



# OPEN SPACE COMMITTEE

## 10 December 2020

PROPOSED DRAINAGE IMPROVEMENTS  
PHEASANT RUN NEIGHBORHOOD

# Introduction

- Gary Fuerstenberg, PE
- Town Engineer
  - 860-665-8572
  - [gfuerstenberg@newingtonct.gov](mailto:gfuerstenberg@newingtonct.gov)



# Thank You

- Town Manager
- Engineering Staff
- Highway Staff
- Parks Staff



- Town Clerk Staff
- Town Manager Staff

# Presentation Summary

## Introduction

1. Existing Condition
2. Corridor History
3. Engineering Data
4. Planning Data
5. Solutions Considered
6. Recommended Solution
7. Cost
8. Schedule





# Project Corridor

- Willard Avenue (SR173)
- New Britain Avenue (SR174)
- Maple Hill Avenue
- Robbins Avenue
- Pheasant Run
- Harris Drive





# Public Outreach

Letter to abutters

- Pheasant Run - 23
- Harris Drive - 12
- New Britain Ave - 2



# 1331 Willard Avenue

- Town of Newington Owns Land
- ~40 Acres
- Open Space



AGENDA ITEM: IV.D.DATE: 9-08-15RESOLUTION NO. 2015-86

# Open Space Committee

- Chartered 2015
- Assist town council with open space issues
- Make recommendations to town council

WHEREAS, the Newington Town Council desires to replace the existing Open Space Committee; and,

WHEREAS, in order to appoint a new Open Space Committee, the current Open Space Committee must be disbanded;

NOW, THEREFORE BE IT RESOLVED, that the Newington Town Council hereby disbands the existing Open Space Committee and creates and replaces it with a new Open Space Committee in accordance with the following provisions:

1. The Open Space Committee shall provide assistance to the Town Council, as determined by the Town Council, in those matters associated with Open Space issues as they come before the Town Council.
2. It is declared that protecting natural resources, protecting aesthetics of the community, establishing greenways and trail systems, preserving passive and active recreation areas, preservation of historical assets and similar issues are desirable for the community; and
3. Upon request from the Town Council, the Open Space Committee shall make recommendations to the Town Council as to Open Space implications on such issues as the acquisition of real property, the sale of Town property, the protection and utilization of existing Town owned property, the financial impact of property acquisition with or without external funding sources and potential use of the Capital Improvement Fund.
4. The Open Space Committee shall consist of seven (7) members. Two (2) members shall be current Town Council members and the remaining five members shall be residents of the Town. All members shall be appointed by the Town Council. All vacancies shall be filled by the Town Council.
5. The terms of the resident members of the Open Space Committee shall be four (4) years or until their successors are qualified and appointed, and shall be staggered. Initial appointments by the Town Council shall be: three (3) residents to be appointed to four (4) year terms; two (2) residents to be appointed to three (3) year terms. The two (2) current Town Council members appointed serve until their successors are qualified and appointed.

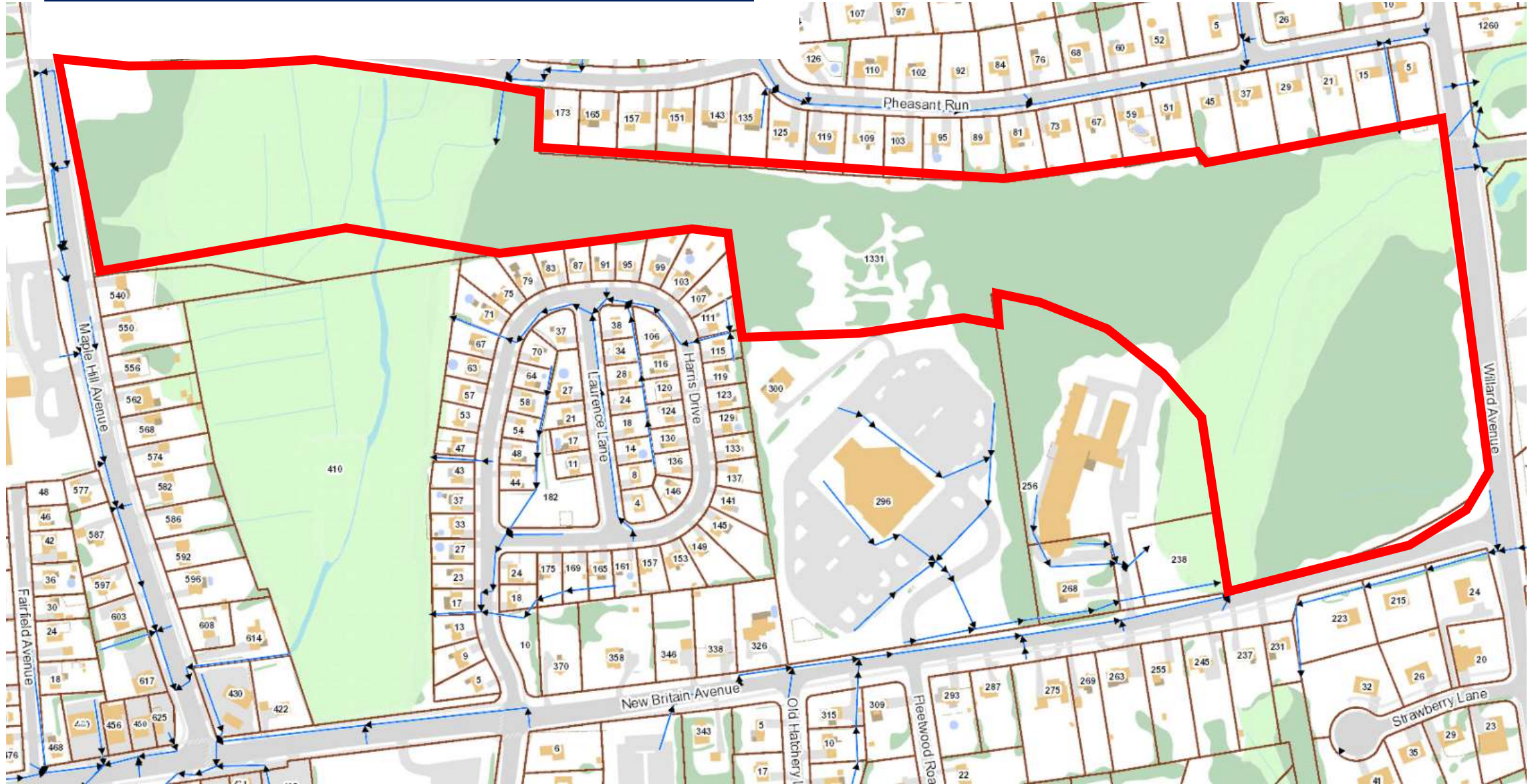
MOTION BY: Councilor Castelle

SECONDED BY: Councilor Nagel

VOTE: 8 – 0 (Councilor McDonald-absent)



# EXISTING CONDITIONS





# Mature Forest with sparse/moderate understory





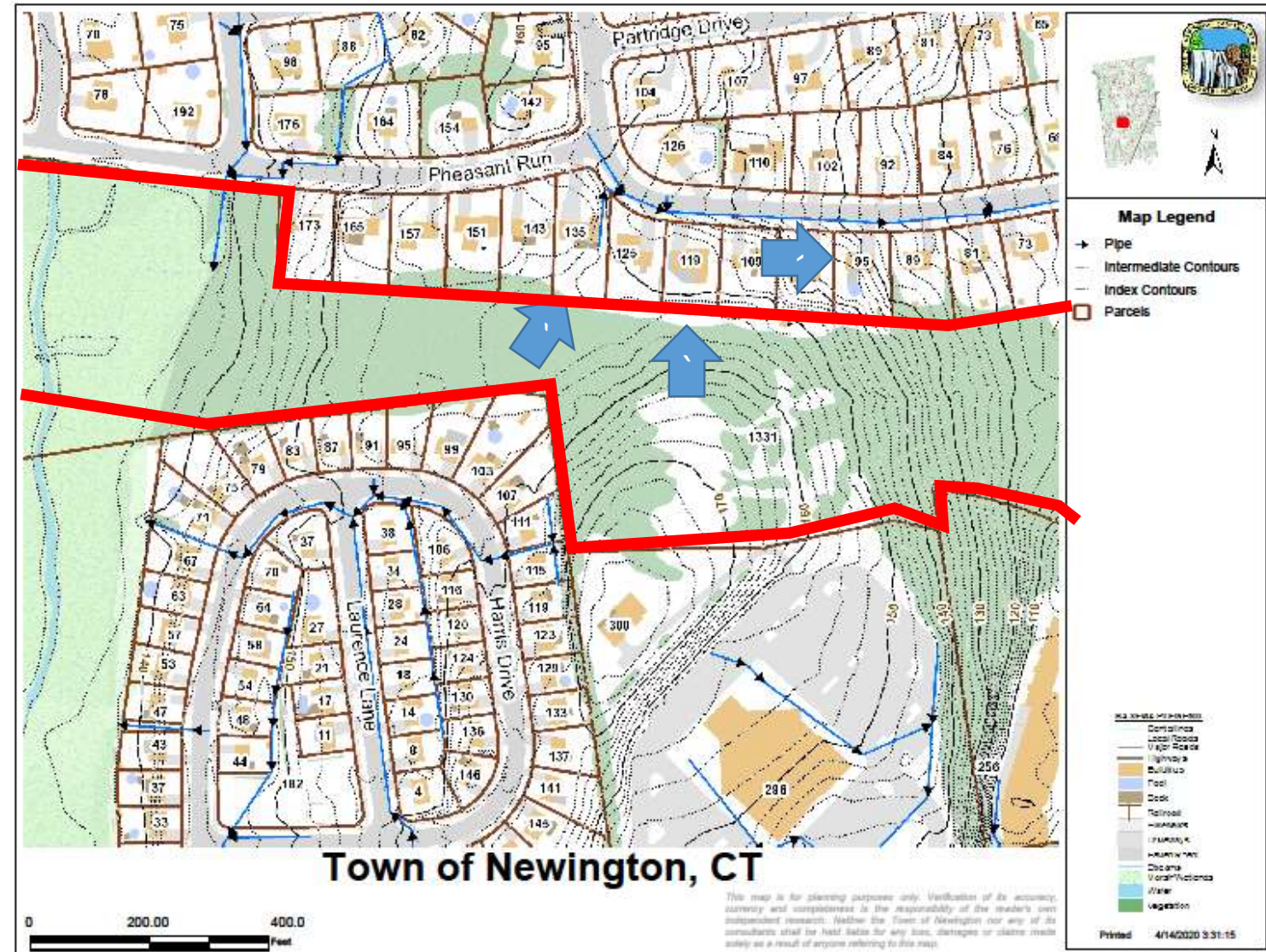
# Problem

## Water

- Erosion
- Wet yard
- Icing conditions
- Fallen trees

Upper Pheasant Run

Middle Pheasant Run







“Pond”





“River”





