

FD#14

LBM Engineering, LLC

11 Hally Lane, Colchester, CT 06415-2133

Phone: 860-416-9809

Email: John@LBMEngineering.com

CIVIL ENGINEERING - LAND DEVELOPMENT - SITE PLANS – STORMWATER ANAGEMENT

**Engineering Report
For Land Use Commissions Submittals
Shewville Heights Open Space Resubdivision,
Ledyard, Connecticut**

February 24, 2026

Rev. 05-07-2026

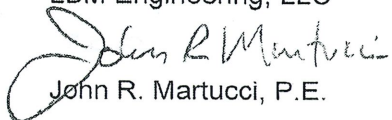
EXISTING CONDITIONS: Reference is made to the following Plan Set: "Plan Showing Shewville Heights Open Space Resubdivision Property of 84 Silas Deane LLC 84 Silas Deane Road Shewville Road and 58 & 59 Seabury Avenue, Ledyard, Connecticut" Scales as Shown February 2026, By Dieter & Gardner, Gales Ferry, CT. The property is located at the east end of Seabury Avenue, east of Seabury Circle. The property is wooded and hilly and drains to the north, east and south.

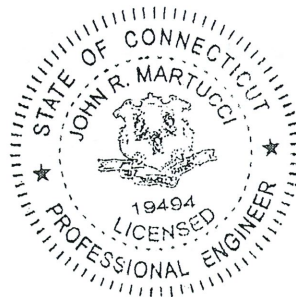
METHODOLOGY: The Rational Method was used for analyzing runoff rates per Part III of the Town of Ledyard's *Ordinance Regulating the Management of Stormwater Runoff*. The descending leg of the hydrographs are increased by a factor of 2.5 to provide additional stormwater volume. Intensity-Duration-Frequency (IDF) Curves were downloaded from the Northeast Regional Climate Center (NRCC) web site. Gutter Flow Analysis and Storm Sewer System Design calculations are attached to this report.

STORMWATER MANAGEMENT: The proposed development will not change the existing drainage patterns. 2.7 acres of the 48-acre parcel drain to the road's piped storm drain. A proposed detention/water quality basin is sized to hold the volume of up to a 100-year rainfall event. An extended detention underdrain is designed to slowly empty the basin over a 12-hour period which will allow time for suspended solids to settle out. Peak flow rate from the 6-inch PVC pipe will be less than 0.5 CFS. Discharge rate from the detention/water quality basin will be further reduced as it flows over 1,000 feet through wetlands and underbrush. The basin is designed to over-compensate for the runoff through the drainage system to make up for increases for development not associated with the road/storm drain.

CONCLUSION: The proposed development will not have adverse effects on down-gradient properties and is in keeping with the policies and goals of the Ledyard Planning and Zoning Commission.

Submitted by:
LBM Engineering, LLC


John R. Martucci, P.E.



RECEIVED

MAY 18 2026

Land Use Department

PREPARED BY JRM	DATE PREPARED 2/2026	LBM Engineering, LLC 11 HALLY LANE COLCHESTER, CONNECTICUT 06415 TEL: (860)-416-9809 EMAIL: JOHN@LBMENGINEERING.COM	JOB NUMBER	PAGE NUMBER 1
CHECKED BY	DATE CHECKED REV 5/1/26		CLIENT NAME	TOTAL PAGES

SHEWVILLE HEIGHTS SUB, - DRAINAGE CALCS.

CB1 STA 11+82, LT (4% SLOPE)

ROAD 200' x 14' ÷ 43,560 0.06 AC

OVERLAND 200' x 10' ÷ 43,560 0.05 AC

WEIGHTED 'C' [(0.06 x 0.9) + (0.05 x 0.3)] ÷ 0.11 = 0.11
0.63

TG = 366.72 INV 362.22

CB2 STA. 11+82, RT (4.0%)

ROAD 200' x 14' ÷ 43,560 0.06 AC

DRIVEWAY 75 x 10 0.02 AC

OVERLAND 5000 SF ÷ 43560 0.11 AC

WEIGHTED 'C' [(0.08 x 0.9) + (0.11 x 0.3)] ÷ 0.19 = 0.55 0.19 AC

TG 366.72 INV = 361.98

CB3 STA 14+04, LT (1%)

ROAD 212' x 14' ÷ 43,560 0.07

OVERLAND 200 x 20 ÷ 43,560 0.09

WEIGHTED 'C' [(0.07 x 0.9) + (0.09 x 0.3)] ÷ 0.16 0.16
0.56

TG = 363.21 INV 358.95

PREPARED BY JRM	DATE PREPARED 2/2026	LBM Engineering, LLC 11 HALLY LANE COLCHESTER, CONNECTICUT 06415 TEL: (860)-416-9809 EMAIL: JOHN@LBMENGINEERING.COM	JOB NUMBER	PAGE NUMBER 2
CHECKED BY	DATE CHECKED REV. 4/2026		CLIENT NAME	TOTAL PAGES

