 ft ³ /s	Time to Peak (Flow, Outlet)	20.00 min

Elevation (Water Surface, Peak)	494.96 ft
Volume (Peak)	0.062 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	0.103 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.103 ac-ft
Volume (Retained)	0.000 ac-ft
Volume (Unrouted)	0.000 ac-ft
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary
 Label: Pond 10 (IN)

Return Event: 25 years
 Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	492.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	1.00 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	4.60 ft ³ /s	Time to Peak (Flow, In)	2.00 min
Flow (Peak Outlet)	2.77 ft ³ /s	Time to Peak (Flow, Outlet)	19.00 min

Elevation (Water Surface, Peak)	495.28 ft
Volume (Peak)	0.078 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	0.127 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.127 ac-ft
Volume (Retained)	0.000 ac-ft
Volume (Unrouted)	0.000 ac-ft
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary
 Label: Pond 10 (IN)

Return Event: 100 years
 Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	492.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	1.00 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	5.89 ft ³ /s	Time to Peak (Flow, In)	2.00 min
Flow (Peak Outlet)	3.40 ft ³ /s	Time to Peak (Flow, Outlet)	21.00 min

Elevation (Water Surface, Peak)	495.74 ft
Volume (Peak)	0.102 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	0.162 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.162 ac-ft
Volume (Retained)	0.000 ac-ft
Volume (Unrouted)	0.000 ac-ft
Error (Mass Balance)	0.0 %

Subsection: Pond Routed Hydrograph (total out)
 Label: Pond 10 (OUT)

Return Event: 2 years
 Storm Event:

Peak Discharge	1.29 ft ³ /s
Time to Peak	21.00 min
Hydrograph Volume	0.064 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1.00 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.00	0.00	0.33	0.68	0.78	0.78
5.00	0.95	0.95	0.95	0.95	1.01
10.00	1.09	1.14	1.14	1.14	1.14
15.00	1.14	1.14	1.22	1.26	1.27
20.00	1.29	1.29	1.28	1.26	1.24
25.00	1.14	1.14	1.14	1.14	1.14
30.00	1.14	1.14	1.07	0.95	0.95
35.00	0.95	0.95	0.95	0.95	0.78
40.00	0.78	0.78	0.78	0.74	0.74
45.00	0.57	0.46	0.25	0.11	0.00

Subsection: Pond Routed Hydrograph (total out)
 Label: Pond 10 (OUT)

Return Event: 15 years
 Storm Event:

Peak Discharge	2.19 ft ³ /s
Time to Peak	22.00 min
Hydrograph Volume	0.103 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1.00 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.00	0.00	0.47	0.77	0.84	0.95
5.00	0.97	1.14	1.14	1.14	1.25
10.00	1.29	1.35	1.35	1.48	1.56
15.00	1.68	1.76	1.85	1.99	2.09
20.00	2.19	2.19	2.19	2.04	1.89
25.00	1.79	1.71	1.56	1.56	1.49
30.00	1.39	1.35	1.35	1.35	1.29
35.00	1.28	1.26	1.22	1.14	1.14
40.00	1.14	1.14	1.14	1.14	1.10
45.00	1.06	0.95	0.95	0.95	0.95
50.00	0.95	0.95	0.78	0.78	0.78
55.00	0.78	0.74	0.63	0.55	0.36
60.00	0.21	0.10	0.00	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: Pond 10 (OUT)

Return Event: 25 years
 Storm Event:

Peak Discharge	2.77 ft ³ /s
Time to Peak	22.00 min
Hydrograph Volume	0.127 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1.00 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.00	0.00	0.53	0.78	0.95	0.95
5.00	1.14	1.14	1.25	1.29	1.35
10.00	1.48	1.56	1.74	1.90	2.04
15.00	2.19	2.31	2.47	2.47	2.77
20.00	2.77	2.77	2.77	2.47	2.47
25.00	2.28	2.19	2.07	1.95	1.80
30.00	1.74	1.67	1.56	1.53	1.46
35.00	1.35	1.35	1.35	1.31	1.29
40.00	1.27	1.25	1.14	1.14	1.14
45.00	1.14	1.14	1.14	1.14	1.08
50.00	1.00	0.95	0.95	0.95	0.95
55.00	0.95	0.85	0.78	0.78	0.78
60.00	0.74	0.74	0.60	0.47	0.31
65.00	0.13	0.08	0.00	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: Pond 10 (OUT)

Return Event: 100 years
 Storm Event:

Peak Discharge	3.40 ft ³ /s
Time to Peak	21.00 min
Hydrograph Volume	0.162 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1.00 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.00	0.00	0.58	0.78	0.95	1.14
5.00	1.14	1.29	1.35	1.56	1.74
10.00	2.00	2.19	2.39	2.47	2.77
15.00	2.77	2.82	3.07	3.07	3.07
20.00	3.15	3.40	3.07	3.07	3.07
25.00	3.07	2.77	2.77	2.77	2.47
30.00	2.47	2.28	2.19	2.07	1.95
35.00	1.80	1.74	1.67	1.56	1.53
40.00	1.46	1.35	1.35	1.35	1.31
45.00	1.29	1.27	1.25	1.14	1.14
50.00	1.14	1.14	1.14	1.14	1.14
55.00	1.08	1.00	0.95	0.95	0.95
60.00	0.95	0.95	0.85	0.78	0.78
65.00	0.78	0.74	0.74	0.60	0.47
70.00	0.31	0.13	0.08	0.00	(N/A)

Subsection: Pond Inflow Summary
Label: Pond 10 (IN)

Return Event: 2 years
Storm Event:

Summary for Hydrograph Addition at 'Pond 10'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Hyd Queue 10

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft ³ /s)
Flow (From)	Hyd Queue 10	0.064	2.00	2.31
Flow (In)	Pond 10	0.064	2.00	2.31

Subsection: Pond Inflow Summary
Label: Pond 10 (IN)

Return Event: 15 years
Storm Event:

Summary for Hydrograph Addition at 'Pond 10'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Hyd Queue 10