# Wet Yard







Erosion







# Fallen Trees

Root system uprooted





# Downed Trees





# Dead Trees





# Encroachments







# TRASH

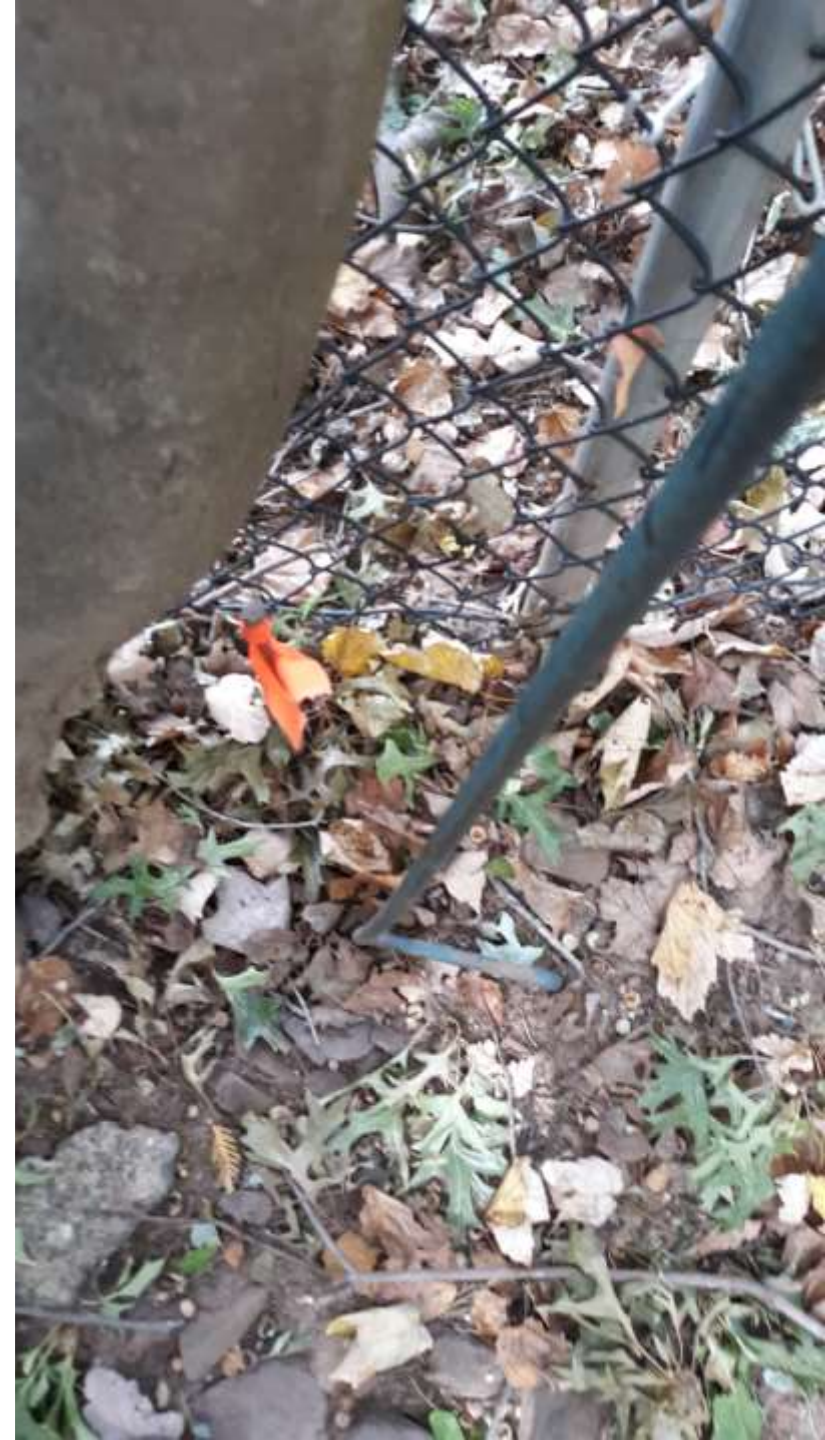




# Property Corners

Steel pipe

Iron rod







# Existing Swale

Poorly defined

Discontinuous

Only at east end





# Water in Road

Accelerates  
Deterioration  
Increased  
Maintenance







# No Sidewalk

Pedestrians use road

Popular route

- pets
- children
- joggers
- walkers





# Corridor History

**UConn**

Library

**Map and Geographic Information Center**

[Home](#)

[About ▾](#)

[Aerial Photos ▾](#)

[Data ▾](#)

[Maps ▾](#)

[How Do I...](#)

[Help](#)

## **Connecticut Historical Aerial Photography**



# Property Ownership

## Private Property

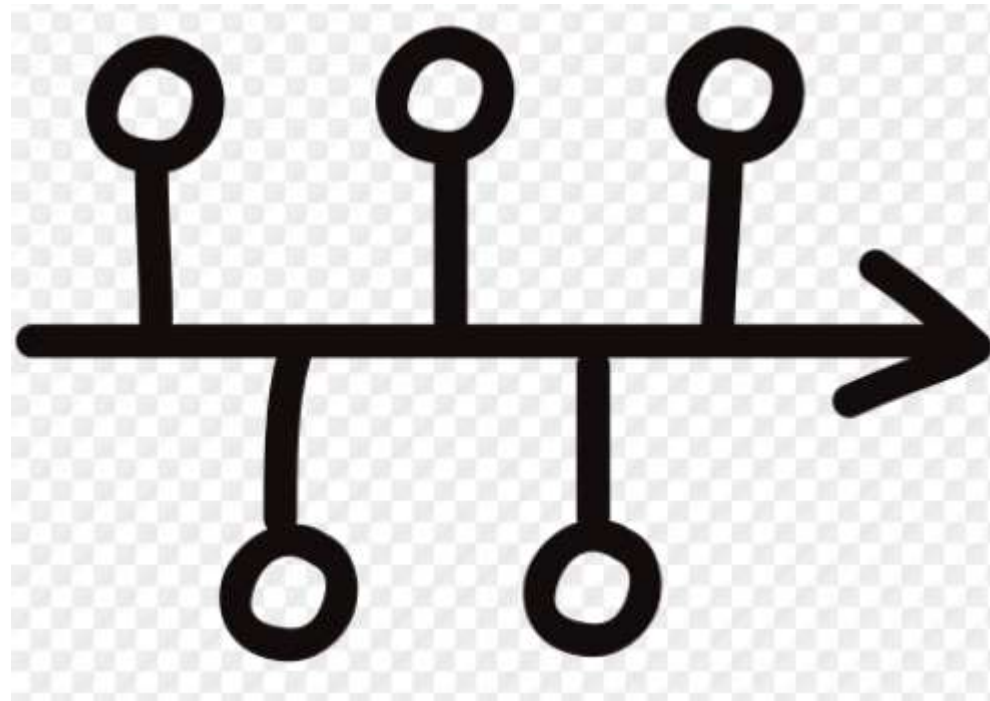
- 1967

Connecticut Department of Transportation (34 years)

- 2001

Town of Newington (19+ years)

- present





# 1951 Aerial Photo

## Private Property

- Barrow
- Lustro
- Ringquist
- Morran
- Hochniuk
- Eddy





# Fence Posts

Past land use

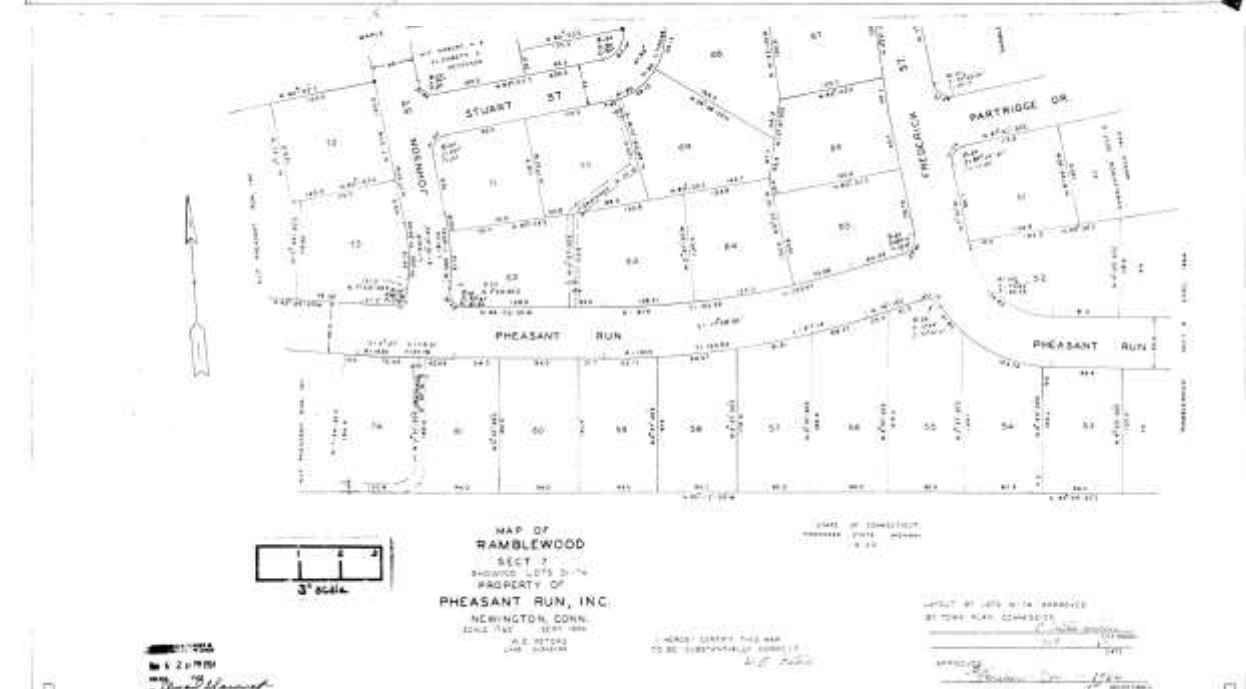
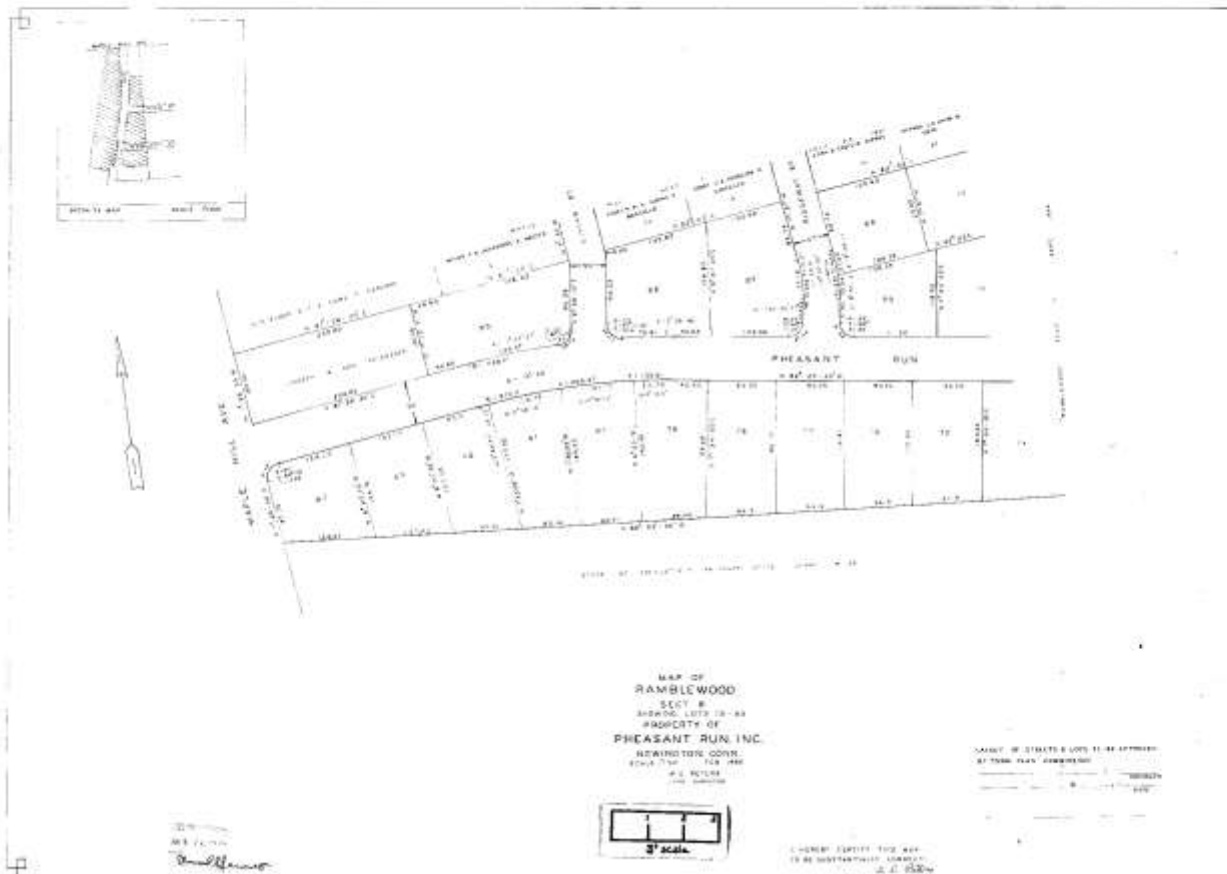
- Pasture
- Paddock
- Property line