CB 4 STA 14+04 RT (1.0%)

ROAD $212' \times 14' \div 43,560$ 0.07 AC

DRIVEWAY 120×10 0.03 AC

ROOF 1500 0.03 AC

OVERLAND $(80 \times 200 \div 43,560) - 0.06$ 0.30 AC

0.43 AC

WEIGHTED 'C' $[(0.13 \times 0.9) + (0.30 \times 0.3)] \div 0.43 = 0.48$

TG 363.21 INV 358.71

CB 5 STA 17+0, LT (Low Point)

ROAD $550' \times 14' \div 43,560 + [1/2 \text{ CULDESAC } (50^2 \times \pi) / 2$ 0.27 AC
(0.09 AC)

AI = $0.27 \times 0.9 = 0.24$

TG = 360.50 INV 355.25

CB 6 STA 17+0, RT (Low Point)

ROAD $550' \times 14' \div 43,560 + 0.09$ (1/2 CULDESAC) 0.27 AC

DRIVEWAYS & ROOF $3 \times 3,000 \div 43,560$ 0.21 AC

OVERLAND $45,000 \div 43,560$ 1.03 AC

1.51

WEIGHTED 'C' $[(0.48 \times 0.9) + (1.03 \times 0.3)] \div 1.51$

AI = 0.49

TG 360.50 INV 355.75

TYPE C Double Gate

DESIGNED BY: JRM DATE: 02/23/26
 REV: JRM
 CHECKED BY: DATE: 5/1/2026

PROJECT: SHEWVILLE HEIGHTS SUBDIVISION
 PROJECT NO.:
 TOWN: Ledyard
 ROUTE:
 LOCATION: N/A

GUTTER FLOW ANALYSIS - 25 YR STORM																
Inlet ID	Inlet Station and Offset	Area in Acres (A)	Runoff Coeff. (C)	Time to Inlet (min.)	Rainfall Intensity (in/hr)	AC	Total AC	Q to Inlet (cfs)	Grade of Gutter ft/ft (SL)	Cross Slope Of Shoulder ft/ft (Sx)	Depth of Flow of Gutter (ft)	Gutter Flow Width (ft)	Q Bypassing Inlet (cfs)	AC Bypassing Inlet	AC Entering Catch Basin	Inlet Type
PROPOSED ROAD LEFT GUTTER																
C81	11+82, LT	0.110	0.63	10	6.20	0.069	0.069	0.473	0.043	0.043	0.104	2.415	0.000	0.000	0.069	"C"
C83	14+04, LT	0.160	0.56	10	6.20	0.090	0.090	0.611	0.043	0.043	0.148	3.449	0.046	0.007	0.082	"C"
C85	17+00, LT	0.270	0.9	10	6.20	0.243	0.250	1.708	LOW PT	0.043					0.250	"C"
PROPOSED ROAD RIGHT GUTTER																
C82	11+82, RT	0.190	0.55	10	6.20	0.105	0.105	0.713	0.043	0.043	0.121	2.818	0.009	0.001	0.103	"C"
C84	14+04, RT	0.430	0.48	10	6.20	0.206	0.208	1.418	0.043	0.043	0.203	4.729	0.315	0.051	0.157	"C"
C86	17+00, RT	1.490	0.48	10	6.20	0.715	0.767	5.234	LOW PT	0.043					0.767	"C"
NOTES:																
LOW POINT ANALYSIS																
INLET	Q TO INLET	PERIM.	C WEIR	d WEIR	WIDTH	d	ORIFICE									
C85	1.708	5.020	3	0.234	5.45	0.041	0.3 DEEP - OK									
C86	5.234	7.330	3	0.384	8.93	0.387	0.4 DEEP - OK									

Notes:

- Manning's n = 0.016 (asphalt).
- Tc = 5 minutes minimum for areas with all pavement.
- Tc = 10 minutes minimum for small areas with pavement and grass.
- Allow points operate as a weir. Depth (d) over grate is less than 0.4 feet.

GRATES	PERIM	AREA
C	5.02	3.13
C DOUB	7.33	6.26
CL	7.33	3.13
CL DOUB	11.96	6.26

STORM SEWER SYSTEM DESIGN DRAINAGE SYSTEM

Client: SHEWVILLE HEIGHTS SUBDIVISION
 Project: SHEWVILLE HEIGHTS SUBDIVISION
 Proj. No.:
 Return Period for Design: 25-YR
 Prepared By: JRM
 Date: 02/20/26 Revised: 05/01/26
 Sheet No. 1 of 1