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft ³ /s)
Flow (From)	Hyd Queue 10	0.103	2.00	3.73
Flow (In)	Pond 10	0.103	2.00	3.73

Subsection: Pond Inflow Summary

Return Event: 25 years

Label: Pond 10 (IN)

Storm Event:

Summary for Hydrograph Addition at 'Pond 10'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Hyd Queue 10

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Hyd Queue 10	0.127	2.00	4.60
Flow (In)	Pond 10	0.127	2.00	4.60

Subsection: Pond Inflow Summary
Label: Pond 10 (IN)

Return Event: 100 years
Storm Event:

Summary for Hydrograph Addition at 'Pond 10'

Upstream Link Upstream Node
<Catchment to Outflow Node> Hyd Queue 10

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft ³ /s)
Flow (From)	Hyd Queue 10	0.162	2.00	5.89
Flow (In)	Pond 10	0.162	2.00	5.89

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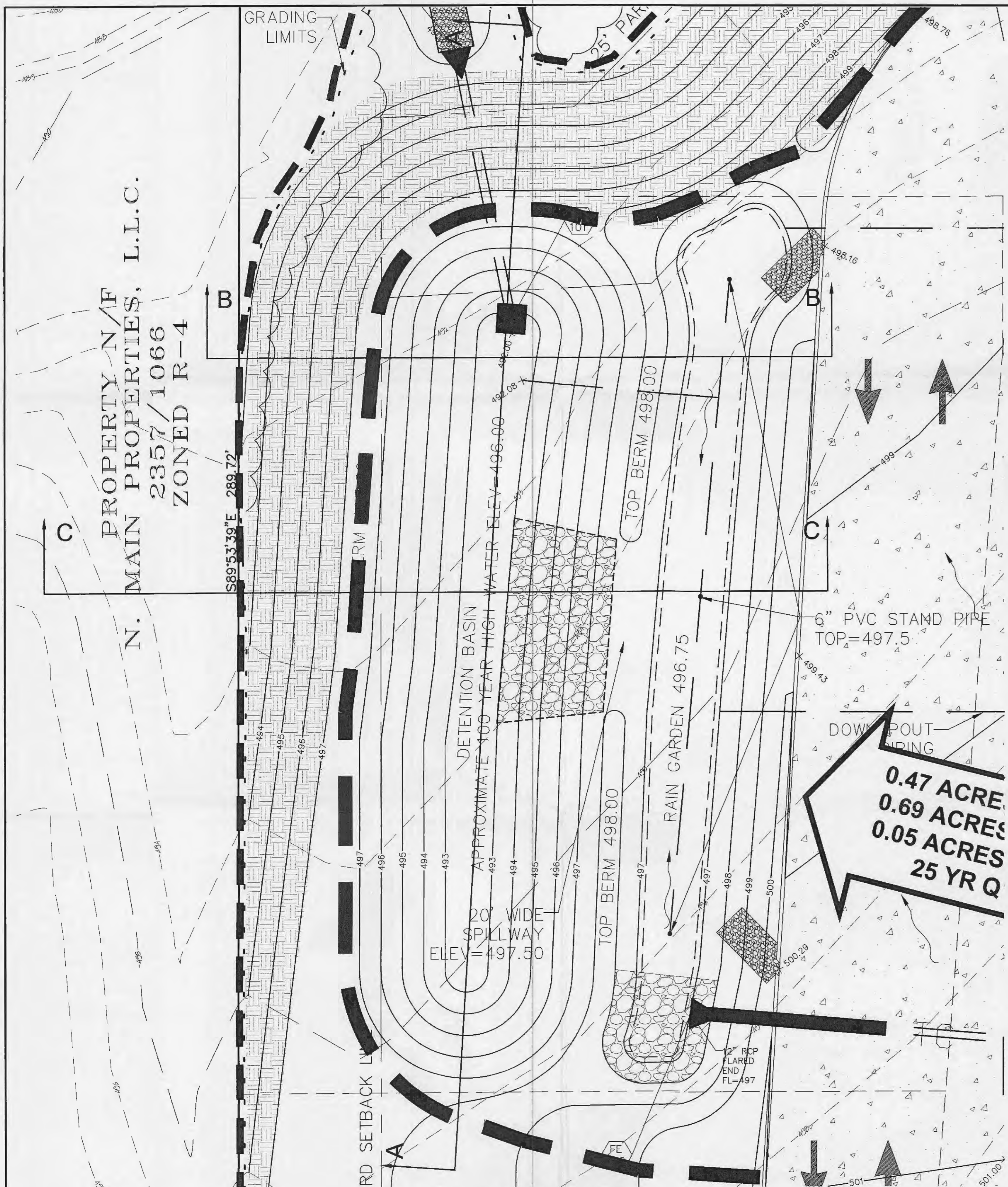
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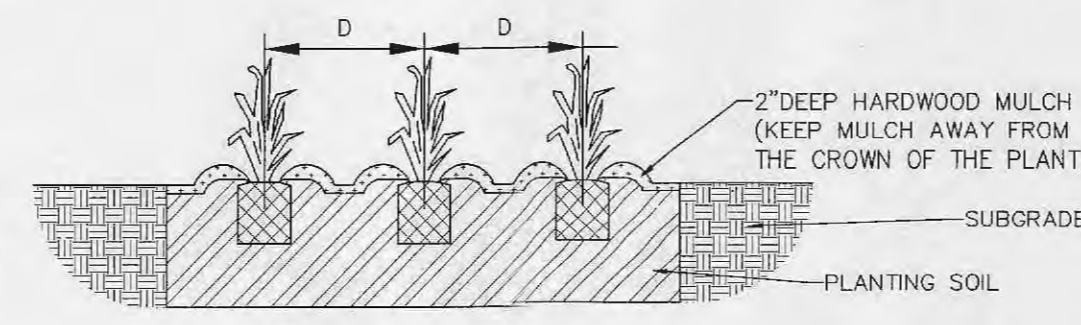
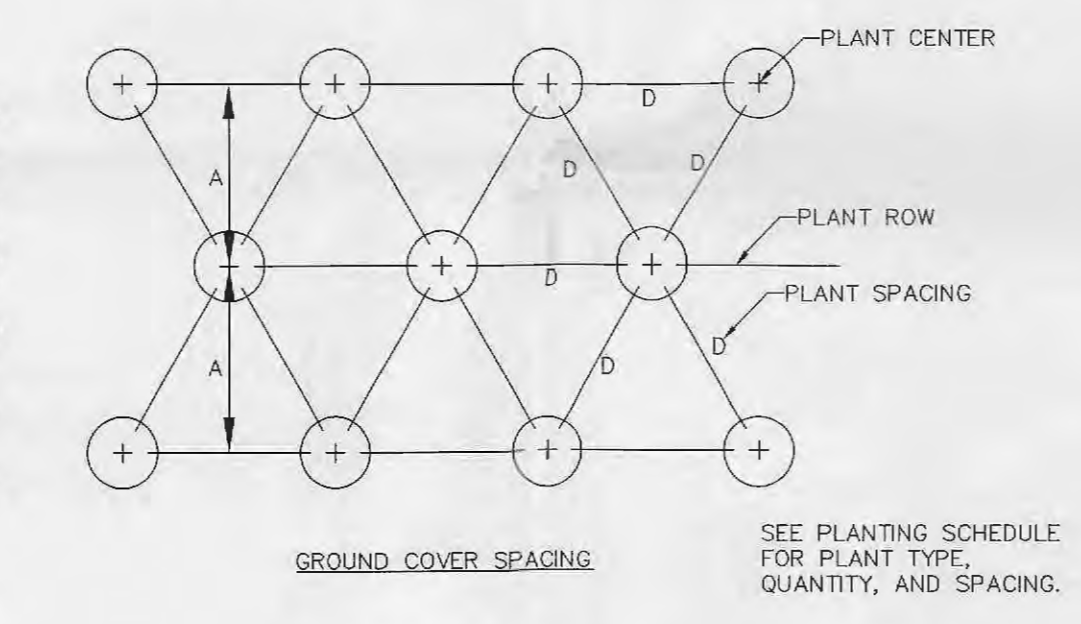


