# **ALEKSANDRA MOCH**

SOIL & WETLAND SCIENTIST CERTIFIED PROFESSIONAL IN SOIL EROSION AND SEDIMENT CONTROL GEOLOGIST/HYDROGEOLOGIST LANDSCAPE DESIGNER



October 21, 2023

To: Michael Conklin, Director of Environmental Affairs

From: Aleksandra Moch, Environmental Consultant

Re: 0 Mountain Road – access

I am forwarding the copy of the deeds demonstrating, the access to the lot is not owned by the Town of Wilton, but it is a right-of-way the lot had been granted access through. The access is described as running from Danbury Road to Mountain Road (Book 65 page 341). As stated in this deed, the access was improved with a road installed prior to the wetland regulations (year 1951). The road is shown crossing the wetland currently recognized as a vernal pool and the wetland/watercourse corridor (aka swamp) bisecting the site. The granted access is 12-feet wide. Referenced in this deed map (#1147) shows the access. Schedule A of the most recent deed refers to the granted access (Book 65, page 341) and the map describing it (#1147).

The owner met with the Town Attorney to discuss the deeds. They both agreed, the access is a right-of-way which does not belong the Town of Wilton.

The copies of the referenced deeds and the map are attached.

Regards,

**Environmental Consultant** 



Book: 2534 Page: 1045 Page: 3 of 3

#### SCHEDULE A

The premises situated in the Town of Wilton, County of Fairfield and State of Connecticut, more particularly shown and delineated on a certain map entitled "Map Of Property belonging To Ronnholn – Carlson Eckelberry & Moore Georgetown – Wilton, Conn. Scale: 1" = 100' Jan. 31, 1951" which map is on file in the Wilton Town Clerk's Office bearing File No. 1147. Said premises are more particularly bounded and described as follows:

NORTHERLY:

by land now or formerly of the State of Connecticut;

EASTERLY:

by land now or formerly of the State of Connecticut;

SOUTHERLY:

by land now or formerly of the State of Connecticut:

WESTERLY:

by land now or formerly of George Jennings and a lane or driftway as

Shown on said map.

Being the same premises conveyed by two certain warranty deeds recorded in Volume 46 at Page 258 and Volume 65 at Page 19 of the Wilton Land Records.

Also shown as a parcel '2.820 ACRES' on Map entitled "PROPERTY SURVEY PREPARED FOR JEROME V. EDWARDS WILTON, CONNECTICUT SCALE 1" = 40' July 8, 1998" filed in the Wilton Town Clerk's Office on September 30, 2016 as map #5879.

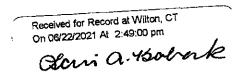
TOGETHER WITH a right of way over land conveyed in a Warranty Deed recorded in Volume 65 Page 341, on the common driveway, as constructed, to the highway Mountain Road.

TOGETHER WITH any rights which exist to the old highway identified as Old Driftway, and across it to Mountain Road.

Said premises contain 3.08 acres, more or less.

Said premises are conveyed subject to the following:

- 1. Limitations of use imposed by governmental authority.
- 2. Taxes hereafter becoming due and payable with the Grantee herein assumes and agrees to pay as part of the consideration.
- 3. Notes, facts and conditions as shown on Maps #5879, #2723 and #1147 of the Wilton Land Records.
- 4. Restrictive covenants, easements, and agreements, if any, which map appear of record.
- 5. Rights, if any, of others in and to the lane as shown on said map.



Book: 2534 Page: 1045 Page: 1 of 3



Doc ID: 002983360003 Type: LAN BK 2534 PG 1045-1047

Return to: James Kelly, Esq. 8 Titus Road Washington Depot, CT 06794

#### ADMINISTRATOR'S DEED

Paul T. Edwards, Sr. of New Britain, Connecticut and Eugene T. Edwards, Jr. of Stamford, Connecticut, duly qualified and authorized co-administrators of the Estate of Jerome Edwards a/k/a Jerome Vincent Edwards late of Somers, Connecticut for consideration paid, grant to Old Driftway, LLC a Connecticut limited liability company with ADMINISTRATOR'S COVENANTS a certain piece or parcel of land known as Mountain Road located in the Town of Wilton and State of Connecticut and more particularly described on Schedule A which is attached hereto and made a part hereof.

Signed this 17<sup>th</sup> day of June, 2021.

Witnessed by:

Estate of Jerome, Edwards a/k/a

Paul T. Edwards, Sr.,

Co-Administrator

Estate of Jerome Edwards a/k/a Jerome Vincent Edwards

Co-Administrator

CONVEYANCE TAX RECEIVED TOWN: \$187.50 STATE: \$562.50

Olari a Hobak

WILTON, CT TOWN CLERK

Book: 2534 Page: 1045 Page: 2 of 3

STATE OF CONNECTICUT)	
ss: Danbury COUNTY OF FAIRFIELD )	
On this day of June, 2021, before me, undersigned, personally appeared Paul T. Edwards, Sr., I be the person(s) whose name(s) is subscribed to the with executed the same for purposes therein contained.	(nown to me (or satisfactorily proven) to
In witness whereof I hereunto set my hand.	Notary Public
	DENISE GOLDSTEIN NOTARY PUBLIC MY COMMISSION EXPIRES OCT. 31, 2024
STATE OF CONNECTICUT)	
ss: Danbury COUNTY OF FAIRFIELD )	
On this day of June, 2021, before me, personally appeared Eugene T. Edwards, Jr., known to m person(s) whose name(s) is subscribed to the within instrexecuted the same for purposes therein contained.	the undersigned, the undersigned, the (or satisfactorily proven) to be the nument and acknowledged that he
In witness whereof I hereunto set my hand.	Notary Public
Latest Address of Grantee: P.O. Box 712	DENISE GOLDSTEIN  NOTARY PUBLIC  MY COMMISSION EXPIRES OCT. 31, 2024
Wilton, Ct. 06897	Since the state of

341

#### WARRANTEE VOL. 65

To all People to whom these Presents shall come, — Greeting: ,

Know Ye, That I, ALBIN O. PETERSON, of the Town of Wilton, County of Fairfield and State of Connecticut,

for the consideration of One Dollar and other valuable considerations, received to my full satisfaction of VICTOR I. CARLSON and EUNICE B. CARLSON, of said received to my Wilton.

do give, grant, bargain, sell and confirm unto the said VICTOR I. CARLSON and EUNICE B. CARLSON, and unto the survivor of them, and unto such survivor's heirs and assigns forever

All that certain parcel of land, together with the buildings thereon, situated in said Wilton, containing one (1) acre, or more, and bounded:

Northerly: by land of Joseph Lambert, in part, and in part by land of The Southern New England Telephone Company,

by land of The Southern New England Telephone Company in part and in part by the Danbury Road, Easterly:

Southerly: by other land of the Grantor on a line marked by iron pipes, and

by a stone fence and other land of the Grantor. Westerly:

Said premises are conveyed together with a right of way over said other land of the Grantor on the common driveway, as now constructed, to the highway Mountain Road.

Said premises are conveyed subject to the reservation to the Grantor, his heirs and assigns, of a right of way over said common driveway, as now constructed, over the parcel herein described to and from the Danbury Road; the reservation to the Grantor, his heirs and assigns, of a right of way over a twelve (12) foot strip on the westerly side of the parcel herein described over an old wagon road, as it now exists, from land of the Grantor southerly of the parcel herein described to said other land of the Grantor westerly of the parcel herein described; the reservation to the Grantor, his heirs and assigns, of the right to maintain a water pipe line, as presently located, across the parcel herein described and the right to enter upon said parcel for the purpose of repairing or replacing the pipe; Planning, Zoning and Building Rules and Regulations of the Town of Wilton and Town of Wilton taxes on the list of October 1, 1954, which the Grantees by the acceptance of this deed assume and agree to pay.

To have and to hold the above granted and bargained premises, with the printing reach appurtenances thereof, unto them the said grantees, and unto the survivor of them, and unto such

heirs and assigns forever, to them the said grantor, do for my self, and their own proper use and behoof. And Alford 51 gns wy heirs, executors, and administrators/covenant with the said grantees and with the survivor of them, and with such survivor's

well seized of the premises, as a good heirs and assigns, that at, and until the ensealing of these presents, I am well seized of the premises, as a good indefeasible estate in FEE SIMPLE; and have good right to bargain and sell the same in manner and form as is above written; and that the same is free from all incumbrances whatsoever, except as hereinbefore mentioned.