Line Segment		Time to Inlet (min.)	Time in Pipe (min.)	Accumul. Time (min.)	A x C Entering System	Sum of A x C in System	Rainfall Intensity, R (in./hr.)	Q in System (c.f.s.)	Size (in.)	Length (ft.)	Slope (ft./ft.)	Pipe Data				
From	To											Avg. Vel. (f.p.s.)	Full Cap. (c.f.s.)	Headwater (ft.)	Manning "n"	
CB 1	CB 2	10	0.08	10.0	0.069	0.069	6.2	0.43	15	24	0.010	5.0	6.99	0.30	0.012	
11+82,LT	11+82,RT															
CB 2	CB 4	10	0.74	10.1	0.103	0.172	6.2	1.07	15	222	0.010	5.0	6.99	0.40	0.012	
11+82,RT	14+04,RT															
CB 3	CB 4	10	0.08	10.8	0.082	0.082	6.2	0.51	15	24	0.010	5.0	6.99	0.60	0.012	
14+04,LT	14+04,RT															
CB 4	CB 6	10	0.99	10.9	0.157	0.239	6.2	1.48	15	296	0.010	5.0	6.99	0.55	0.012	
14+04,RT	17+00,RT															
CB 6	CB 5	10	0.08	11.9	0.767	1.006	6.2	6.24	15	24	0.010	5.0	6.99	1.70	0.012	
17+00,RT	17+00,LT															
CB 5	OUTLET	10	0.08	12.0	0.250	1.256	6.2	7.79	18	50	0.010	10.0	11.37	2.00	0.012	
17+00,LT																

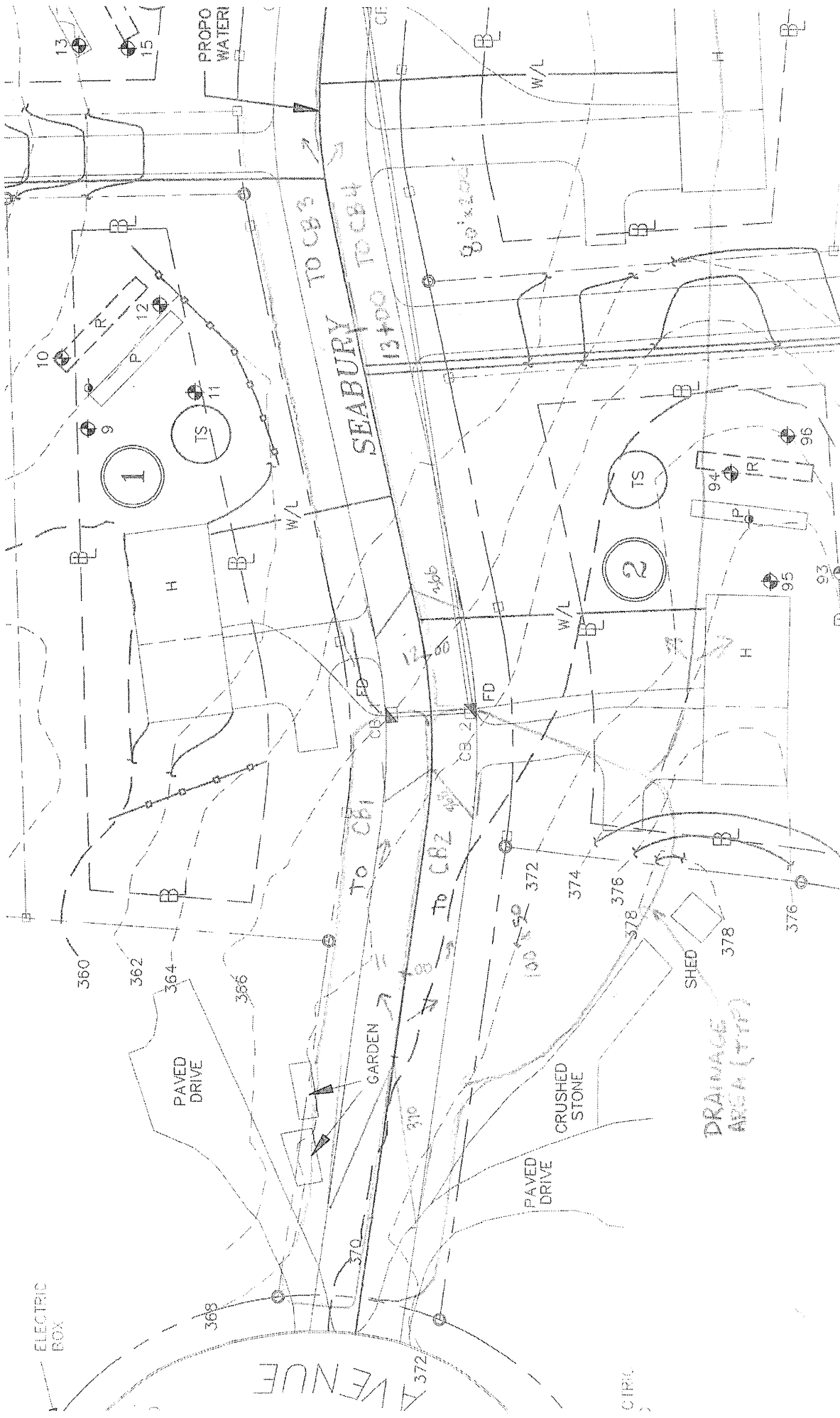
Manning's "n" for HDPE and RC pipe = 0.012

NOTE: ALL PIPES ARE BELOW FULL CAPACITY.