- CONTRACTOR INSTALLATION NOTES:**
- DURING CONSTRUCTION CONTRACTOR TO PROVIDE ANY TEMPORARY DITCHES OR PIPING IN AN EFFORT TO DIVERT UNWANTED WATERS TO ENTER BIOBASIN DURING THE INSTALLATION. PROVIDE ANY ADDITIONAL SILTATION CONTROL AS REQUIRED BY CITY.
 - ONCE BASIN IS DUG OUT, TILL OR "TRIP" BOTTOM OF BASIN, INSTALL FILTER FABRIC ON SLOPES OF TRENCH AND TACK IN PLACE.
 - BEGIN INSTALLING 6" OF 3/4" CLEAN GRAVEL IN LOOSE LIFT, DO NOT COMPACT.
 - LAY PERFORATED DRAINAGE PIPING AND OVERFLOW PIPING.
 - BEGIN PLACING 12" OF 3/4" CLEAN GRAVEL IN LOOSE LIFT, DO NOT COMPACT.
 - BEGIN PLACING 6" OF 3/8" CLEAN PEA GRAVEL IN LOOSE LIFT, DO NOT COMPACT.
 - BEGIN PLACING 6" OF ASTM C-33 SAND IN LOOSE LIFT, DO NOT COMPACT.
 - BEGIN PLACING PLANTING SOIL AT THE REQUIRED DEPTHS FOR EACH BASIN IN LIFTS OF 12"-18" LOOSELY, DO NOT COMPACT.
 - FINISH GRADE BASIN SIDE SLOPES AND PLACE PLANTINGS.
 - BASIN PLANTINGS TO BE WATERED AND MAINTAINED FOR 60 DAYS BY CONTRACTOR.