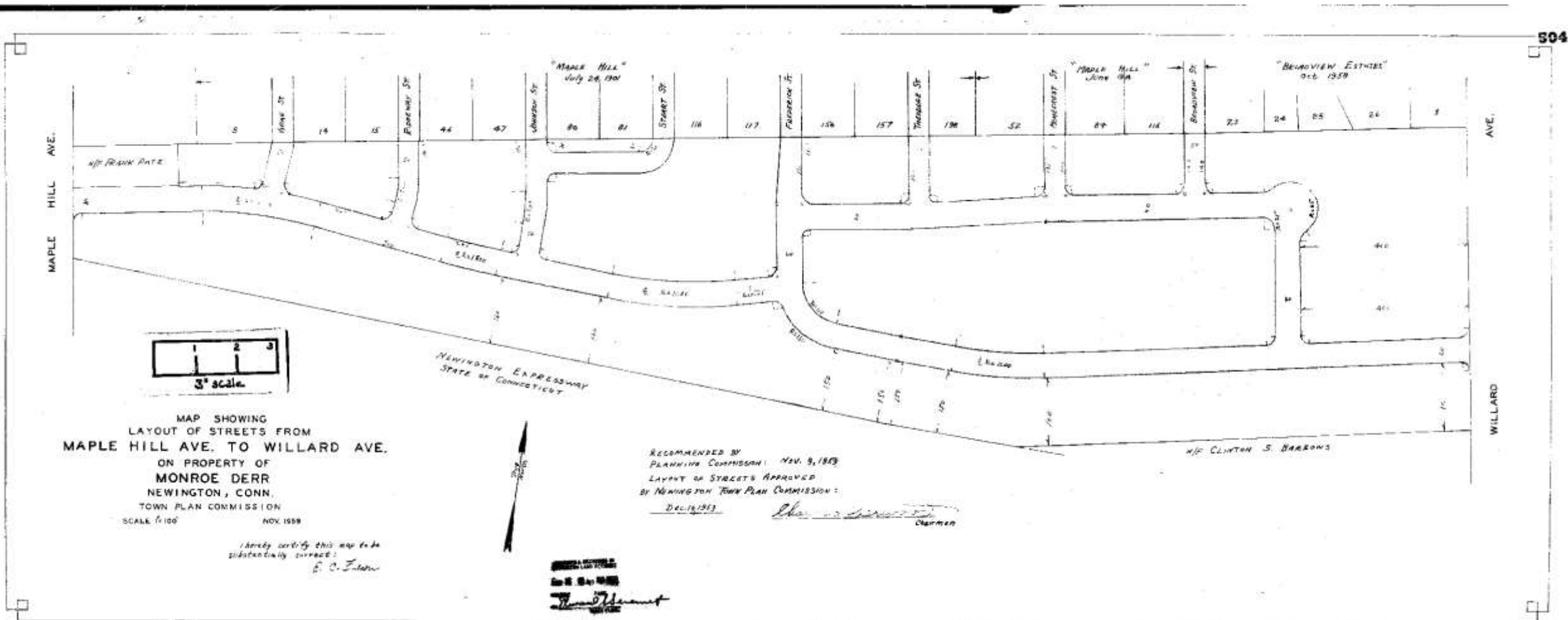
# Ramblewood 1954

## Subdivided Property





# 1959 Street Plan





# Ramblewood 1964

## Subdivision Plan

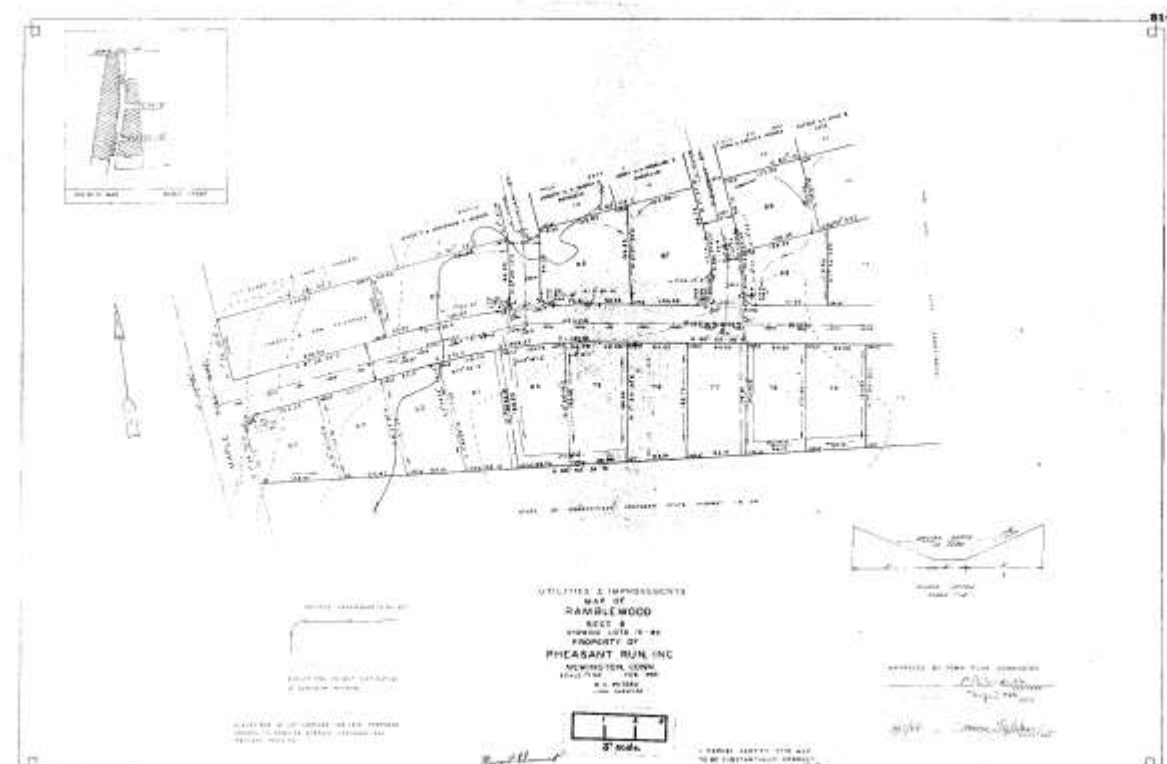
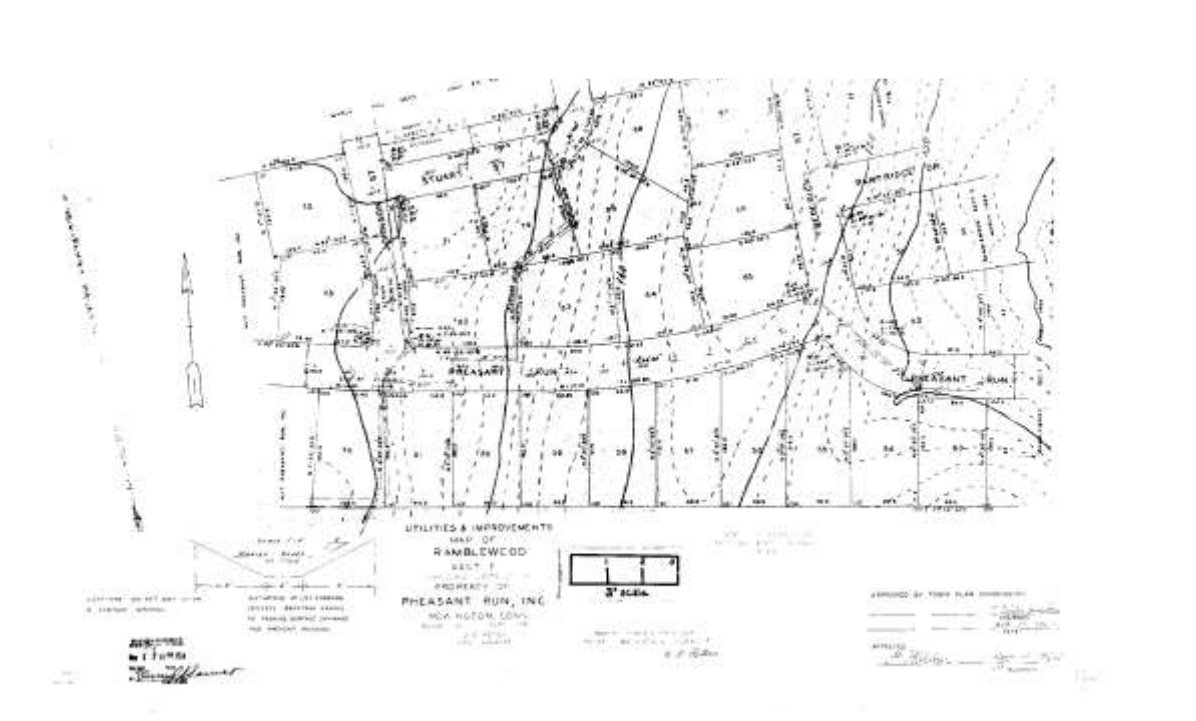
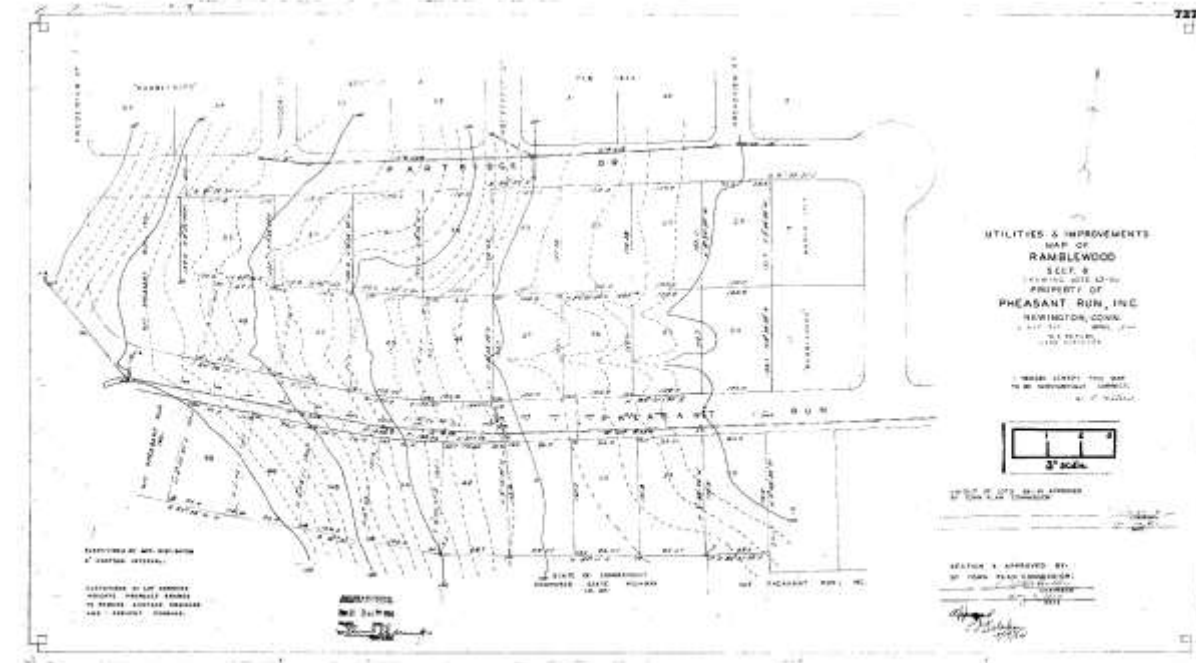
9-3-6