 $\mathbf{my}\,\mathrm{sel}\,\mathbf{f}$ And FurthermosesigIs the said Grantor do by these presents bind and my heirs/forever, to WARRANT AND DEFEND the above granted and bargained premises to them said grantees, and to the survivor of them and to such survivor's heirs and assigns, against all claims and demands whatsoever,

except as hereinbefore mentioned.

In Witness Whereof, I have hereunto set my hand and seal this 11th day of in the year of our Lord ninetcon hundred and fifty-five. February SIGNED, SEALED AND DELIVERED IN PRESENCE OF Ruth A. Bassett [L. S.] Albin O. Peterson

Catherine A. Murphy

[L. S.]

STATE OF CONNECTICUT,

COUNTY OF FAIRFIELD,

Wilton,

February 11th, A.D. 1955.

ALBIN O. PETERSON. Personally appeared

Signer and Sealer of the foregoing instrument, and acknowledged the same to be his free act and deed, before me. Executiva de la constantida del constantida de la constantida del constantida de la constantida de la constantida de la constantida del constantida de

Catherine A. Murphy

XIGURACE RESIDENCE

Notary Public.

Received for Record February 14, 1955, at 12 h. 31 m. P.M., and recorded by me, and I hereby certify that United States Internal Revenue Stamps to the amount of \$11.00 were affixed to the foregoing instrument

Town Clerk.

Exice R Gregory

. 99.

N/F OLIVE R. GIMPEL JENNINGS HARAH 8th11 OF PROPERTY BELONGING TO CARLSON CARL SON N/F WHITEHEAD JONES CO. EUNICE 2.2± MAP VICTOR DEFOREST 0.88 ± AC. WILLIS F/ EST. OF POLLY BENNETT NY JOHN NORDLUND CORP N/F MRS. LINDBLOOM FREDERICK REALTY BERCHOUNT Moses 203- 227 Bys in the ROWALTER NOTE: REPECT TO, MALD OF DESCRIPTION OF MALD OF THE MA MOSKOWITZ JO SE PH DAVID H. WEIHER

ECKELBERRY

18.6 ± AC.

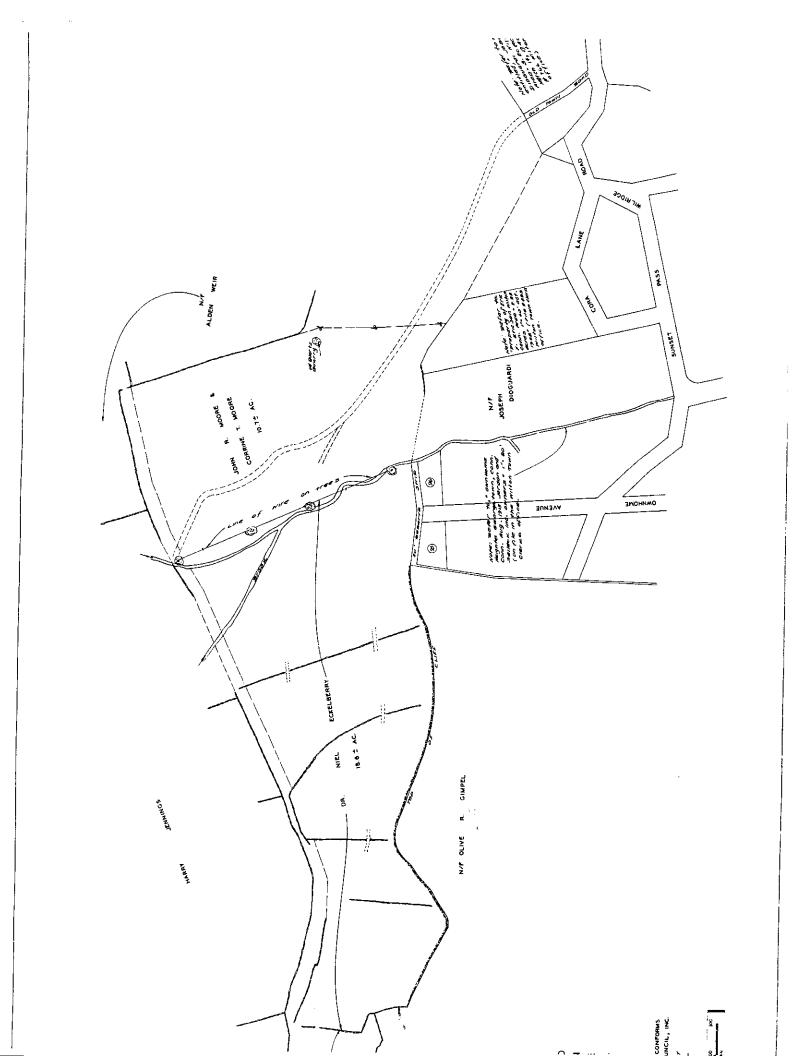
NIEL

65 Page 341

RONNHOLN .- CARLSON ECKELBERRY & MOORE

GEORGETOWN - WILTON , CONN.
SCALE: 1 = 100 JAN. 31, 1951
BY LEO LEONARD, JR.CIVIL ENGINEER &
SURVEYOR NORMALK, CONN.

NOTE: THE DEGREE OF ACCURACY OF THIS MAP CONFORMS TO CLASS A - 3 OF THE CONN. TECH. COUNCIL, INC. CERTIFIED SUBSTANTIALLY CORRECT



# DRAINAGE REPORT

# PREPARED FOR

# EXISTING AND PROPOSED SITE CONDITIONS

LOCATED AT:

0 MOUNTAIN ROAD RIGHT OF WAY

FCE #2168



WILTON, CONNECTICUT

October 14, 2023

# FAIRFIELD COUNTY ENGINEERING, LLC

#### **CIVIL ENGINEERS**

60 WINFIELD ST.
NORWALK, CONNECTICUT 06855
(203) 831-8005
FAX: (203) 831-8006

E-mail to: wayne@fairfieldce.com



**NARRATIVE:** 

The subject of this report is the 1.644 acre accessway to the parcel located at 0 Mountain Road in Wilton. The purpose of this report is to determine the existing and proposed runoffs resulting from the proposed site improvements in order to design a stormwater management system.

#### **EXISTING CONDITIONS:**

The subject parcel is an accessway to the rear lot located at the northwest side of Mountain Road, approximately 200 feet from its intersection with Indian Hill Road. The accessway is currently vacant. The land slopes moderately to steeply generally down from the rear to the road, with dips along the way.

Existing soils at this location, as identified in the NRCS Soil Survey of Fairfield County, Connecticut, consist of Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky, which has a Hydrologic classification of 'B'.

The proposed driveway contains three local watershed basins; one that drains to the road, one that drains to the vernal pool/wetlands in the central section, and one that drains to the rear (north)

The existing runoff from a 25-Year rainfall event in the road basin is 0.43 c.f.s. The existing runoff from a 25-Year rainfall event in the wetlands basin is 2.80 c.f.s. The existing runoff from a 25-Year rainfall event in the north basin is 1.26 c.f.s.

#### PROPOSED CONDITIONS:

The proposal for this site is to construct a driveway to serve the proposed single family residence.

The proposed runoff (un-mitigated) from a 25-Year rainfall in the road basin event is 0.85 c.f.s.

The proposed runoff (un-mitigated) from a 25-Year rainfall in the wetlands basin event is 3.69 c.f.s.

The proposed runoff (un-mitigated) from a 25-Year rainfall in the north basin event is 1.94 c.f.s.

#### **COMPUTATIONS:**

The following computations of the existing and proposed conditions runoff flows were derived from the HydroCAD computer software. HydroCAD follows the NRCS TR-20 procedure for computing stormwater runoff. Computations were performed for a 25-year storm event, which has a 4% chance of occurring in any given 12 month period.

#### Existing Conditions (Road Basin):

Woods 6,862 s.f. CN 61

Total - 6,862 s.f.

Weighted CN - 61

Proposed Conditions (Road Basin):

Driveway 4,017 s.f. CN 98 Woods 2,845 s.f. CN 61

Total - 6,862 s.f.