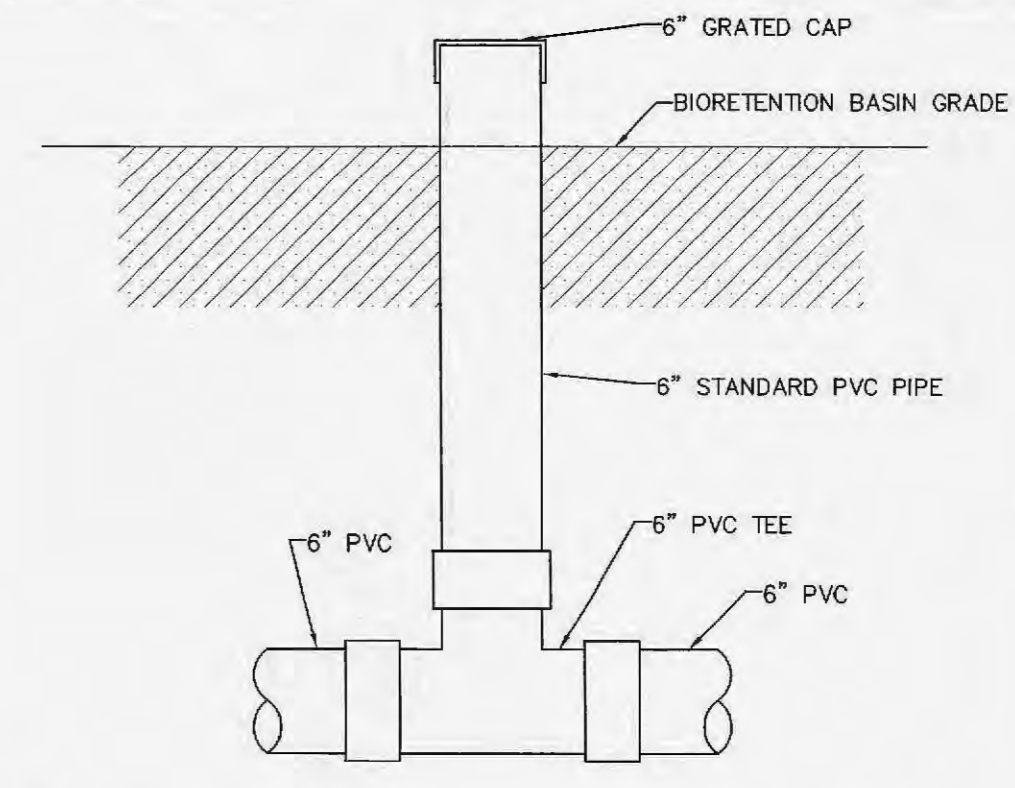
RAIN GARDEN PLANTING LEGEND

ITEM	LATIN NAME	COMMON NAME	TOTAL NUMBER	SPACING
A	Carex grayi	Bur sedge	65	18"
B	Carex vulpinoidea	Fox sedge	30	18"
C	Chasmanthium latifolium	River oats	40	18"
D	Carex praegracilis	Tallway sedge	20	18"
E	Carex shortiana	Short's sedge	30	18"
F	Sporobolus heterolepis	Prairie dropseed	20	18"
G	Pycnanthemum tenuifolium	Slender mountain mint	20	18"
H	Ratibida pinnata	Yellow/Grey coneflower	20	18"
I	Solidago rugosa	Rough-leaved goldenrod	30	18"
J	Solidago speciosa	Showy goldenrod	20	18"
K	Echinacea pallida	Pale purple coneflower	40	18"
L	Echinacea purpurea	Purple coneflower	30	18"
M	Eupatorium coelestinum	Mist flower; wild ageratum	30	18"
N	Eryngium yuccifolium	Rattlesnake master	30	18"

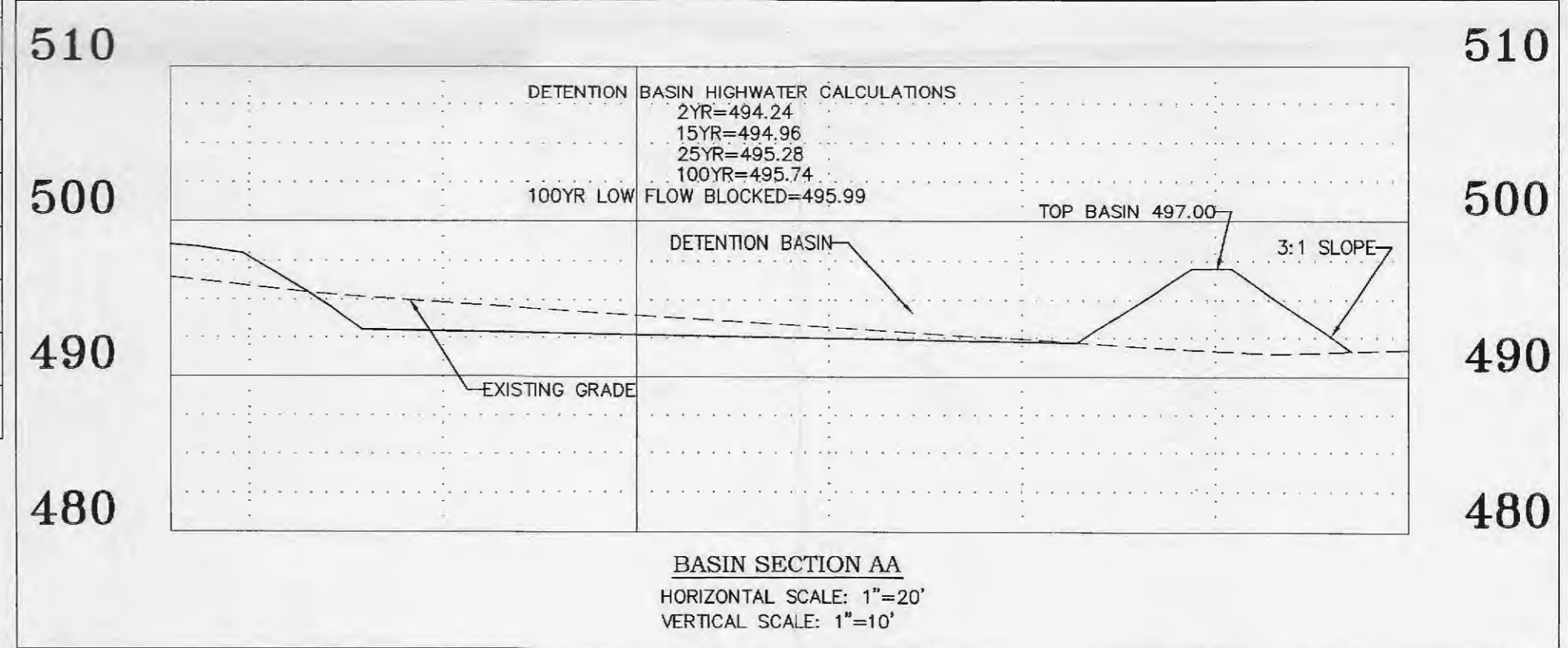
PLANT SPACING 'D'	ROW SPACING 'A'	NUMBER OF PLANTS/SQFT
30"	26.0"	0.160
24"	20.8"	0.25
18"	15.6"	0.45
15"	13.0"	0.64
12"	10.4"	1.00
10"	8.66"	1.44
8"	6.93"	2.25