PREPARED BY JRM	DATE PREPARED 5/2026	LBM Engineering, LLC 11 HALLY LANE COLCHESTER, CONNECTICUT 06415 TEL: (860)-416-9809 EMAIL: JOHN@LBMENGINEERING.COM	JOB NUMBER	PAGE NUMBER 5
CHECKED BY	DATE CHECKED		CLIENT NAME	TOTAL PAGES

STORM DRAIN TO DETENTION BASIN

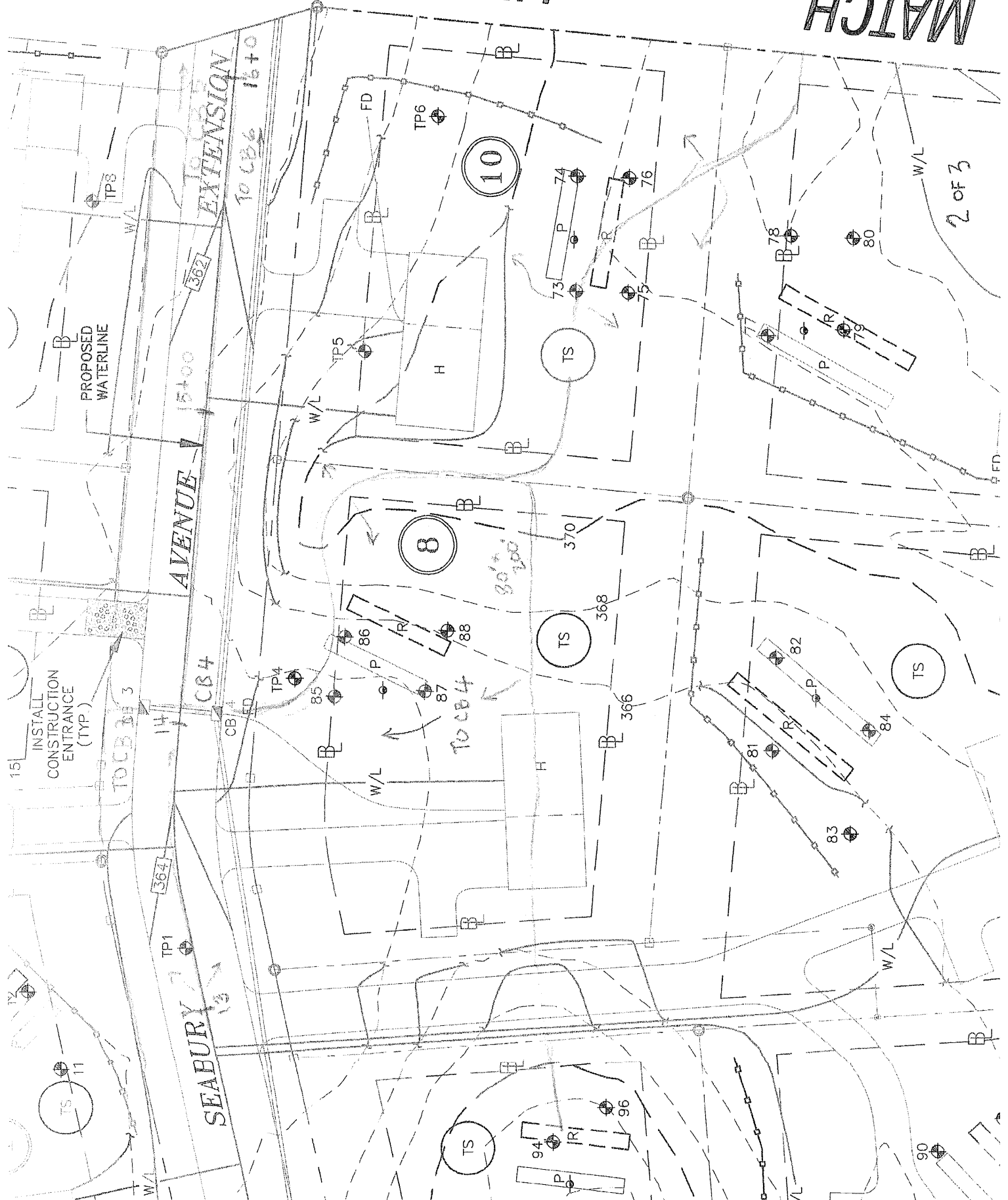
	AREA	ROOF & PAV'T	O'LAND
CB1	0.11	0.06	0.05
CB2	0.19	0.08	0.11
CB3	0.16	0.07	0.09
CB4	0.43	0.13	0.30
CB5	0.27	0.27	—
CB6	1.51	0.48	1.03
	<u>2.67</u>	<u>1.09</u>	<u>1.58 AC</u>



ROAD DRAINAGE AREAS
 1 of 3 12/40

MATCH

LINE



2 OF 3

PROPOSED WATERLINE

SEABURY AVENUE 15+00 EXTENSION 16+00

INSTALL CONSTRUCTION ENTRANCE (TYP)