# Ramblewood 1966

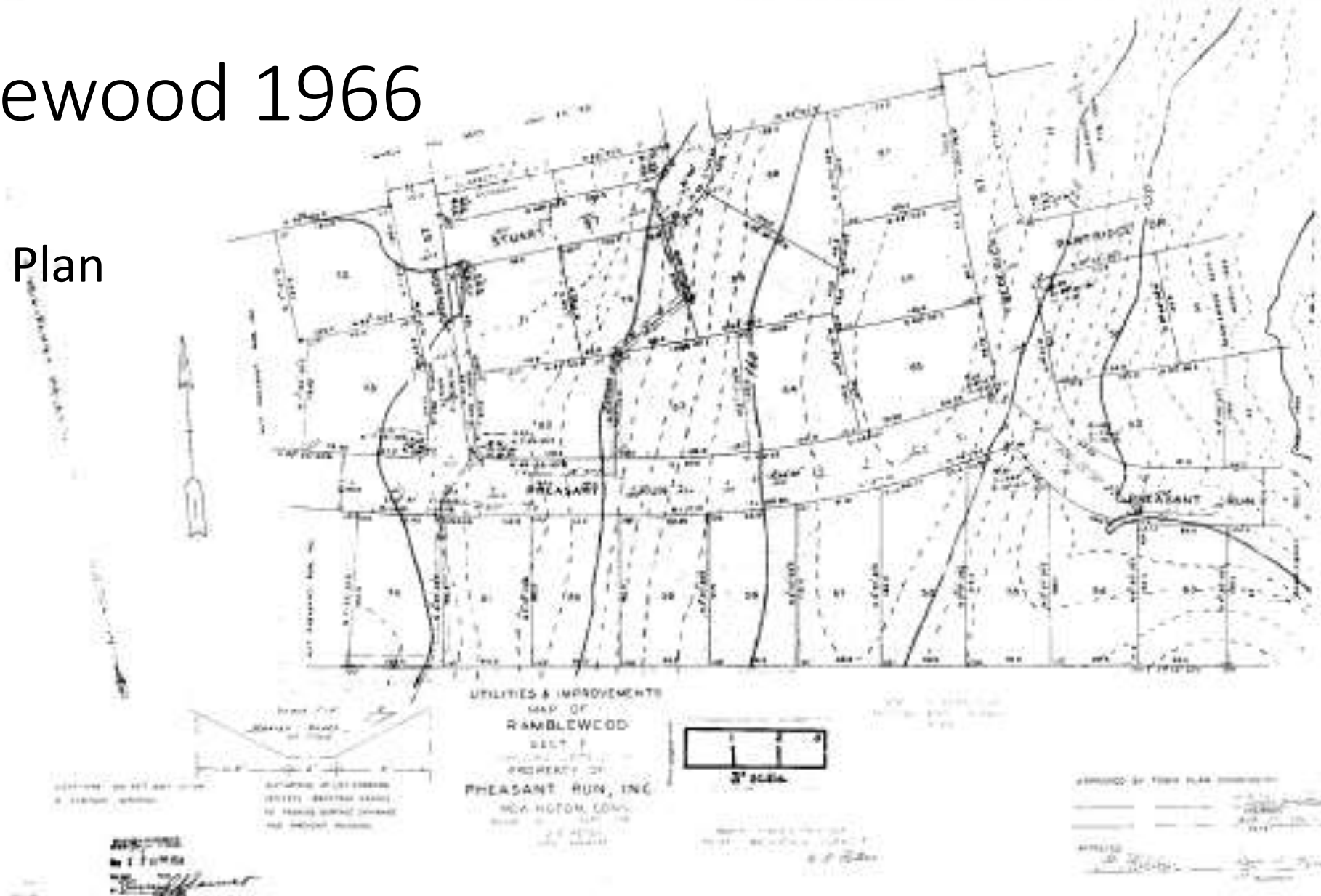
# Utility and Grading Plan





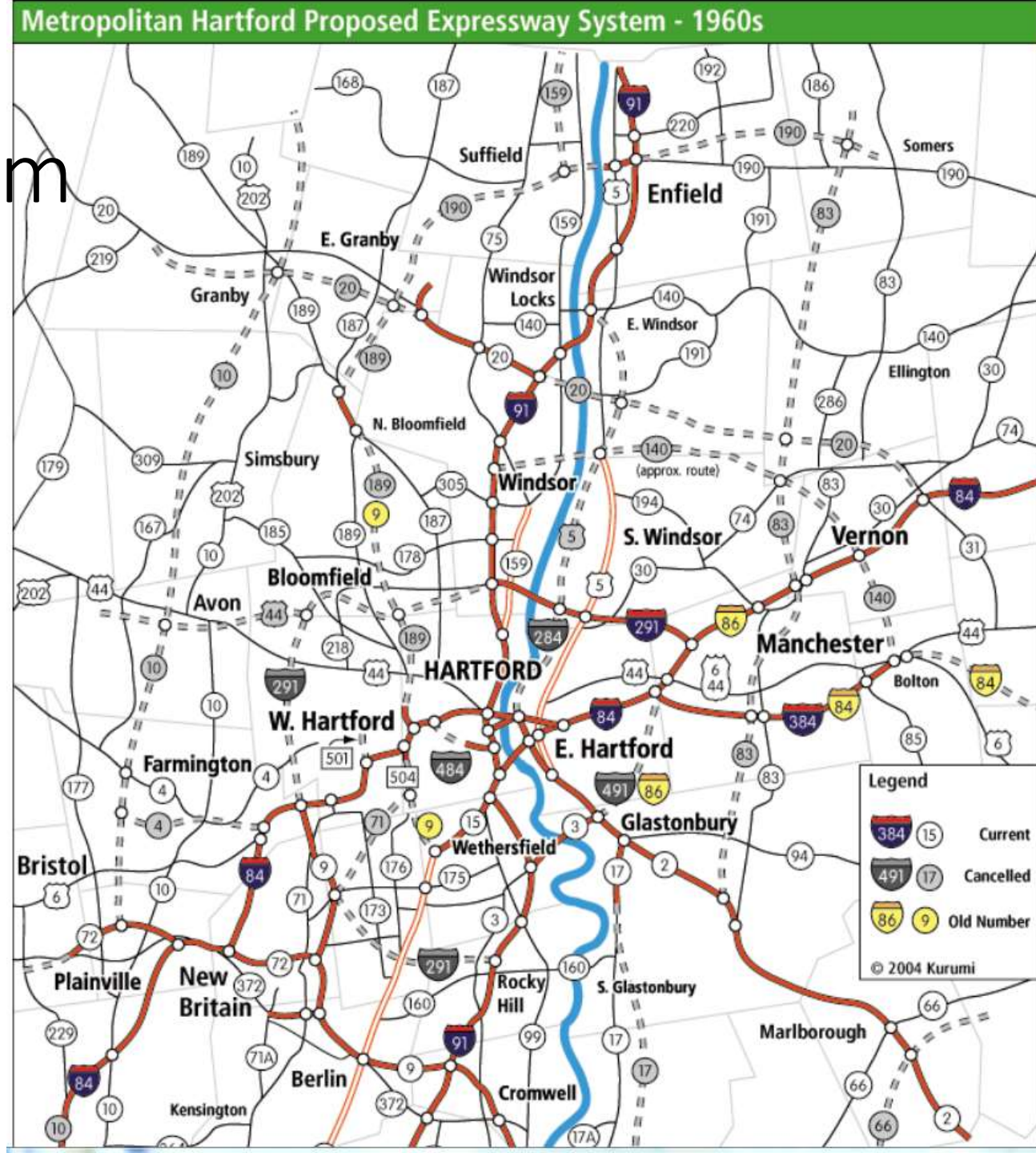
# Ramblewood 1966

## Grading Plan





# 1960s Expressway System





# 1970 Aerial Photo

Pheasant Run roadway

State of Connecticut

- Acquired land in 1967
- Quit Claim
- Fee
- Condemnation