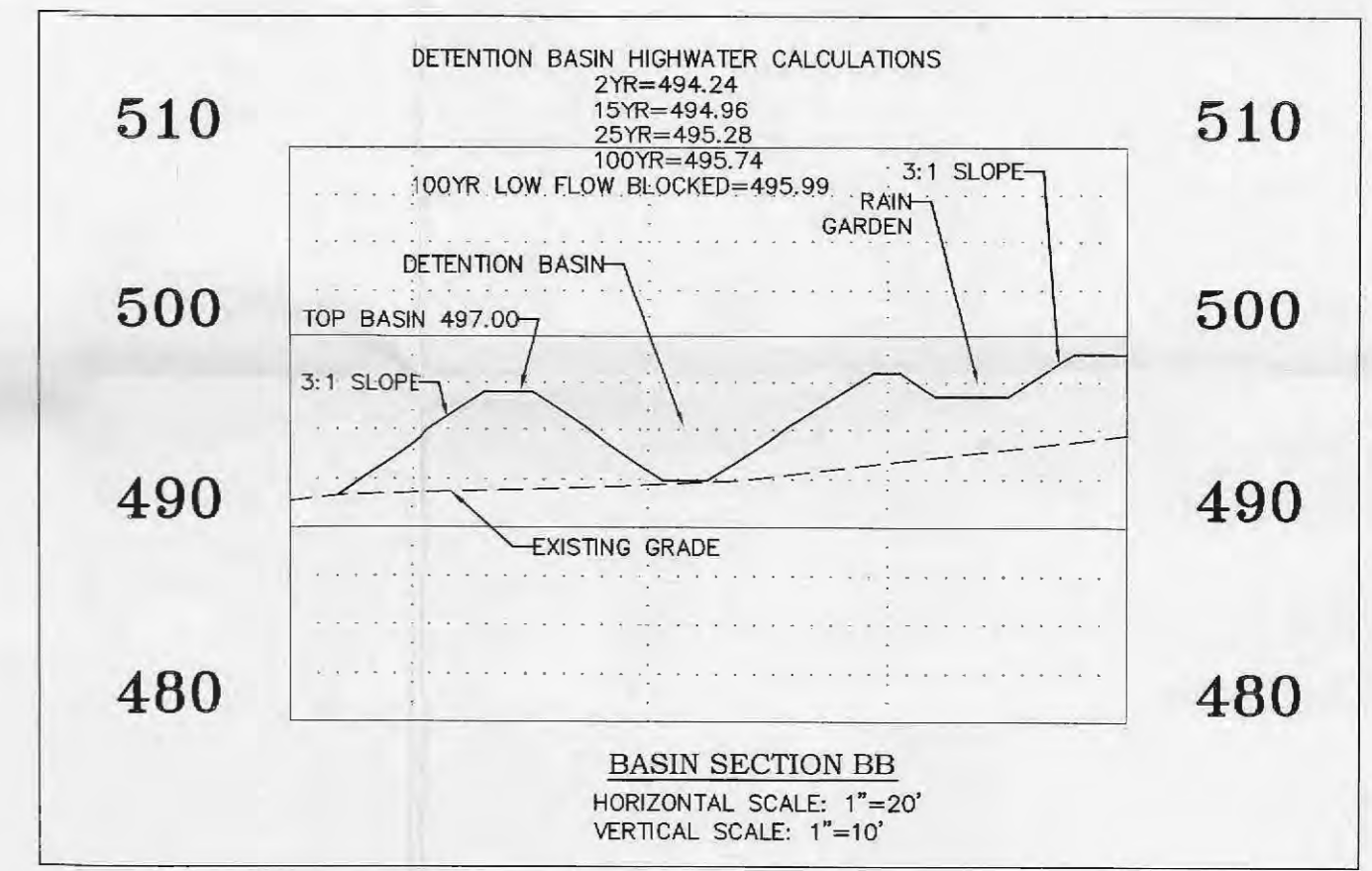
PLANT SPACING GUIDE
NOT TO SCALE



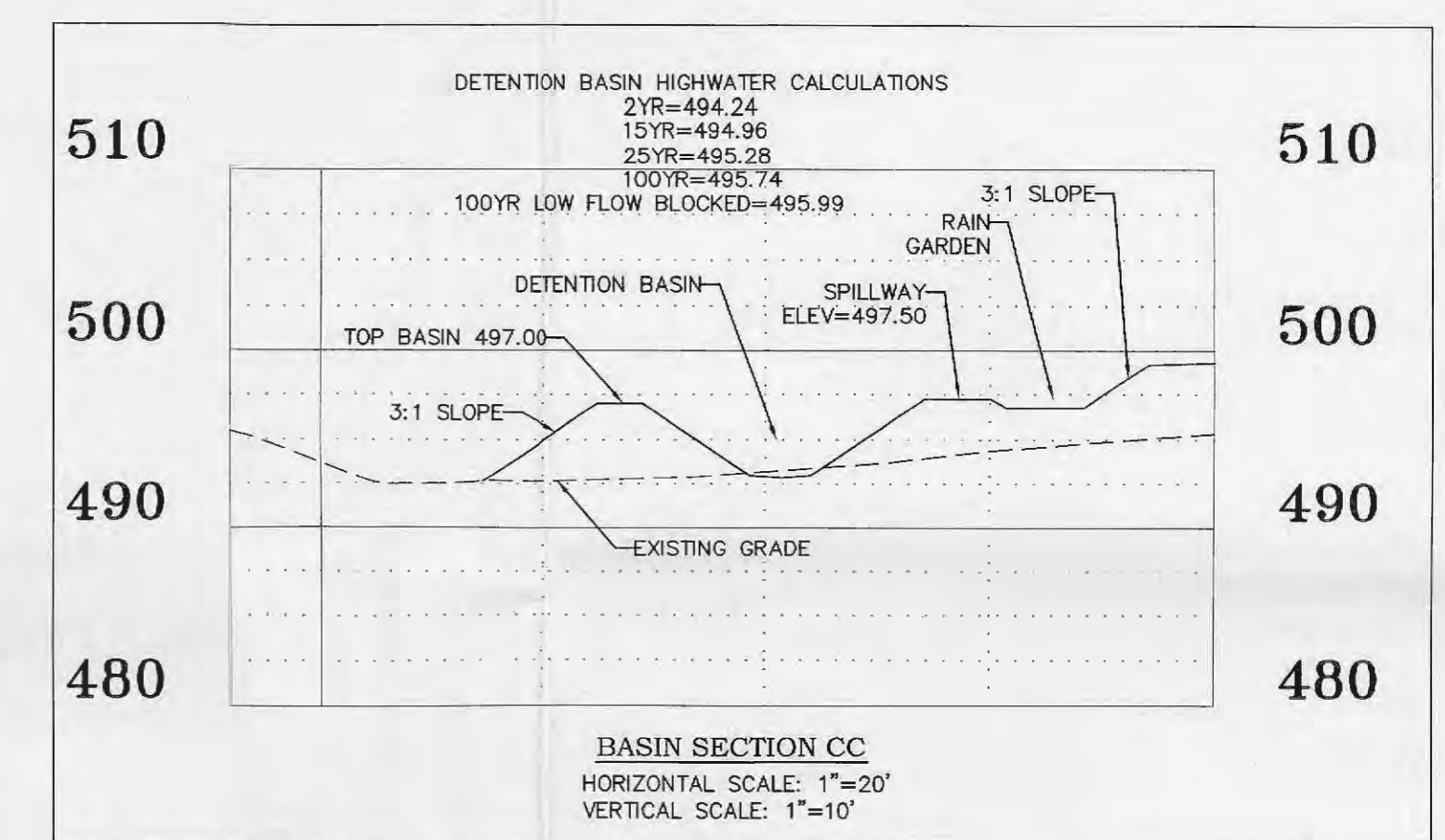
UNDERDRAIN/OVERFLOW CONNECTION DETAIL
NOT TO SCALE