Weighted CN - 83

Water Quality Volume

 $I = (58.5 \times 0.009) + 0.05 = 0.5765$ 

 $WQV = (0.5765 (0.158 \text{ acres})/12) = 0.007590 \text{ ac-ft} = 330.6 \text{ ft}^3.$ 

Groundwater Recharge Volume

 $GWV = 330.6 \times 0.25 = 82.7 \text{ ft}^3.$ 

Existing Conditions (Wetlands Basin):

Woods 44,736 s.f. CN 61

Total - 44,736 s.f.

Weighted CN - 61

#### Proposed Conditions (Wetlands Basin):

Driveway 8,204 s.f. CN 98 Woods 36,532 s.f. CN 61

Total - 44,736 s.f.

Weighted CN - 68

#### Water Quality Volume

$$I = (18.3 \times 0.009) + 0.05 = 0.2147$$
  
 $WQV = (0.2147 (1.027 \text{ acres})/12) = 0.0183747 \text{ ac-ft} = 800.4 \text{ ft}^3.$ 

### Groundwater Recharge Volume

 $GWV = 800.4 \times 0.25 = 200.1 \text{ ft}^3$ .

#### Existing Conditions (North Basin):

Woods 20,044 s.f. CN 61

Total - 20,044 s.f.

Weighted CN - 61

#### Proposed Conditions (North Basin):

Driveway 6,462 s.f. CN 98 Woods 13,582 s.f. CN 61

Total - 20,044 s.f.

Weighted CN - 73

#### Water Quality Volume

$$I = (32.2 \text{ x } 0.009) + 0.05 = 0.3398$$
  
 $WQV = (0.3398 \text{ } (0.460 \text{ acres})/12) = 0.01302566 \text{ ac-ft} = 567.4 \text{ ft}^3.$ 

#### Groundwater Recharge Volume

$$GWV = 567.4 \times 0.25 = 141.8 \text{ ft}^3.$$

# SUMMARY (ROAD BASIN)

Existing Runoff (25 Year):	0.43 c.f.s.
Proposed Runoff (25 Year):	0.85 c.f.s.
Proposed Impervious Run-off Retained (25 Year):	0.60 c.f.s
Proposed Run-off from Areas Bypassing Retention plus overflow (25 Year):	0.33 c.f.s.
SUMMARY (WETLANDS BASIN)	
Existing Runoff (25 Year):	2.80 c.f.s.
Proposed Runoff (25 Year):	3.69 c.f.s.
Proposed Impervious Run-off Retained (25 Year):	1.23 c.f.s
Proposed Run-off from Areas Bypassing Retention plus overflow (25 Year):	2.29 c.f.s.
SUMMARY (NORTH BASIN)	
Existing Runoff (25 Year):	1.26 c.f.s.
Proposed Runoff (25 Year):	1.94 c.f.s.
Proposed Impervious Run-off Retained (25 Year):	0.96 c.f.s
Proposed Run-off from Areas	1.06 c.f.s.

#### CONCLUSIONS:

The increased runoff resulting from the proposed site improvements will be retained in an on-site retention system. The runoff from the driveway will be routed to the aggregate under the porous asphalt that comprises the driveway.

The runoff will be routed to the aggregate two ways. One is directly via percolation through the porous asphalt. Secondly, any other surface water will be collected by a system of catchbasins. Under grade, the runoff will be routed through perforated distribution pipes from the drains into the aggregate.

The aggregate is to be 12" thick in the road basin, and 15" thick in the wetlands basin and north basin.

The model conservatively calculates a 9 foot width of the driveway for retention capacity, although its entire width will have aggregate under it. The driveway is a minimum of 10 feet wide, widening to 15 feet in areas.

The system in the road basin will decrease the net peak runoff during a 25 Year storm in the road basin from its current peak of 0.43 c.f.s. to 0.33 c.f.s.

The proposed retention system in the road basin provides 1,368 ft<sup>3</sup> of storage, which will accommodate the runoff from a 25 Year rainfall event routed to the system, meets the Water Quality Volume and provides groundwater recharge.

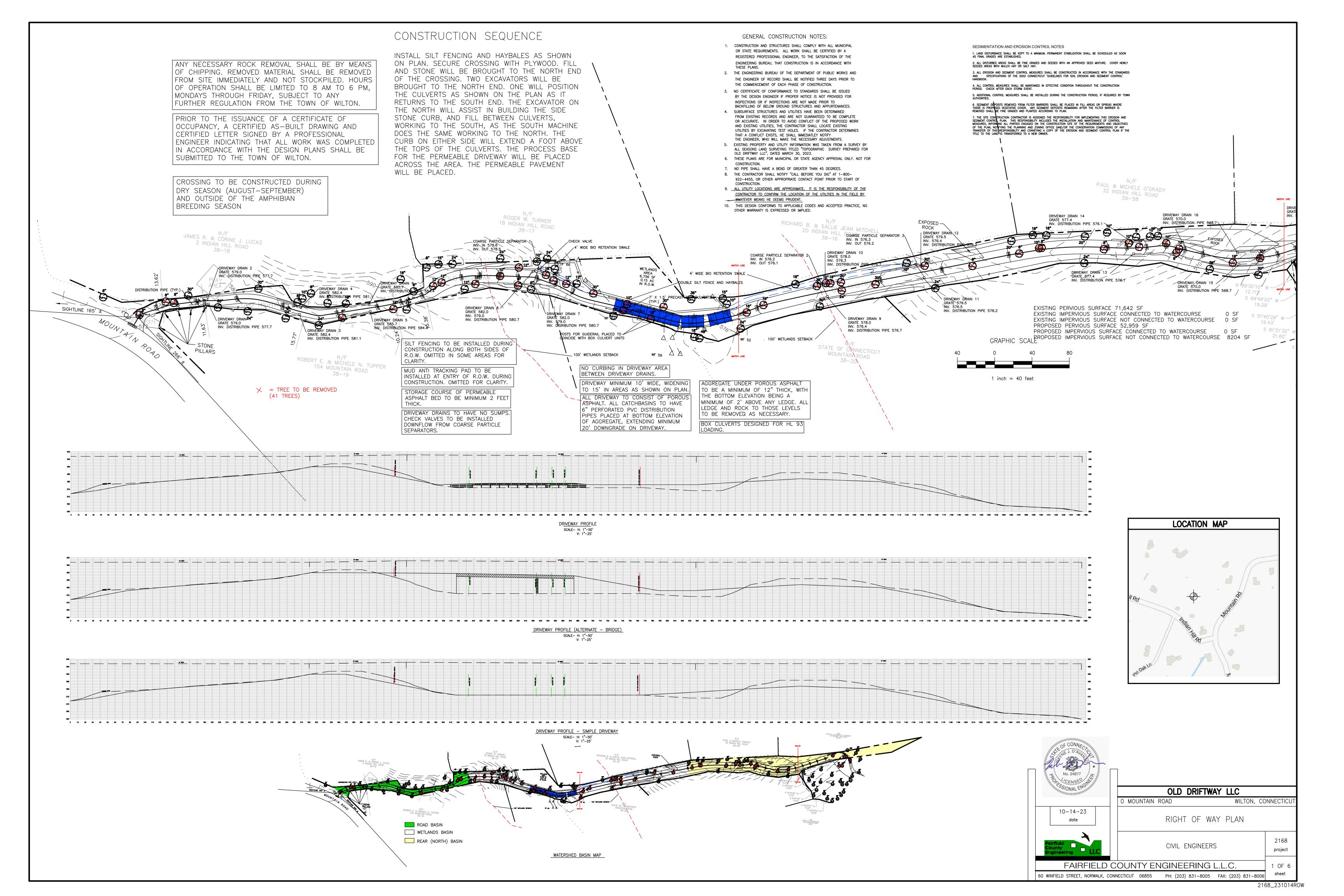
The system in the watershed basin will decrease the net peak runoff during a 25 Year storm in the road basin from its current peak of 2.80 c.f.s. to 2.29 c.f.s.