- Proposed I-291





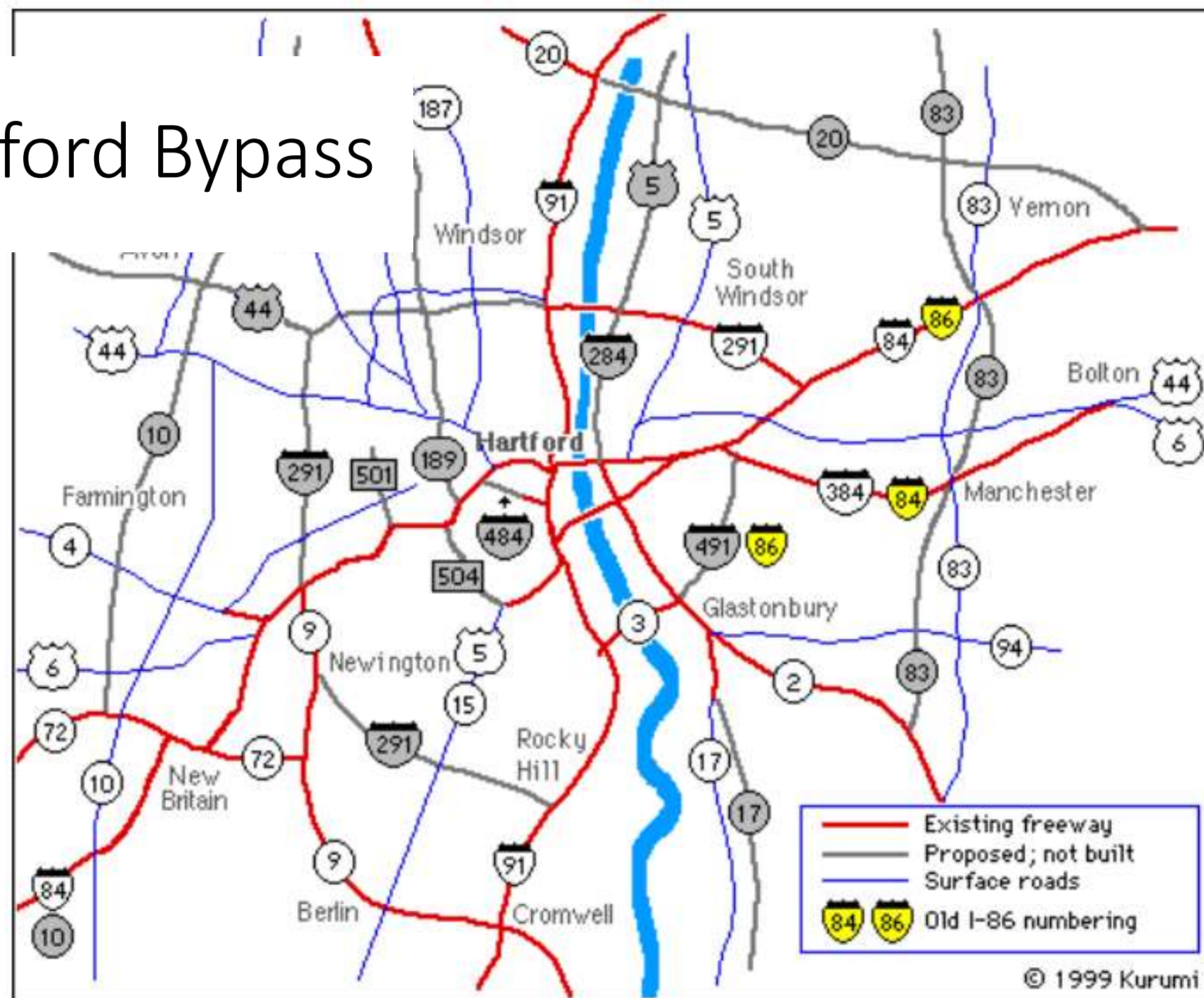
# Proposed Hartford Bypass

## I-291

- Rocky Hill
- Newington
- West Hartford
- Bloomfield

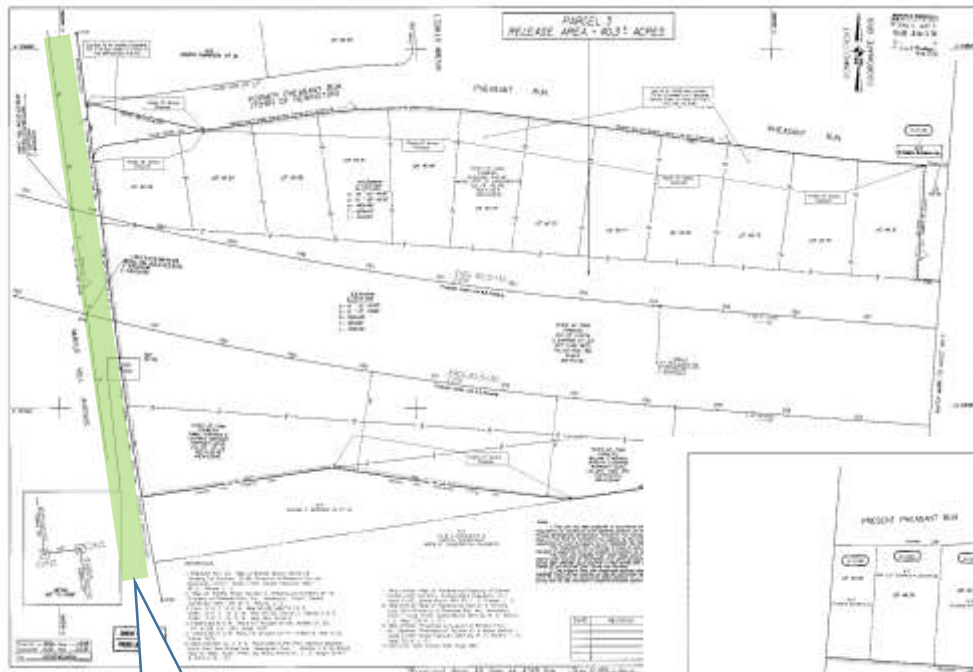
## I-491

- Glastonbury
- East Hartford

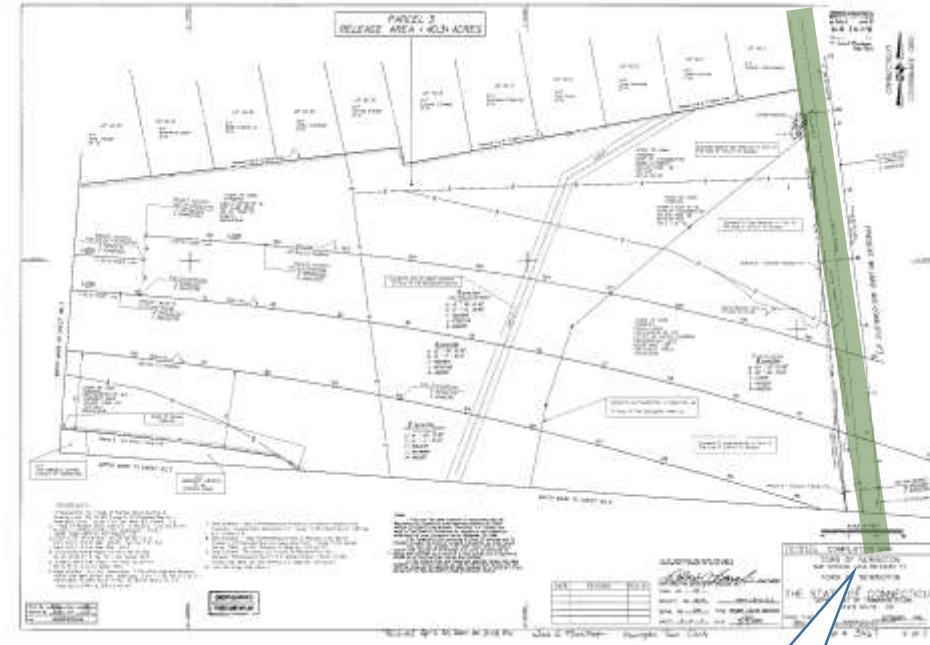
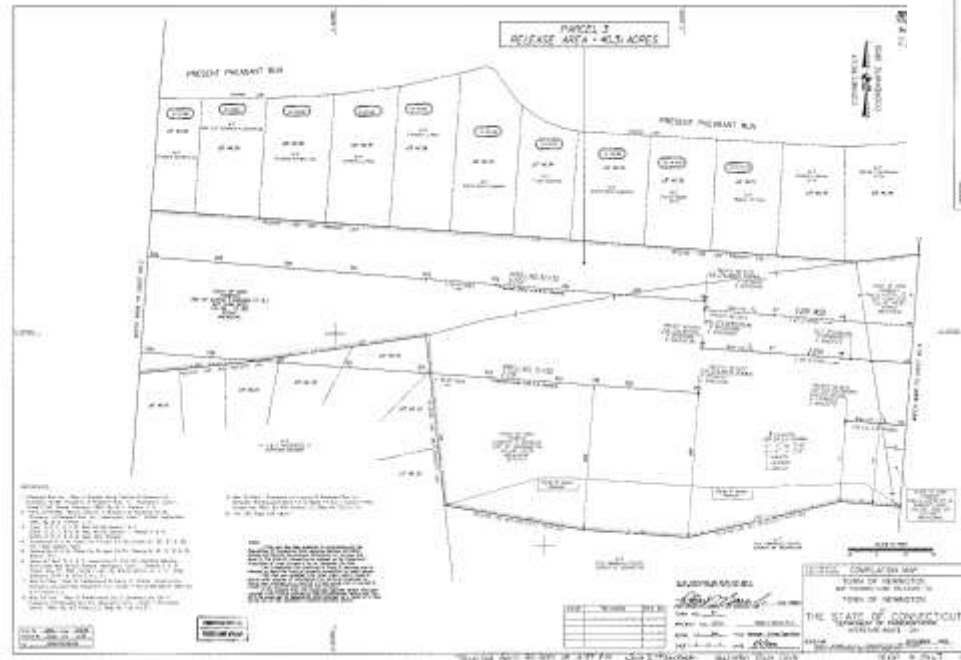