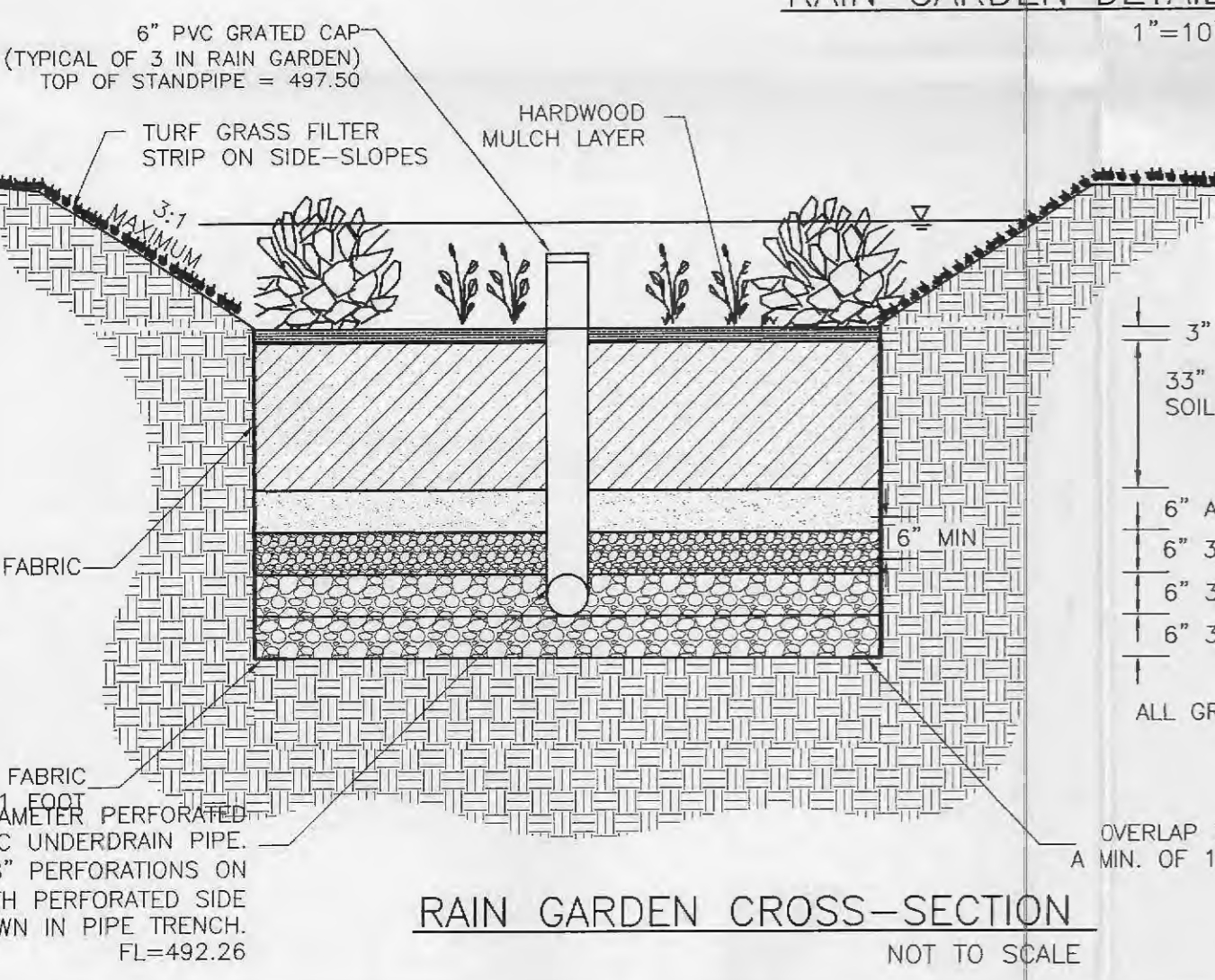
BASIN SECTION AA
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'