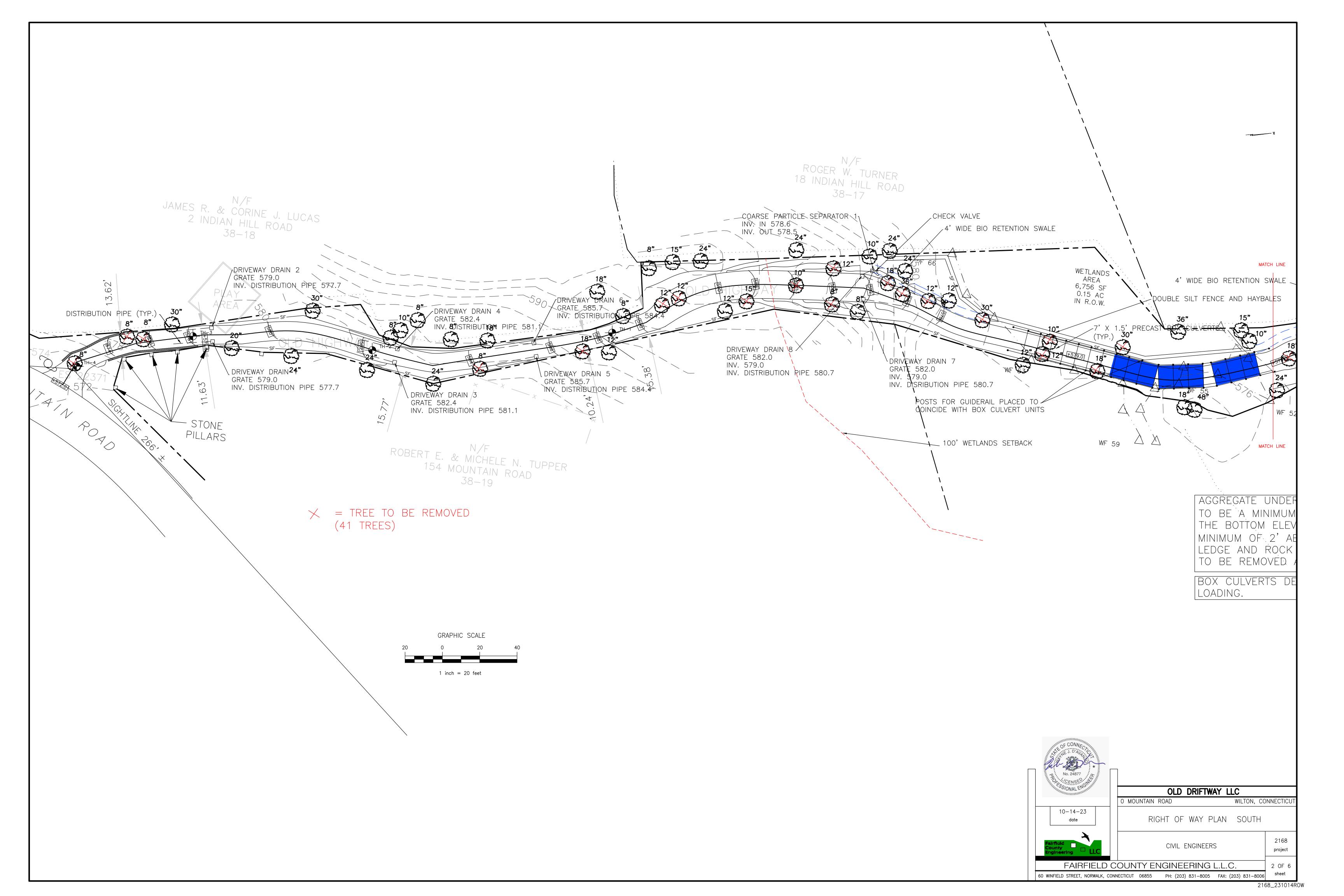
The proposed retention system in the wetlands basin provides 2,687 ft<sup>3</sup> of storage, which will accommodate the runoff from a 25 Year rainfall event routed to the system, meets the Water Quality Volume and provides groundwater recharge.

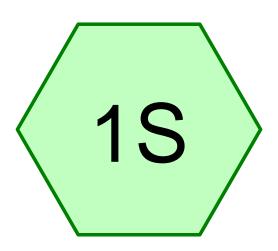
The system in the north basin will decrease the net peak runoff during a 25 Year storm in the road basin from its current peak of 1.26 c.f.s. to 1.06 c.f.s.

The proposed retention system in the north basin provides 1,926 ft<sup>3</sup> of storage, which will accommodate the runoff from a 25 Year rainfall event routed to the system, meets the Water Quality Volume and provides groundwater recharge.

The proposed improvements will have no adverse impact on the road or surrounding properties.







# **Existing Conditions**









#### **Routing Diagram for 2168ROWExisting**

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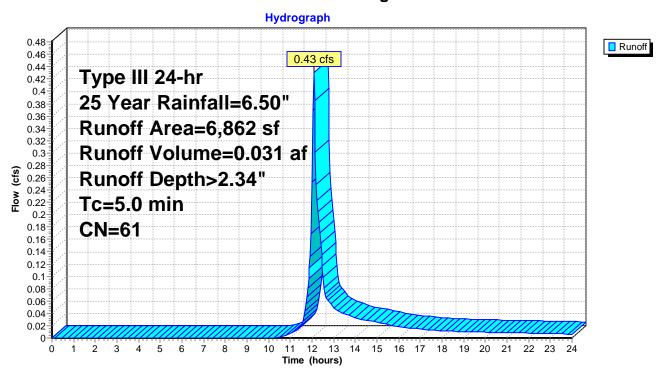
# **Summary for Subcatchment 1S: Existing Conditions**

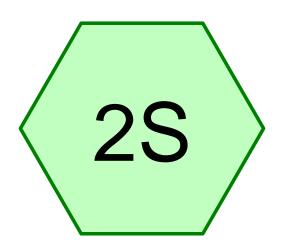
Runoff = 0.43 cfs @ 12.08 hrs, Volume= 0.031 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

	Α	rea (sf)	CN [	Description					
*		6,862	61 \	61 Woods, Fair, HSG B					
_		6,862	,	100.00% Pe	ervious Area	a			
	Тс	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	5.0					Direct Entry, Direct			

#### **Subcatchment 1S: Existing Conditions**





# **Proposed Conditions**









Routing Diagram for 2168ROWProposed
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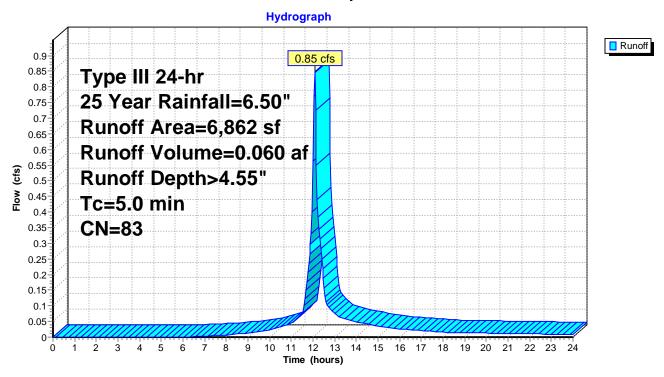
# **Summary for Subcatchment 2S: Proposed Conditions**

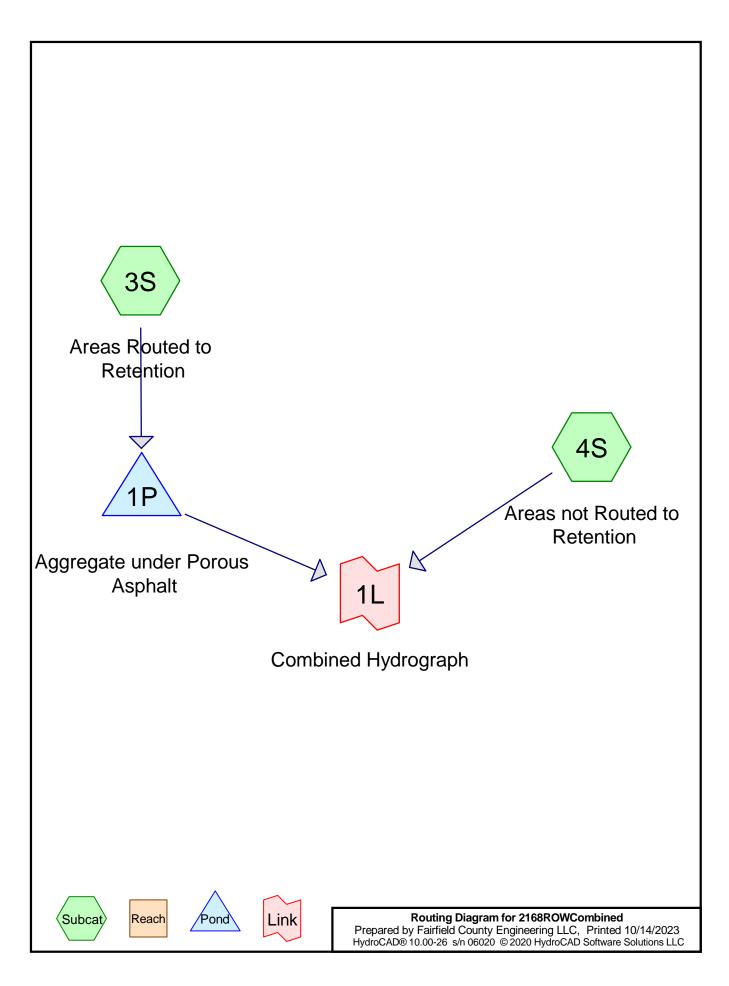
Runoff = 0.85 cfs @ 12.08 hrs, Volume= 0.060 af, Depth> 4.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