15

30' x 100' 100''

TO CB4

TP1

TP4

85

86

87

88

366

368

81

82

83

84

TS

TS

94

96

90

78

79

80

73

74

75

76

8

10

CB4

CB3

CB2

W/L

FD

W/L

W/L

W/L

W/L

W/L

W/L

W/L

W/L

FD

W/L

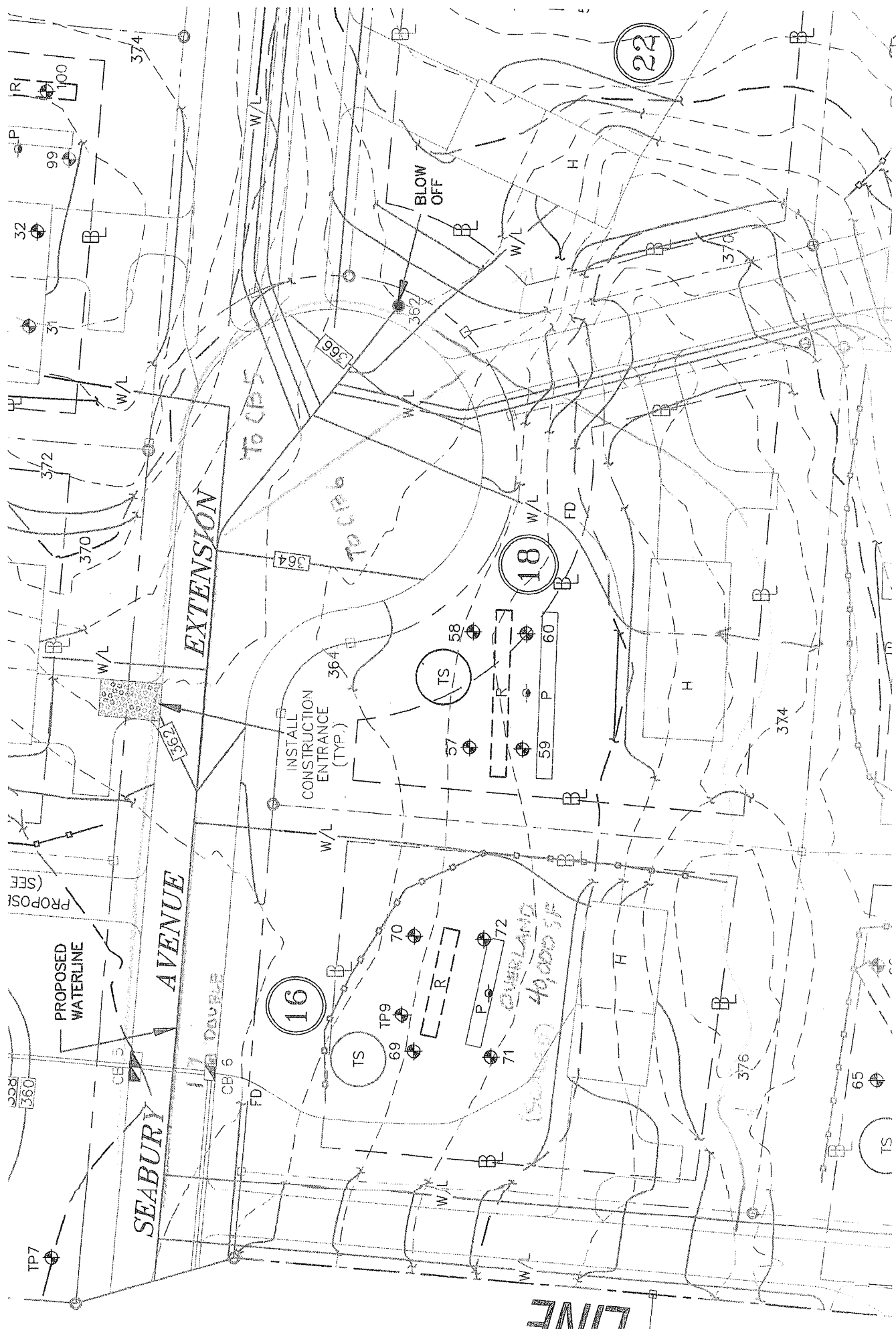
FD

FD

FD

FD

FD

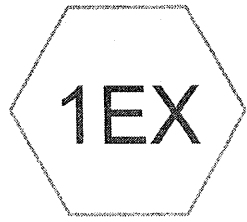


3 DF 3

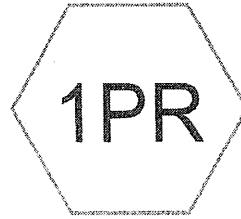
P. 8

LIVE

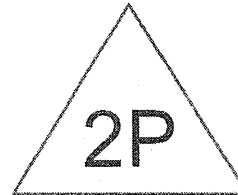
COMPUTATIONS FOR:				Project
ORIFICE SIZING WORKSHEET				Made By: JRM
SHEWVILLE HEIGHTS				Date: 5/6/2026
LEDYARD, CT				Rev:
				Date:
ORIFICE SIZING FOR EXTENDED DETENTION UNDERDRAIN				
BASIN VOLUME AT SPILLWAY = 15,550 CUBIC FT				
TARGET VOLUME (HALF EMPTY) = 7,775 CF				
ConnDOT Drainage Manual Equation 10.32				
Qav = VOL./T				
VOLUME (FT ³)	7,775			
T (SEC.)= 12 Hrs =	43,200			
Qav (CFS) =	0.1800	Target Q at Half Volume		
ConnDOT Drainage Manual Equation 10.18				
Q = Kor D ² Ho ^{0.50}		Kor =	3.78	Q = Flow in CFS
				Kor= Oriface Coefficient = 3.78
				D= Oriface
				H= Head in Feet
HEAD AT FULL = 3.5'				
D (inch)	D (FT.)	H	Q (CFS)	
2.00	0.167	2.00	0.1485	
2.25	0.188	2.00	0.1879	USE 2-1/4" ORIFICE
2.50	0.208	2.00	0.2320	
2.75	0.229	2.00	0.2807	



UNDEV



TO BASIN



WQ BASIN



BASIN 05-2026

GALESFERRY 2-yr Duration=12 min, Inten=3.10 in/hr

Prepared by LBM Engineering LLC

Printed 5/9/2026

HydroCAD® 10.20-8a s/n 09192 © 2025 HydroCAD Software Solutions LLC

Page 2

Summary for Subcatchment 1EX: UNDEV

Runoff = 2.51 cfs @ 0.17 hrs, Volume= 2,933 cf, Depth= 0.30"

Runoff by Rational method, Rise/Fall=1.0/2.5 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
GALESFERRY 2-yr Duration=12 min, Inten=3.10 in/hr

Area (ac)	C	Description	Land Use
2.670	0.30	EXISTING UNDEVELOPED	
2.670		100.00% Pervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Summary for Subcatchment 1PR: TO BASIN

Runoff = 4.51 cfs @ 0.17 hrs, Volume= 5,279 cf, Depth= 0.54"
Routed to Pond 2P : WQ BASIN

Runoff by Rational method, Rise/Fall=1.0/2.5 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
GALESFERRY 2-yr Duration=12 min, Inten=3.10 in/hr

Area (ac)	C	Description	Land Use
1.090	0.90	PAVEMENT & ROOFS	