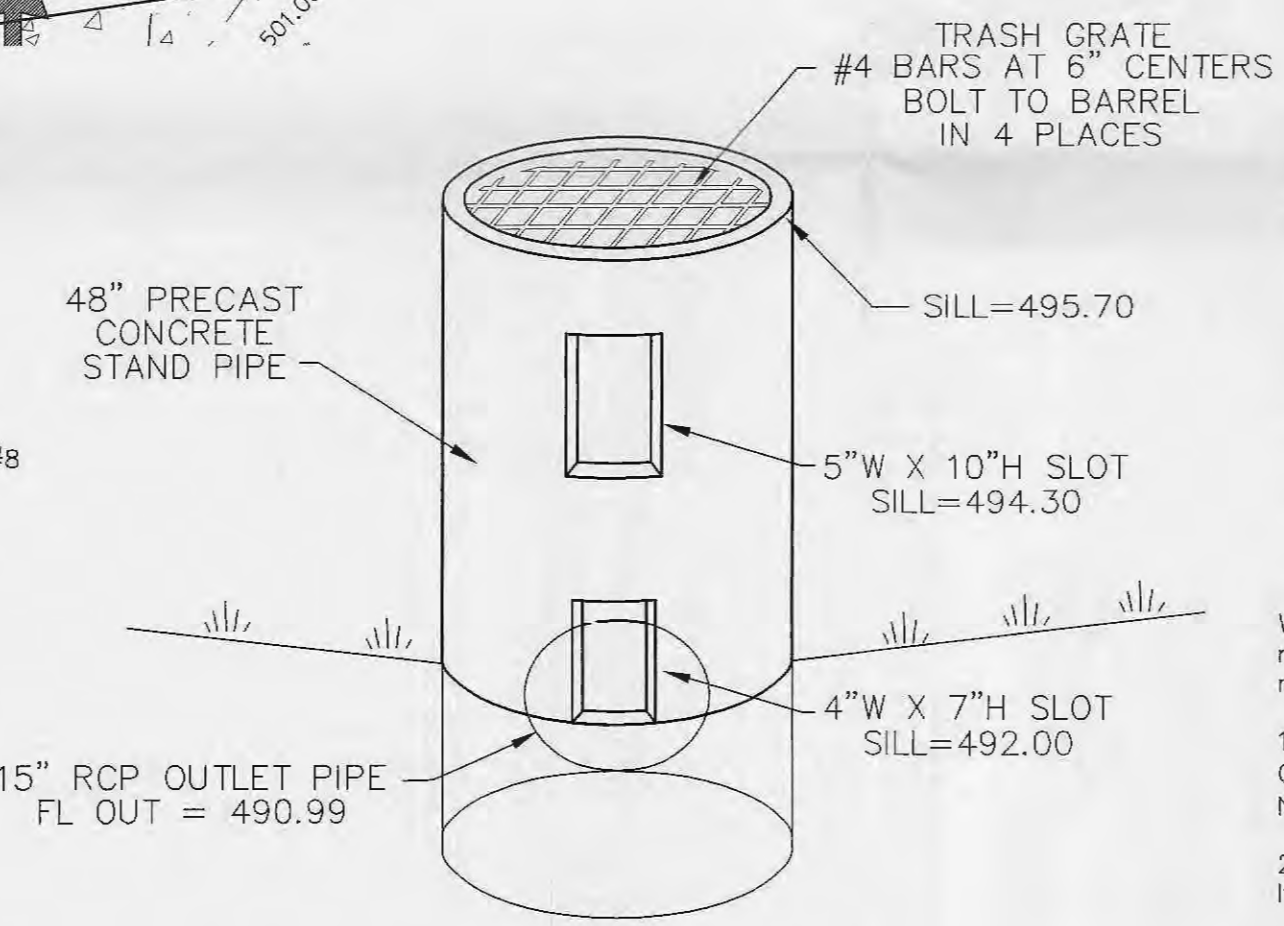
BASIN SECTION BB
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'



BASIN SECTION CC
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=10'



RAIN GARDEN CROSS-SECTION
NOT TO SCALE



OVERFLOW STRUCTURE '101' DETAIL
NOT TO SCALE

(PLANTINGS TO BE PLACED IN BOTTOM OF BASIN)

Sand Gradations per ASTM C-33	Percent Passing
9.5-mm (3/8-in.)	100
4.75-mm (No. 4)	95 to 100
2.36-mm (No. 8)	80 to 100
1.18-mm (No. 16)	50 to 85
600-um (No. 30)	25 to 60
300-um (No. 50)	5 to 30
150-um (No. 100)	0 to 10

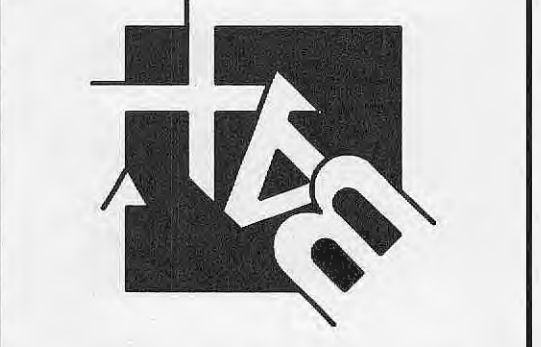
SAND SPECIFICATIONS:

- Washed ASTM C33 Fine Aggregate Concrete Sand is utilized for stormwater management applications. In addition to the ASTM C-33 specification, sand must meet ALL of the following conditions:
- Sand must meet gradation requirements for ASTM C-33 Fine Aggregate Concrete Sand. AASHTO M-6 gradation is also applicable. (Known as Natural washed concrete sand)
 - Sand must be silicabased...no limestone based products may be used. If the material is white or gray in color it is probably not acceptable.
 - Sand must be clean. Natural, unwashed sand deposits may not be used. Likewise, sand that has been contaminated by improper storage or installation practices will be rejected.
 - Manufactured sand or stone dust is not acceptable under any circumstances.

Planting Soil Specifications:
Sandy Loam or Loamy Sand should contain a minimum of 35 to 60 percent sand, by volume. The clay content for these soils should be less than 10 percent by volume. The soils shall be free of stones, stumps, roots, or other woody material over 1 inch in diameter. Placement of the planting soil should be in lifts of 12 to 18 inches and be placed loosely with no compaction.