	Aı	rea (sf)	CN	Description				
*		4,017	98	Driveway				
*		2,845	61	Woods, Fai	r, HSG B			
		6,862	83	Weighted A	verage			
		2,845		41.46% Per	vious Area			
		4,017		58.54% lmp	pervious Are	ea		
	Tc (min)	Length (feet)	Slop (ft/f	,	Capacity (cfs)	Description		
_	5.0					Direct Entry, Direct		

#### **Subcatchment 2S: Proposed Conditions**





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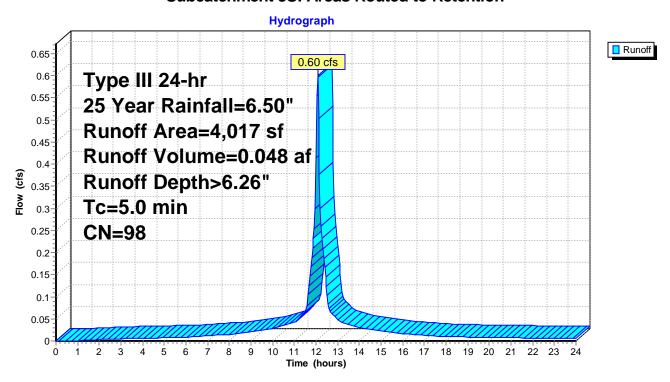
# Summary for Subcatchment 3S: Areas Routed to Retention

Runoff = 0.60 cfs @ 12.07 hrs, Volume= 0.048 af, Depth> 6.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

_	Α	rea (sf)	CN [	Description		
*		4,017	98 [	Driveway		
_		4,017	1	00.00% Im	pervious A	Area
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry, Direct

#### Subcatchment 3S: Areas Routed to Retention



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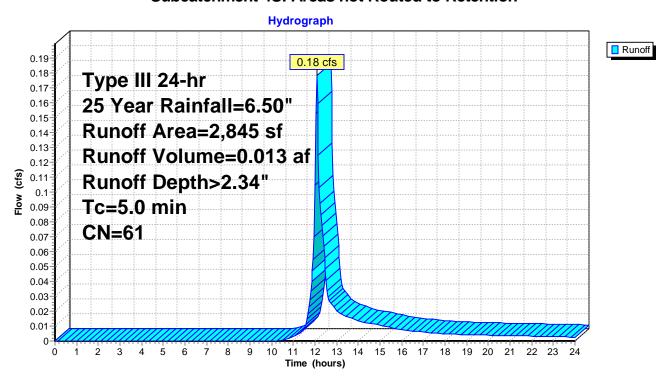
#### Summary for Subcatchment 4S: Areas not Routed to Retention

Runoff = 0.18 cfs @ 12.08 hrs, Volume= 0.013 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

_	Α	rea (sf)	CN	Description					
*	•	2,845	61	Woods, Fair, HSG B					
		2,845		100.00% Pervious Area					
	Тс	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	5.0					Direct Entry, Direct			

#### Subcatchment 4S: Areas not Routed to Retention



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# Summary for Pond 1P: Aggregate under Porous Asphalt

Inflow Area = 0.092 ac,100.00% Impervious, Inflow Depth > 6.26" for 25 Year event

Inflow = 0.60 cfs @ 12.07 hrs, Volume= 0.048 af

Outflow = 0.27 cfs @ 12.44 hrs, Volume= 0.017 af, Atten= 55%, Lag= 22.0 min

Primary = 0.27 cfs @ 12.44 hrs, Volume= 0.017 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Peak Elev= 1.73' @ 12.44 hrs Surf.Area= 3,420 sf Storage= 1,368 cf

Plug-Flow detention time= 369.7 min calculated for 0.017 af (35% of inflow) Center-of-Mass det. time= 192.6 min (935.3 - 742.7)

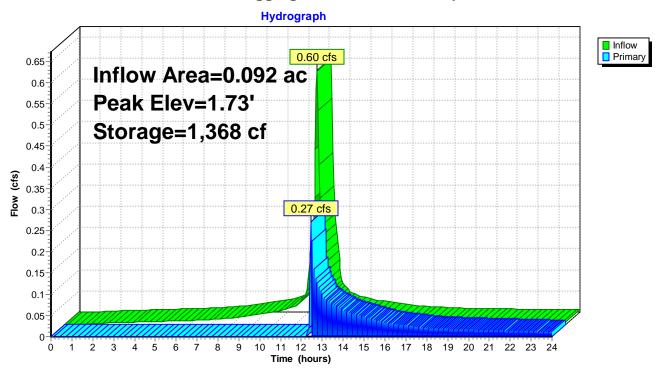
Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	1,368 cf	9.00'W x 380.00'L x 1.00'H Aggregate
			3,420 cf Overall x 40.0% Voids

 Device
 Routing
 Invert
 Outlet Devices

 #1
 Primary
 1.50'
 1.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

**Primary OutFlow** Max=0.26 cfs @ 12.44 hrs HW=1.72' (Free Discharge) **1=Broad-Crested Rectangular Weir** (Weir Controls 0.26 cfs @ 1.17 fps)

Pond 1P: Aggregate under Porous Asphalt



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# Summary for Link 1L: Combined Hydrograph

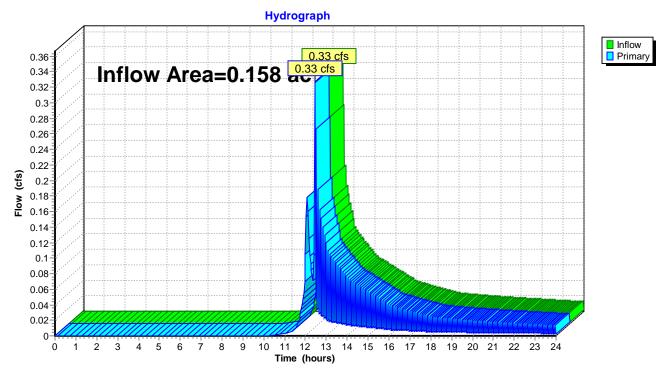
0.158 ac, 58.54% Impervious, Inflow Depth > 2.26" for 25 Year event Inflow Area =

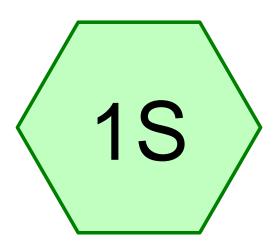
0.33 cfs @ 12.44 hrs, Volume= 0.030 af Inflow

0.33 cfs @ 12.44 hrs, Volume= Primary 0.030 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

# Link 1L: Combined Hydrograph





# Existing Conditions Wetlands Basin









Routing Diagram for 2168ROWWetlandsExisting

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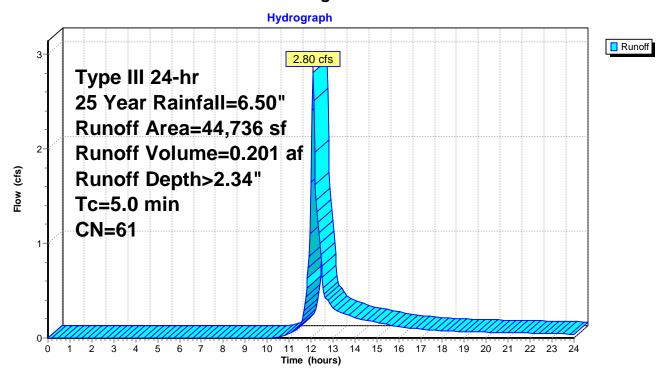
#### **Summary for Subcatchment 1S: Existing Conditions Wetlands Basin**