1.580	0.30	OVERLAND	
2.670	0.54	Weighted Average	
2.670		100.00% Pervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry, MINIMUM

Summary for Pond 2P: WQ BASIN

Inflow Area = 116,305 sf, 0.00% Impervious, Inflow Depth = 0.54" for 2-yr event

→ Inflow = 4.51 cfs @ 0.17 hrs, Volume= 5,279 cf
 → Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
 → Peak Elev= 357.17' @ 0.62 hrs Surf.Area= 3,691 sf Storage= 5,279 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	355.50'	15,550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

BASIN 05-2026

GALESFERRY 2-yr Duration=12 min, Inten=3.10 in/hr

Prepared by LBM Engineering LLC

Printed 5/9/2026

HydroCAD® 10.20-8a s/n 09192 © 2025 HydroCAD Software Solutions LLC

Page 3

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
355.50	2,650	0	0
357.50	3,900	6,550	6,550
359.50	5,100	9,000	15,550

Device	Routing	Invert	Outlet Devices
#1	Primary	359.00'	6.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=355.50' (Free Discharge)
 ↳1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

BASIN 05-2026

GALESFERRY 10-yr Duration=12 min, Inten=4.62 in/hr

Prepared by LBM Engineering LLC

Printed 5/9/2026

HydroCAD® 10.20-8a s/n 09192 © 2025 HydroCAD Software Solutions LLC

Page 4

Summary for Subcatchment 1EX: UNDEV

Runoff = 3.73 cfs @ 0.17 hrs, Volume= 4,362 cf, Depth= 0.45"

Runoff by Rational method, Rise/Fall=1.0/2.5 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
GALESFERRY 10-yr Duration=12 min, Inten=4.62 in/hr

Area (ac)	C	Description	Land Use
2.670	0.30	EXISTING UNDEVELOPED	
2.670		100.00% Pervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Summary for Subcatchment 1PR: TO BASIN

Runoff = 6.71 cfs @ 0.17 hrs, Volume= 7,851 cf, Depth= 0.81"
Routed to Pond 2P : WQ BASIN

Runoff by Rational method, Rise/Fall=1.0/2.5 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
GALESFERRY 10-yr Duration=12 min, Inten=4.62 in/hr

Area (ac)	C	Description	Land Use
1.090	0.90	PAVEMENT & ROOFS	
1.580	0.30	OVERLAND	
2.670	0.54	Weighted Average	
2.670		100.00% Pervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry, MINIMUM