PROJECT TITLE:
FIRE HOUSE #1
O'FALLON FIRE DISTRICT

ENGINEERING SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 636-928-1718



DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

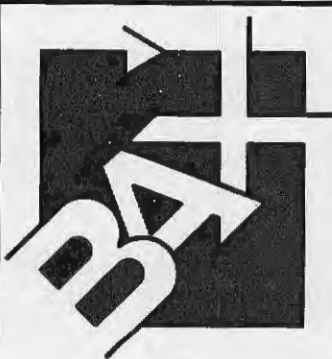
LARRY DAVID WALKER
CIVIL ENGINEER
2007020343
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Engineering Authority No. 000655
Surveying Authority No. 000144
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REVISIONS

NO.	DATE	DESCRIPTION

Developer / Owner:
O'FALLON FIRE PROTECTION DISTRICT
119 EAST ELM STREET
O'FALLON, MO 63366-2600
636-272-3493

P+Z No. 16-14
City No. #
Page No. 19 of 20



**ENGINEERING
PLANNING
SURVEYING**
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

N/F
VANDERBILT MORTGAGE
AND FINANCE INC
6022/1609
LOT 6

N/F
MICHAEL E AND LEA EILERS
1801/426
LOT 7

N/F
MICHAEL R AND
VALERIE R MCGAUGHEY
1732/337
LOT 8

N/F
KIMBERLY N GARNER
4098/2178
LOT 9

ASHFORD PLACE PLAT ONE
P.B.32 PG.77
ZONED R-4
LOT 10

N/F
JOHN AND KIMBERLY DEEKEN
3584/241
LOT 10

N/F
THERESE ANN METTNER
2004/918
LOT 63

CENTRAL
PARKWAY

N/F
KEVIN AND JEANNIE M LUND
5270/1926
LOT 64

N/F
ERIC D AND
HEATHER N REIDT
6102/1730
LOT 65

FOREST PARK NORTH
PB 10 PAGE 11
ZONED R-1
LOT 66

N/F
MOORES MOVERS REHAB
AND INVESTMENTS LLC
4796/828
LOT 66

PROPERTY N/F
N. MAIN PROPERTIES, L.L.C.
2357/1066
ZONED R-4

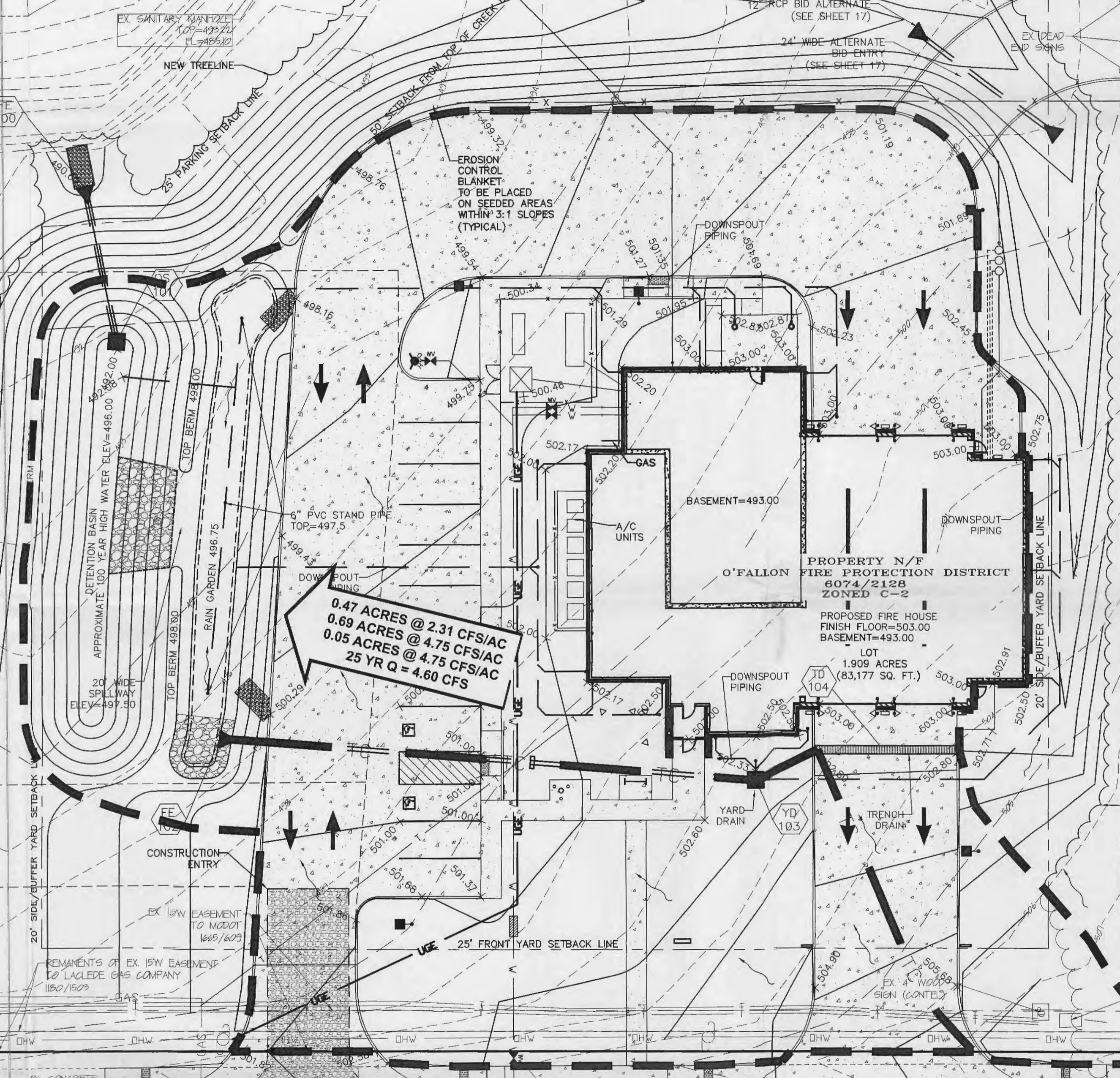


N/F
ROBERT E AND CAROL ERMELING
4191/2452
ZONED R-1

N/F
ROBERT E AND CAROL ERMELING
2934/1450
ZONED R-1

N/F
ROBERT E AND CAROL ERMELING
2317/1600
ZONED R-1

MISSOURI STATE HIGHWAY M
(KNOWN AS NORTH MAIN STREET)
(PUBLIC) (80' WIDE)



UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

Todd C. Floures
Civil Engineer
2005000982
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Surveying Authority No. 000144
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