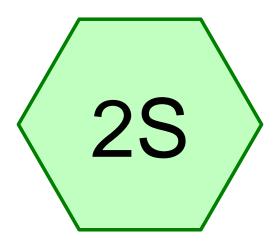
Runoff = 2.80 cfs @ 12.08 hrs, Volume= 0.201 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

_	Α	rea (sf)	CN	Description					
*		44,736	61	61 Woods, Fair, HSG B					
		44,736		100.00% Pe	ervious Area	a			
	Тс	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	5.0					Direct Entry, Direct			

#### **Subcatchment 1S: Existing Conditions Wetlands Basin**





# Proposed Conditions Wetlands Basin









Routing Diagram for 2168ROWWetlandsProposed

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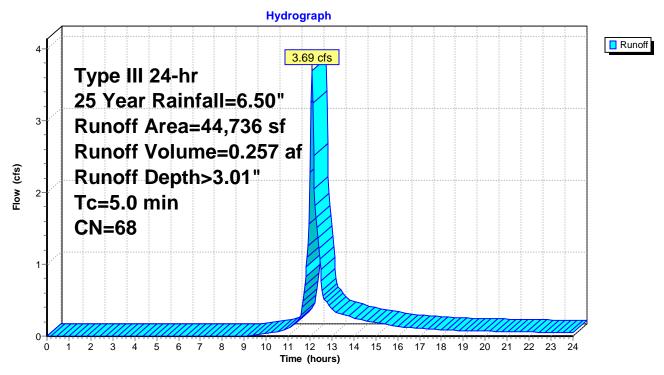
# Summary for Subcatchment 2S: Proposed Conditions Wetlands Basin

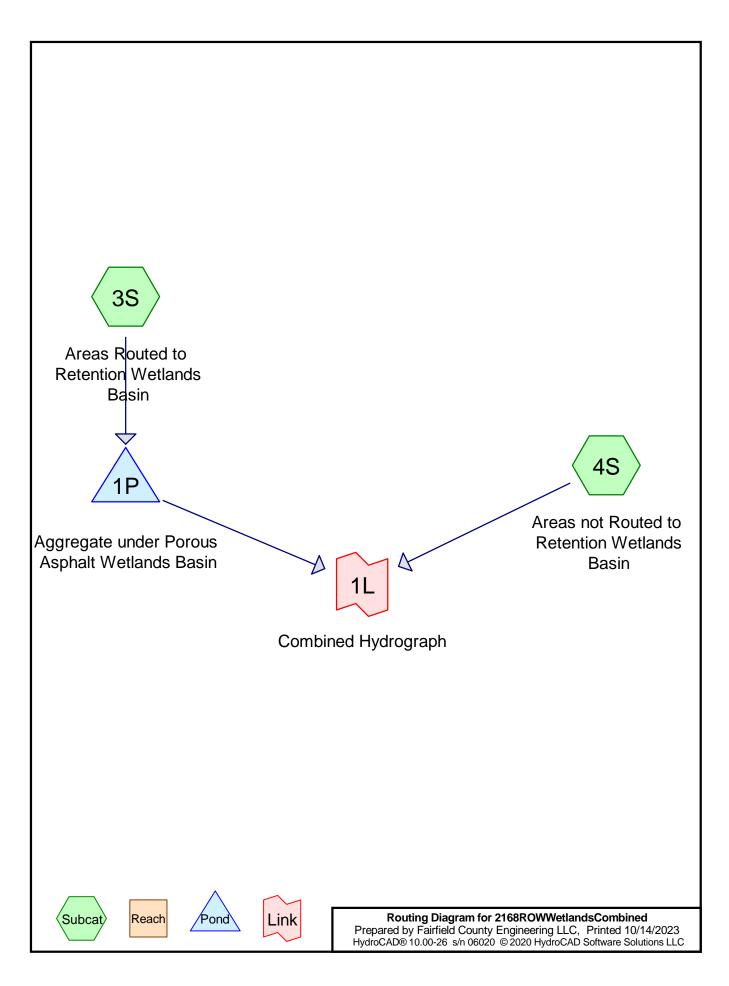
Runoff = 3.69 cfs @ 12.08 hrs, Volume= 0.257 af, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

	Area (st	) CN	Description		
*	8,20	4 98	Driveway		
*	36,53	2 61	Woods, Fai	r, HSG B	
	44,73	6 68	Weighted A	verage	
	36,53	2	81.66% Per	vious Area	
	8,20	4	18.34% lm	pervious Ar	rea
_	Tc Leng (min) (fee		,	Capacity (cfs)	Description
	5.0				Direct Entry, Direct

#### **Subcatchment 2S: Proposed Conditions Wetlands Basin**





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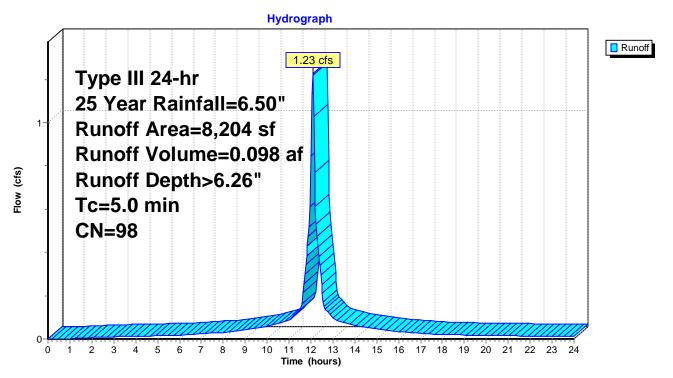
#### Summary for Subcatchment 3S: Areas Routed to Retention Wetlands Basin

Runoff = 1.23 cfs @ 12.07 hrs, Volume= 0.098 af, Depth> 6.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

	Α	rea (sf)	CN [	Description		
*		8,204	98 [	Driveway		
		8,204	,	100.00% Im	pervious A	Area
	Тс	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry, Direct

#### Subcatchment 3S: Areas Routed to Retention Wetlands Basin



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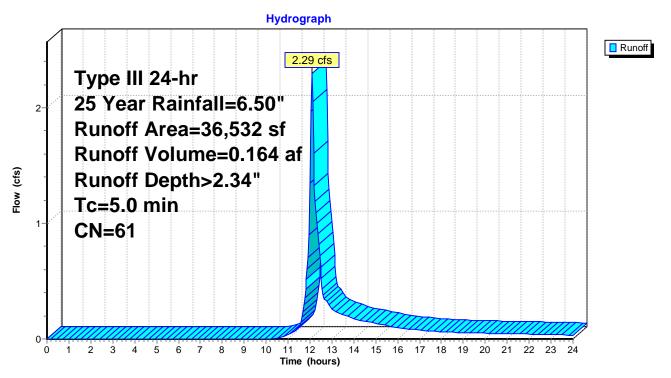
#### Summary for Subcatchment 4S: Areas not Routed to Retention Wetlands Basin

Runoff = 2.29 cfs @ 12.08 hrs, Volume= 0.164 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

_	Α	rea (sf)	CN	Description	1	
*		36,532	61	Woods, Fa	ir, HSG B	
		36,532		100.00% P	ervious Are	a
	Тс	Length	Slope	e Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft	) (ft/sec)	(cfs)	
	5.0					Direct Entry, Direct

#### Subcatchment 4S: Areas not Routed to Retention Wetlands Basin



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#### Summary for Pond 1P: Aggregate under Porous Asphalt Wetlands Basin

Inflow Area = 0.188 ac,100.00% Impervious, Inflow Depth > 6.26" for 25 Year event

Inflow = 1.23 cfs @ 12.07 hrs, Volume= 0.098 af

Outflow = 0.76 cfs @ 12.36 hrs, Volume= 0.037 af, Atten= 38%, Lag= 17.2 min

Primary = 0.76 cfs @ 12.36 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Peak Elev= 1.69' @ 12.36 hrs Surf.Area= 5,373 sf Storage= 2,687 cf