Summary for Pond 2P: WQ BASIN

Inflow Area = 116,305 sf, 0.00% Impervious, Inflow Depth = 0.81" for 10-yr event
 Inflow = 6.71 cfs @ 0.17 hrs, Volume= 7,851 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
 Peak Elev= 357.83' @ 0.62 hrs Surf.Area= 4,095 sf Storage= 7,851 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	355.50'	15.550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

BASIN 05-2026

GALESFERRY 10-yr Duration=12 min, Inten=4.62 in/hr

Prepared by LBM Engineering LLC

Printed 5/9/2026

HydroCAD® 10.20-8a s/n 09192 © 2025 HydroCAD Software Solutions LLC

Page 5

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
355.50	2,650	0	0
357.50	3,900	6,550	6,550
359.50	5,100	9,000	15,550

Device	Routing	Invert	Outlet Devices
#1	Primary	359.00'	6.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=355.50' (Free Discharge)
 ↑1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

BASIN 05-2026

GALESFERRY 25-yr Duration=12 min, Inten=5.56 in/hr

Prepared by LBM Engineering LLC

Printed 5/9/2026

HydroCAD® 10.20-8a s/n 09192 © 2025 HydroCAD Software Solutions LLC

Page 6

Summary for Subcatchment 1EX: UNDEV

Runoff = 4.49 cfs @ 0.17 hrs, Volume= 5,251 cf, Depth= 0.54"

Runoff by Rational method, Rise/Fall=1.0/2.5 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
GALESFERRY 25-yr Duration=12 min, Inten=5.56 in/hr

Area (ac)	C	Description	Land Use
2.670	0.30	EXISTING UNDEVELOPED	
2.670		100.00% Pervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Summary for Subcatchment 1PR: TO BASIN

Runoff = 8.08 cfs @ 0.17 hrs, Volume= 9,452 cf, Depth= 0.98"
Routed to Pond 2P : WQ BASIN

Runoff by Rational method, Rise/Fall=1.0/2.5 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
GALESFERRY 25-yr Duration=12 min, Inten=5.56 in/hr

Area (ac)	C	Description	Land Use
1.090	0.90	PAVEMENT & ROOFS	
1.580	0.30	OVERLAND	
2.670	0.54	Weighted Average	
2.670		100.00% Pervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry, MINIMUM

Summary for Pond 2P: WQ BASIN

Inflow Area = 116,305 sf, 0.00% Impervious, Inflow Depth = 0.98" for 25-yr event
 Inflow = 8.08 cfs @ 0.17 hrs, Volume= 9,452 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
 Peak Elev= 358.21' @ 0.62 hrs Surf.Area= 4,323 sf Storage= 9,452 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	355.50'	15.550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

BASIN 05-2026

GALESFERRY 25-yr Duration=12 min, Inten=5.56 in/hr

Prepared by LBM Engineering LLC

Printed 5/9/2026

HydroCAD® 10.20-8a s/n 09192 © 2025 HydroCAD Software Solutions LLC

Page 7

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
355.50	2,650	0	0
357.50	3,900	6,550	6,550
359.50	5,100	9,000	15,550

Device	Routing	Invert	Outlet Devices
#1	Primary	359.00'	6.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=355.50' (Free Discharge)

↑1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

BASIN 05-2026

GALESFERRY 100-yr Duration=12 min, Inten=6.99 in/hr

Prepared by LBM Engineering LLC

Printed 5/9/2026

HydroCAD® 10.20-8a s/n 09192 © 2025 HydroCAD Software Solutions LLC

Page 8

Summary for Subcatchment 1EX: UNDEV

Runoff = 5.65 cfs @ 0.17 hrs, Volume= 6,608 cf, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/2.5 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
GALESFERRY 100-yr Duration=12 min, Inten=6.99 in/hr

Area (ac)	C	Description	Land Use
2.670	0.30	EXISTING UNDEVELOPED	
2.670		100.00% Pervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Summary for Subcatchment 1PR: TO BASIN

Runoff = 10.17 cfs @ 0.17 hrs, Volume= 11,895 cf, Depth= 1.23"
Routed to Pond 2P : WQ BASIN

Runoff by Rational method, Rise/Fall=1.0/2.5 xTc, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
GALESFERRY 100-yr Duration=12 min, Inten=6.99 in/hr

Area (ac)	C	Description	Land Use
1.090	0.90	PAVEMENT & ROOFS	
1.580	0.30	OVERLAND	
2.670	0.54	Weighted Average	
2.670		100.00% Pervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry, MINIMUM

Summary for Pond 2P: WQ BASIN

Inflow Area = 116,305 sf, 0.00% Impervious, Inflow Depth = 1.23" for 100-yr event
 ↓ Inflow = 10.17 cfs @ 0.17 hrs, Volume= 11,895 cf
 ↓ Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

↓ Routing by Dyn-Stor-Ind method, Time Span= 0.00-6.00 hrs, dt= 0.01 hrs
 Peak Elev= 358.75' @ 0.62 hrs Surf.Area= 4,650 sf Storage= 11,895 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	355.50'	15.550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