# Proposed I-291 Corridor Newington



Maple Hill Avenue



Willard Avenue

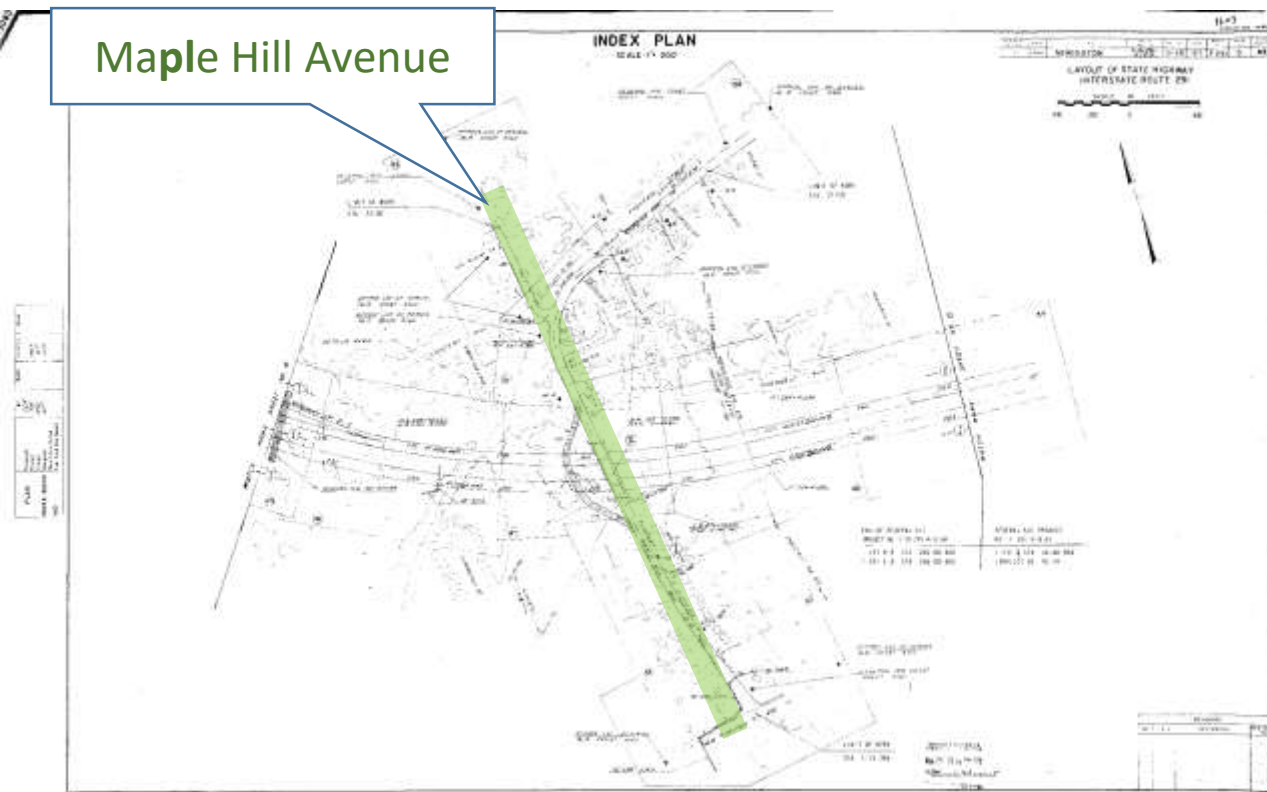


# 1972 CDOT I-291 Expressway

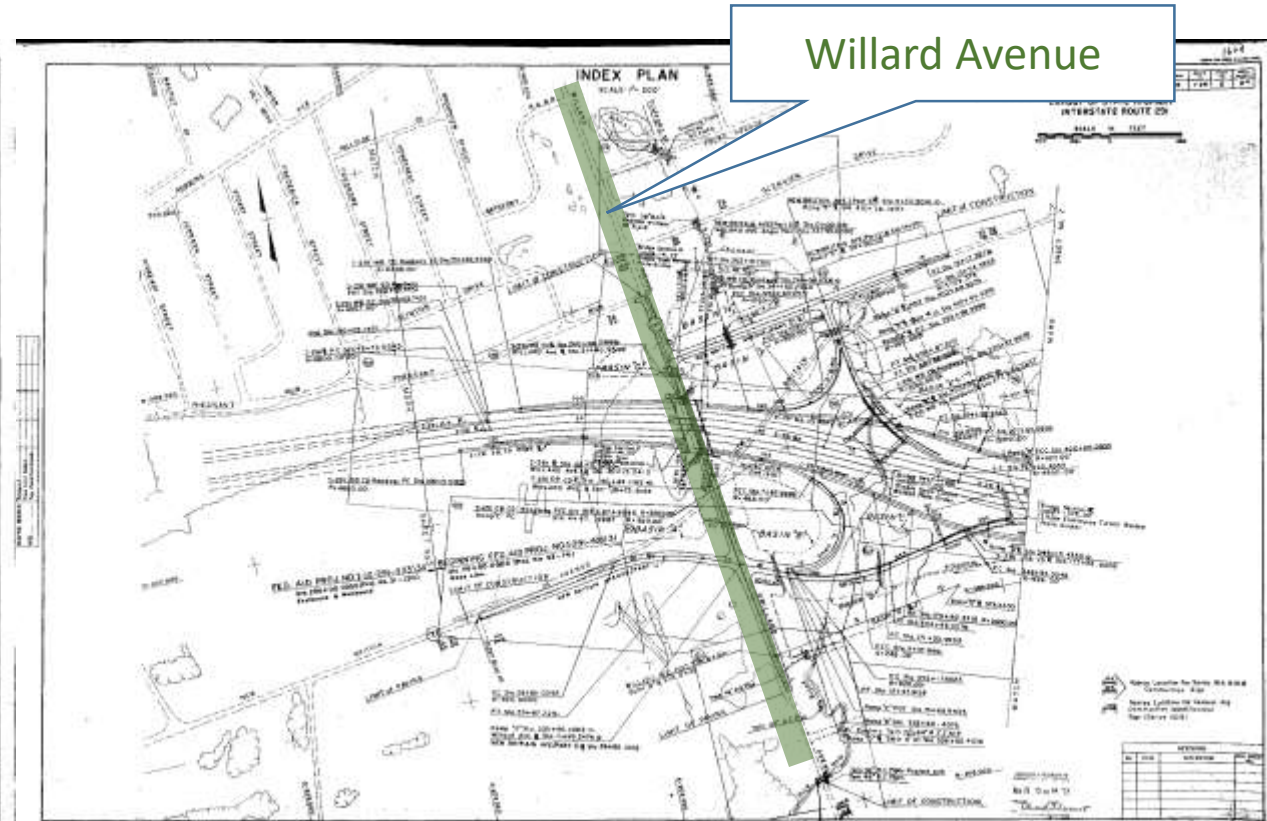
## Newington Expressway

- Interchanges at Willard Avenue (SR173) and Berlin Turnpike (US5)

Maple Hill Avenue



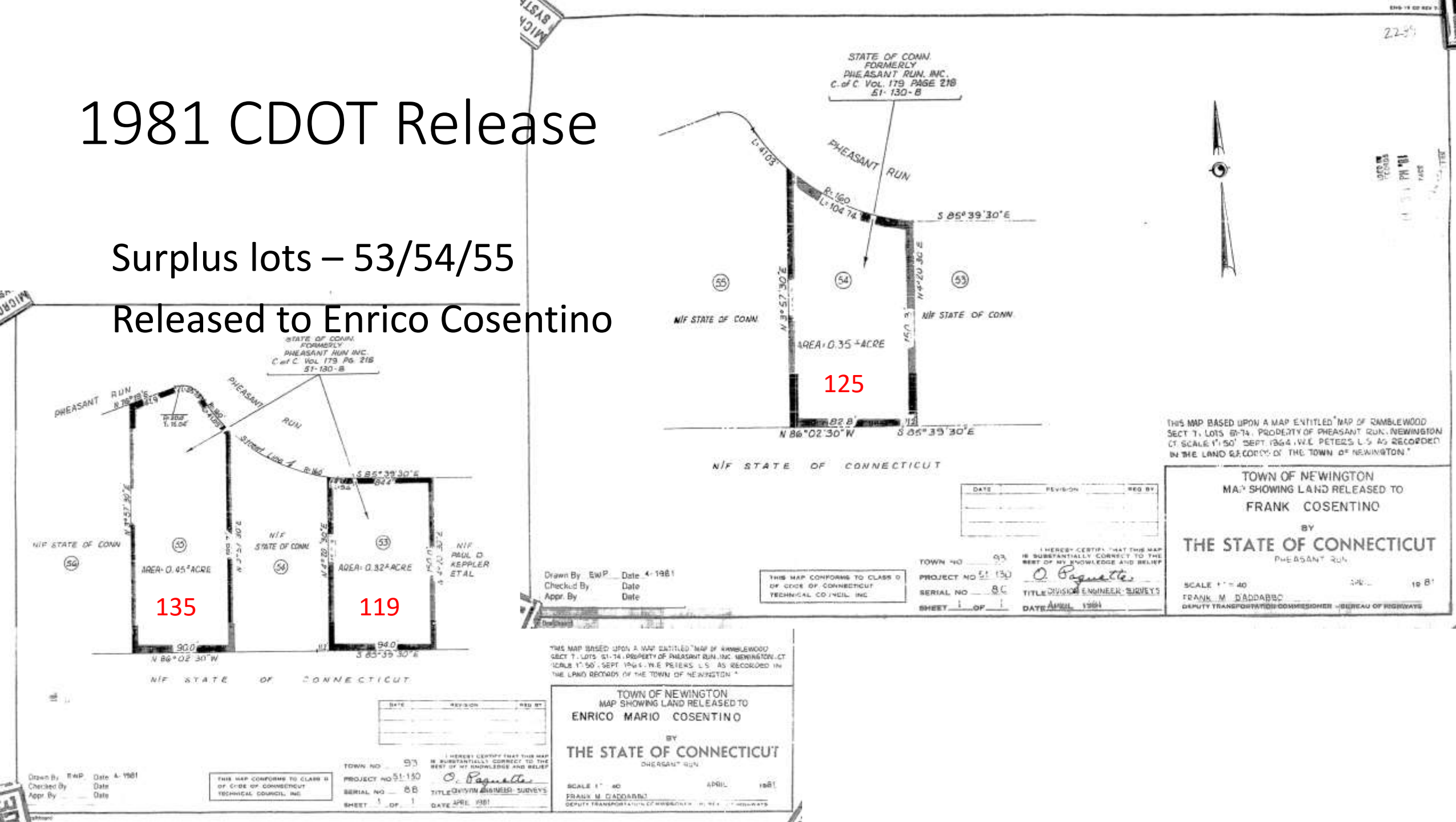
Willard Avenue





# 1981 CDOT Release

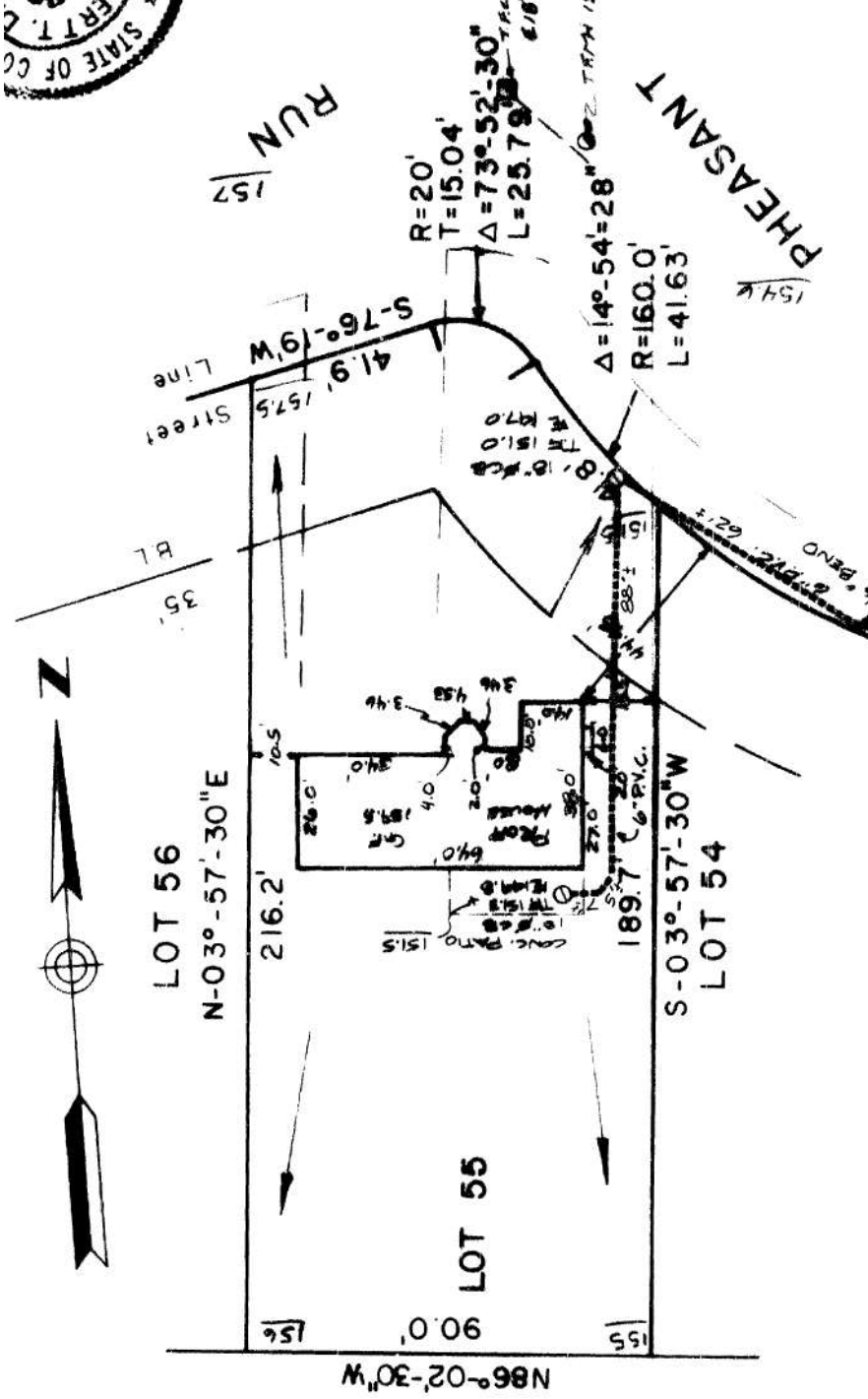
Surplus lots – 53/54/55  
Released to Enrico Cosentino





# 1984 Plot Plan

# 135 Pheasant Run





# 1984 Drainage Agreement

135 Pheasant Run

Private drainage connection

- 6" PVC pipe - patio to catch basin
- Does not drain TON parcel

Only agreement filed for private drainage  
Prior to Harris Drive development

Duplicate

## DRAINAGE AGREEMENT

This Agreement, dated this <sup>19<sup>th</sup></sup> day of October 19 84, by and between the TOWN OF NEWINGTON, a Municipal Corporation, in the County of Hartford State of Connecticut, acting Herein by its Town Manager, Peter M. Curry and Adelme Sirois of the Town of Newington, County of Hartford, State of Connecticut.