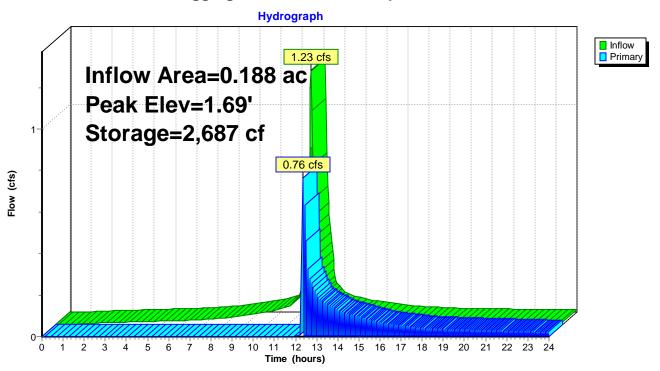
Plug-Flow detention time= 345.5 min calculated for 0.037 af (38% of inflow)

Center-of-Mass det. time= 178.6 min (921.3 - 742.7)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	2,687 cf	<b>9.00'W x 597.00'L x 1.25'H Aggregate</b> 6,716 cf Overall x 40.0% Voids
Device	Routing	Invert Out	let Devices
#1	Primary	1.25' <b>1.0'</b>	long x 10.0' breadth Broad-Crested Rectangular Weir
	-		ad (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
		Coe	ef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.75 cfs @ 12.36 hrs HW=1.69' (Free Discharge) 1=Broad-Crested Rectangular Weir (Weir Controls 0.75 cfs @ 1.71 fps)

Pond 1P: Aggregate under Porous Asphalt Wetlands Basin



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# **Summary for Link 1L: Combined Hydrograph**

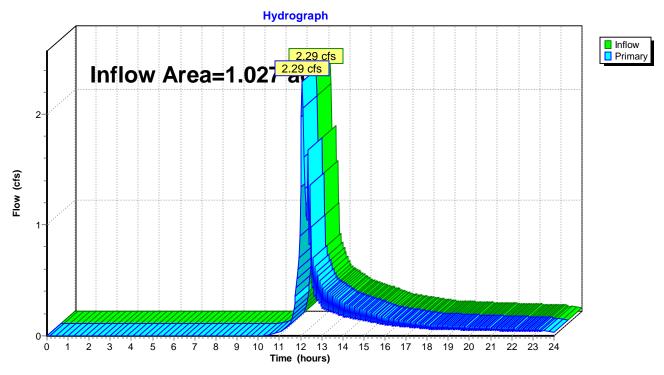
Inflow Area = 1.027 ac, 18.34% Impervious, Inflow Depth > 2.35" for 25 Year event

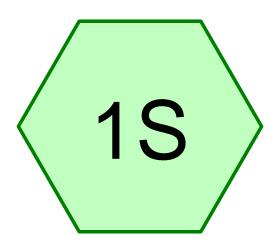
Inflow = 2.29 cfs @ 12.08 hrs, Volume= 0.201 af

Primary = 2.29 cfs @ 12.08 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

## **Link 1L: Combined Hydrograph**





# Existing Conditions North Basin









Routing Diagram for 2168ROWNorthExisting

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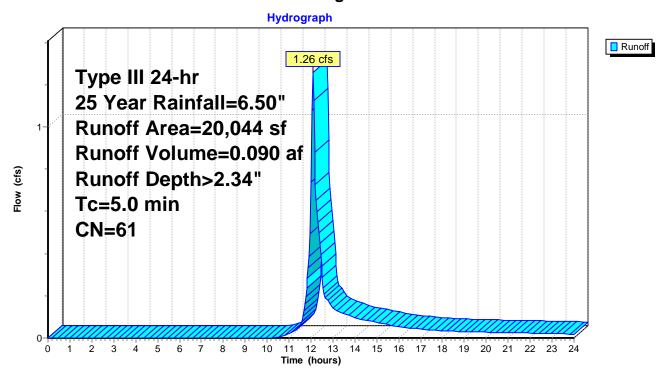
## **Summary for Subcatchment 1S: Existing Conditions North Basin**

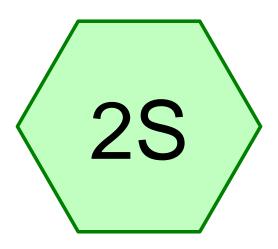
Runoff = 1.26 cfs @ 12.08 hrs, Volume= 0.090 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

_	Α	rea (sf)	CN	Description	1	
*		20,044	61	Woods, Fa	ir, HSG B	
		20,044		100.00% P	ervious Are	a
		Length			Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry, Direct

#### **Subcatchment 1S: Existing Conditions North Basin**





# Proposed Conditions North Basin









Routing Diagram for 2168ROWNorthProposed

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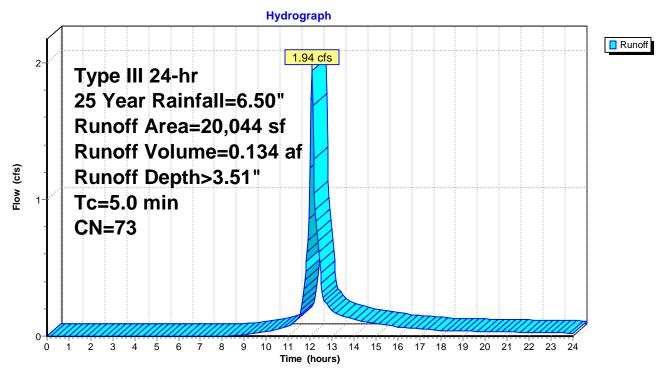
## Summary for Subcatchment 2S: Proposed Conditions North Basin

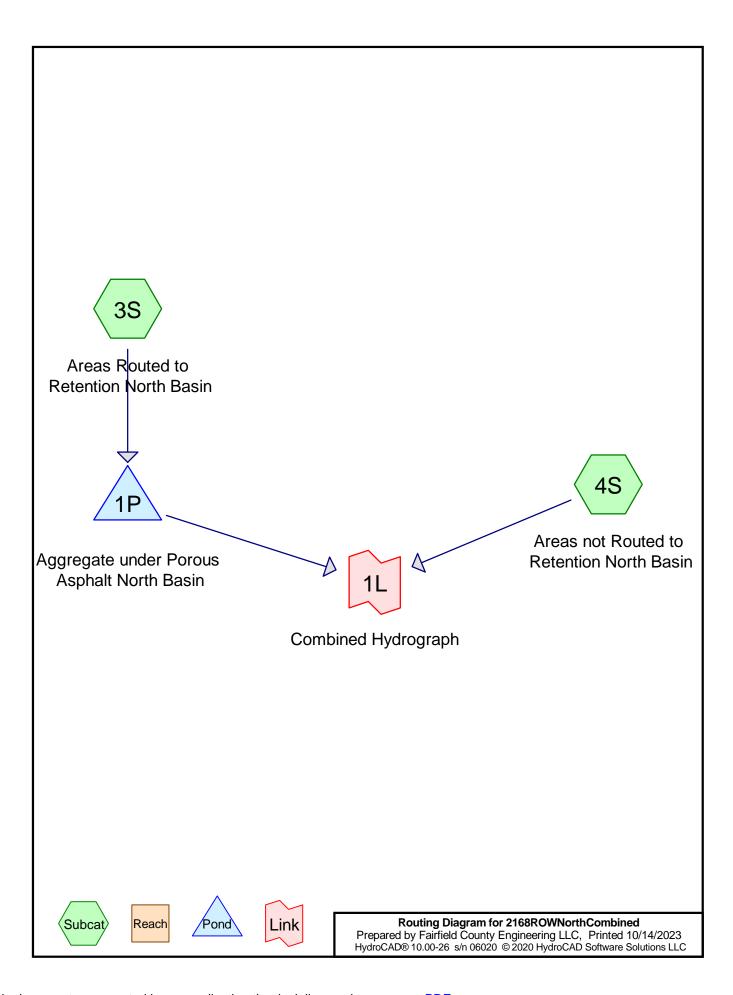
Runoff = 1.94 cfs @ 12.08 hrs, Volume= 0.134 af, Depth> 3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

	Α	rea (sf)	CN	Description				
*		6,462	98	Driveway				
*		13,582	61	Woods, Fair, HSG B				
		20,044	73	Weighted A	verage			
		13,582		67.76% Per	vious Area			
		6,462		32.24% lmp	pervious Are	ea		
_	Tc (min)	Length (feet)	Slop (ft/f	,	Capacity (cfs)	Description		
	5.0					Direct Entry, Direct		