BASIN 05-2026

GALESFERRY 100-yr Duration=12 min, Inten=6.99 in/hr

Prepared by LBM Engineering LLC

Printed 5/9/2026

HydroCAD® 10.20-8a s/n 09192 © 2025 HydroCAD Software Solutions LLC

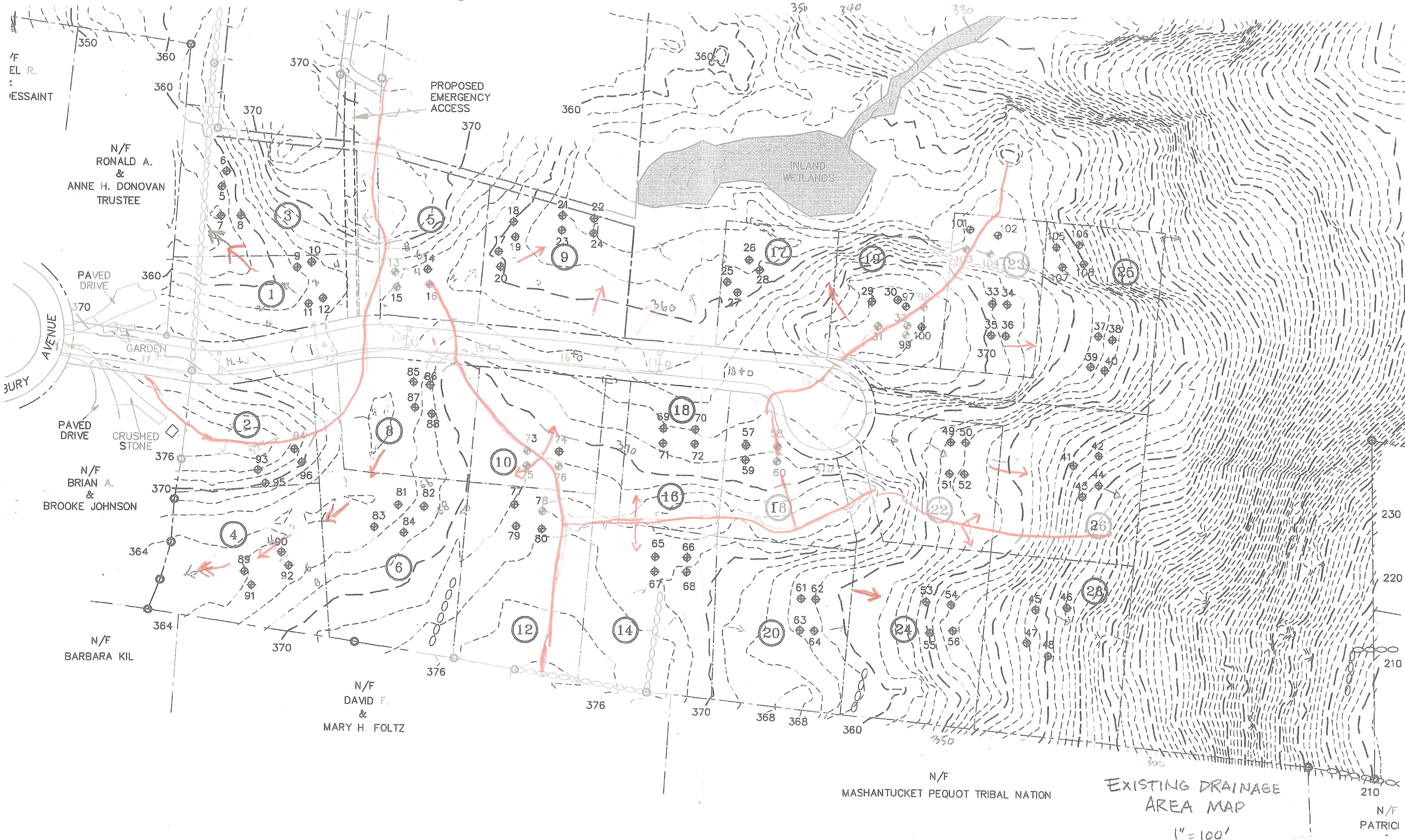
Page 9

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
355.50	2,650	0	0
357.50	3,900	6,550	6,550
359.50	5,100	9,000	15,550

Device	Routing	Invert	Outlet Devices
#1	Primary	359.00'	6.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=355.50' (Free Discharge)

↑1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)



N/F EL R. S. DESSAINT

N/F RONALD A. & ANNE H. DONOVAN TRUSTEE

PAVED DRIVE
GARDEN
AVENUE
BURY

PAVED DRIVE
CRUSHED STONE
N/F BRIAN A. & BROOKE JOHNSON

N/F BARBARA KIL

N/F DAVID F. & MARY H. FOLTZ

N/F MASHANTUCKET PEQUOT TRIBAL NATION

EXISTING DRAINAGE AREA MAP

1" = 100'

N/F PATRICI