Be it known that Adelme Sirois connected roof leader, footing drain and yard drain from Pheasant Run with a 6-inch (6") pipe into a Town of Newington storm water system Pheasant Run as shown on plan entitled: MP, Property of Adelme Sirois, 135 Pheasant Run, Newington, Conn., Lot 55, Map of Ramblewood, Sect. 7, September 1964, revised 10-4-84, Scale 1" = 40', September 1964, W. E. Peters, Land Surveyor

to be filed in the Newington Town Clerk's Office.

WHEREAS the said Adelme Sirois has installed the aforesaid ~~xxxx~~ drainage into storm water system of the Town of Newington, and Whereas the said Adelme Sirois his heirs and assigns forever, by this Agreement, agree to assume full and complete responsibility and liability which may occur as a result of the installation of the aforesaid drain.

Now, Therefore, the Town of Newington does Hereby absolve itself and successors from any and all claims or damage resulting from the aforesaid installation of the said drain to the property of the said Adelme Sirois or to any person or property receiving damage from the said installation of the drain, and from any responsibility for the maintenance, cleaning or repairing of the said drain.

CAC51

*Adelme Sirois*  
Town Clerk

# 1986 Aerial Photo

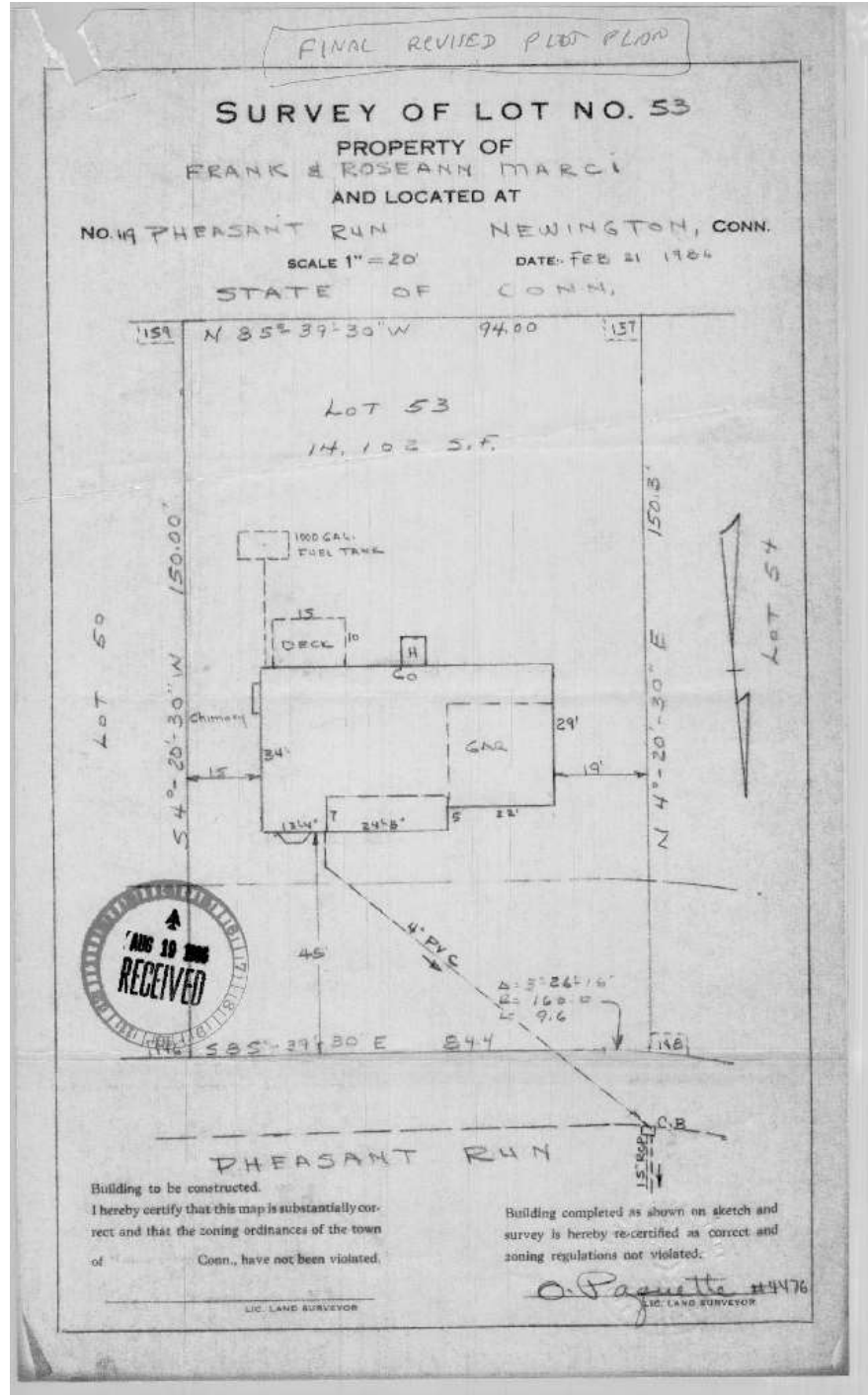
State of Connecticut





# 1986 Plot Plan

## 119 Pheasant Run



# 1990 Aerial Photo

State of Connecticut

- Abandoned I-291 Newington





# 1995 Aerial Photo

State of Connecticut

- Surplus Corridor





# 2008 Aerial Photo

## Town of Newington

- Acquired land in 2001
- Quit Claim from State
- Volume 1408 - Page 114

VOL. 1408 PAGE 114

### QUIT-CLAIM DEED

### STATUTORY FORM

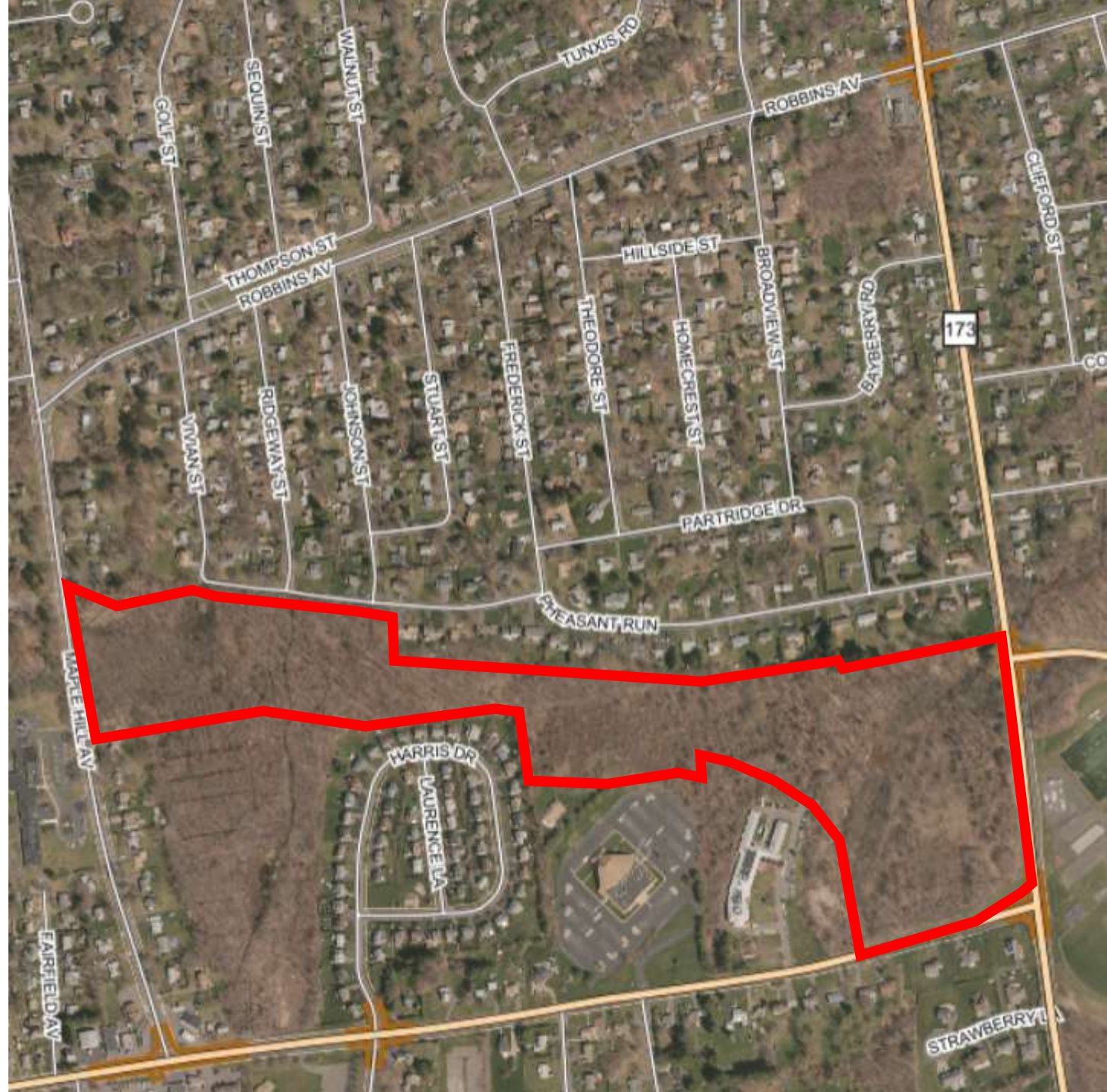
KNOW YE, that the State of Connecticut, acting herein by Denise L. Nappier, Treasurer of the State of Connecticut, under authority granted by Section 13(c) of Public Act No. 00-168 of the General Assembly of the State of Connecticut, approved May 26, 2000, pursuant to the provisions of Section 13(a) of Public Act No. 00-168 of the General Assembly of the State of Connecticut, and with the approval of the State Properties Review Board of the State of Connecticut, for consideration paid (\$1,000.00), Grants to the Town of Newington, a Municipal corporation existing under the laws of the State of Connecticut, and having its territorial limits within the County of Hartford and State of Connecticut, with QUIT-CLAIM COVENANTS,