#### **Subcatchment 2S: Proposed Conditions North Basin**





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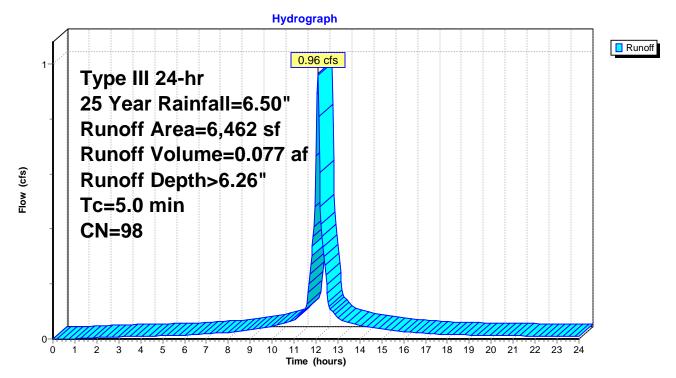
## Summary for Subcatchment 3S: Areas Routed to Retention North Basin

Runoff = 0.96 cfs @ 12.07 hrs, Volume= 0.077 af, Depth> 6.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

_	Α	rea (sf)	CN [	Description		
*		6,462	98 [	Driveway		
		6,462	100.00% Impervious Area			Area
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	5.0					Direct Entry, Direct

#### Subcatchment 3S: Areas Routed to Retention North Basin



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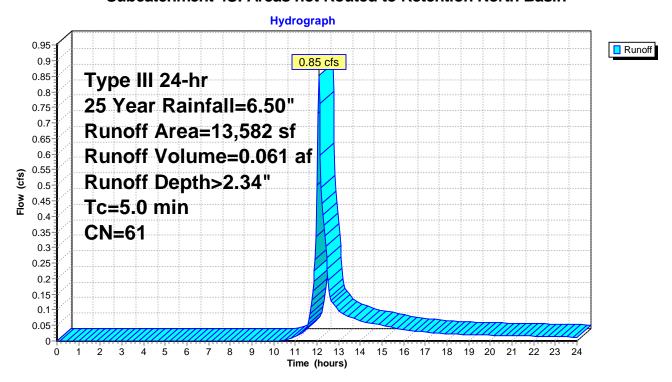
## Summary for Subcatchment 4S: Areas not Routed to Retention North Basin

Runoff = 0.85 cfs @ 12.08 hrs, Volume= 0.061 af, Depth> 2.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Type III 24-hr 25 Year Rainfall=6.50"

_	Α	rea (sf)	CN	Description		
*		13,582	61	Woods, Fai	r, HSG B	
		13,582	100.00% Pervious Area			a
	Тс	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft	(ft/sec)	(cfs)	
	5.0					Direct Entry, Direct

#### Subcatchment 4S: Areas not Routed to Retention North Basin



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## Summary for Pond 1P: Aggregate under Porous Asphalt North Basin

Inflow Area = 0.148 ac,100.00% Impervious, Inflow Depth > 6.26" for 25 Year event

Inflow = 0.96 cfs @ 12.07 hrs, Volume= 0.077 af

Outflow = 0.62 cfs @ 12.24 hrs, Volume= 0.033 af, Atten= 36%, Lag= 9.9 min

Primary = 0.62 cfs @ 12.24 hrs, Volume= 0.033 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs Peak Elev= 1.64' @ 12.24 hrs Surf.Area= 3,852 sf Storage= 1,926 cf

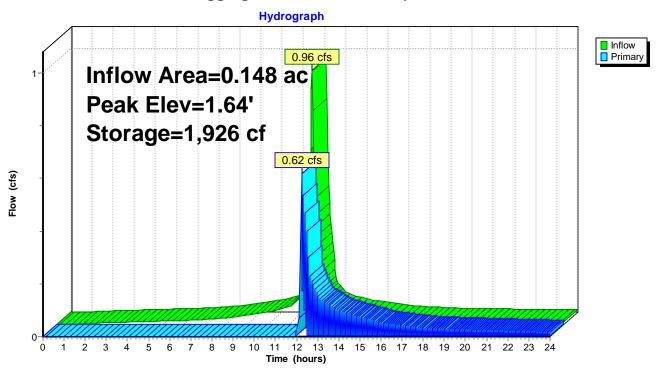
Plug-Flow detention time= 304.4 min calculated for 0.033 af (43% of inflow)

Center-of-Mass det. time= 155.6 min ( 898.3 - 742.7 )

Volume	lume Invert Avail.Storage		Storage Description
#1	0.00'	1,926 cf	<b>9.00'W x 428.00'L x 1.25'H Aggregate</b> 4,815 cf Overall x 40.0% Voids
Device	Routing	Invert Out	tlet Devices
#1	Primary	Hea	l long x 10.0' breadth Broad-Crested Rectangular Weir ad (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 ef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.59 cfs @ 12.24 hrs HW=1.63' (Free Discharge) 1=Broad-Crested Rectangular Weir (Weir Controls 0.59 cfs @ 1.57 fps)

Pond 1P: Aggregate under Porous Asphalt North Basin



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# **Summary for Link 1L: Combined Hydrograph**

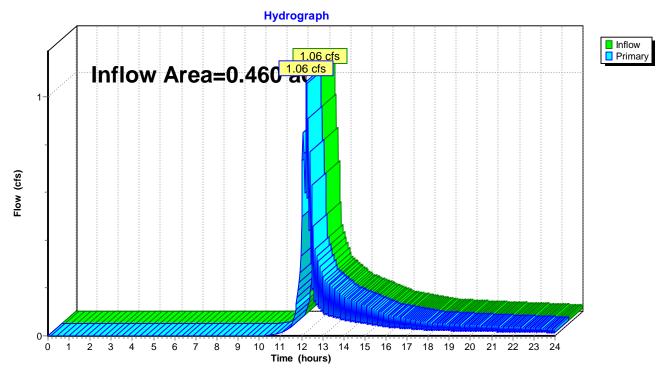
Inflow Area = 0.460 ac, 32.24% Impervious, Inflow Depth > 2.46" for 25 Year event

Inflow = 1.06 cfs @ 12.23 hrs, Volume= 0.094 af

Primary = 1.06 cfs @ 12.23 hrs, Volume= 0.094 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.04 hrs

## **Link 1L: Combined Hydrograph**



## **Operations and Maintenance Plan**

0 Mountain Road October 6, 2023

#### Scope:

The purpose of the Operations and Maintenance Plan is to ensure that the porous pavement installed at 0 Mountain Road is maintained in operational condition throughout the life of the project. The service procedures associated with this plan shall be performed as required by the parties legally responsible for their maintenance.

#### Recommended Frequency of Service:

As further defined below, all stormwater components should be checked on a periodic basis and kept in full working order. Ultimately, the required frequency of inspection and service will depend on runoff quantities, pollutant loading, and clogging due to debris. At a minimum, we recommend that all stormwater components be inspected and serviced twice per year, once before winter begins and once during spring cleanup.

#### Service Procedures:

#### Porous Pavement (Pervious Concrete, Porous Asphalt):

- a. Clean and vacuum (Regenerative Air Vacuum for Permeable Interlocking Concrete Pavers) the porous pavement upon the completion of construction.
- b. Check for standing water on the surface of the pavement after a precipitation event. If standing water remains within 30 minutes after rainfall had ended, cleaning of porous pavement is recommended.
- c. Vacuum sweeper shall be used regularly to remove sediment and organic debris on the pavement surface. The sweeper may be fitted with water jets.
- d. Pavement vacuuming should occur during spring cleanup following the last snow event to remove accumulated debris, at a minimum.
- e. Pavement vacuuming should occur during fall cleanup to remove dead leaves, at a minimum.
- f. Power washing can be an effective tool for cleaning clogged areas. See manufacturer's specifications.
- g. Check for debris accumulating on pavement, especially debris buildup in winter. For loose debris, a power/leaf blower or gutter broom can be used to remove leaves and trash.
- h. Any additional maintenance required per the manufacturer's specifications shall also be completed.

#### Disposal of Debris and Sediment:

All debris and sediment removed from the stormwater structures and bioretention/biofiltration basins shall be disposed of legally. There shall be no dumping of silt or debris into or in proximity to any inland or tidal wetlands.

#### Maintenance Records:

The Owners(s) must maintain all records (logs, invoices, reports, data, etc.) and have them readily available for inspection at all times.