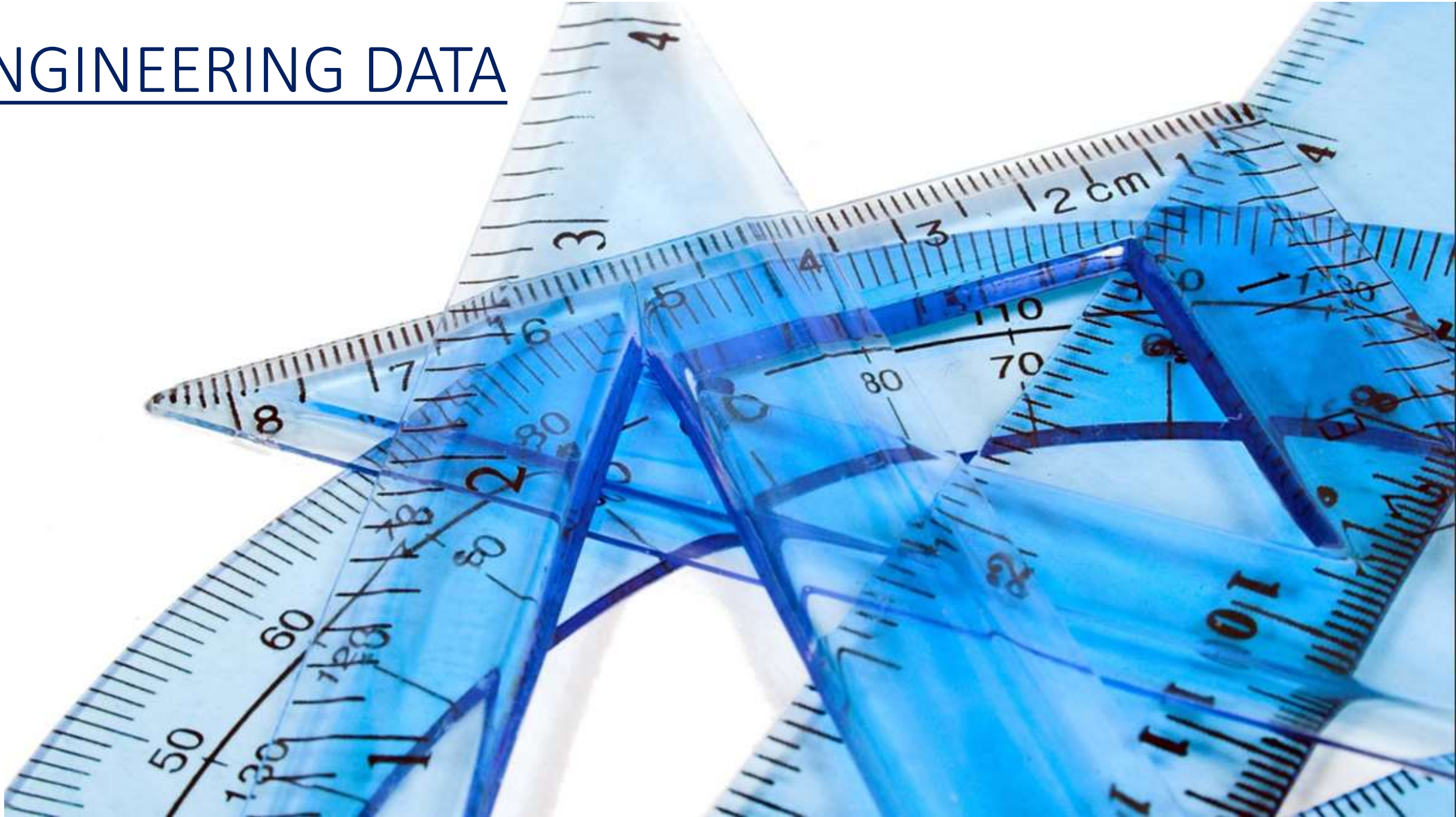
# 2018 Aerial Photo

Town of Newington





# ENGINEERING DATA





# 1944 USGS

Topography

Drainage Patterns



1964 USGS

Topography

Drainage Pattern





1972 USGS

Topography

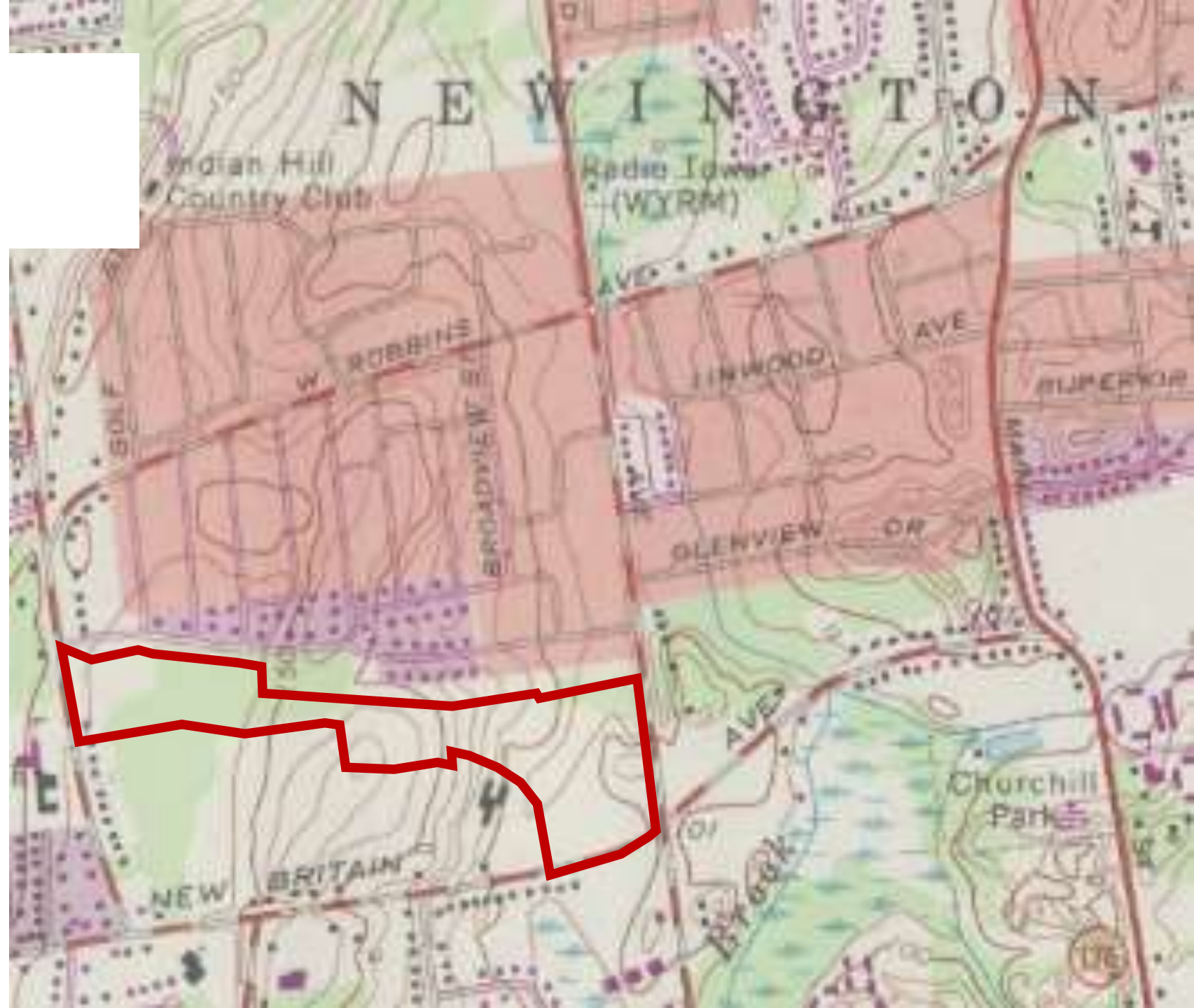
Drainage Pattern



# 1984 USGS

Topography

Drainage Pattern





# 1992 USGS

Topography

Drainage Pattern

No change:

- 1944
- 1964
- 1972
- 1984
- 1992





# Topography

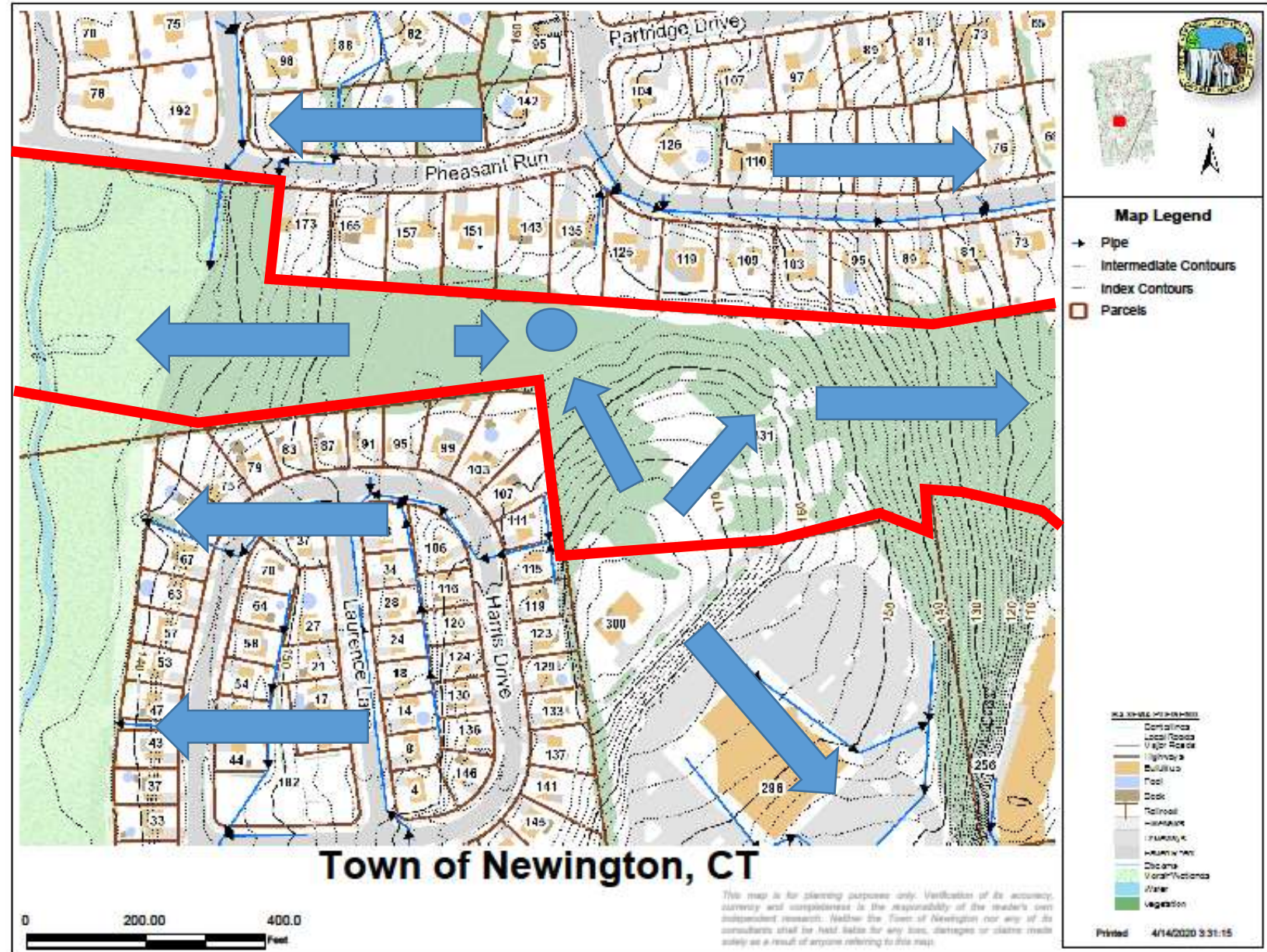
## Current Drainage Pattern

# Harris Drive drains west

# EC Church drains south

# 1331 drains

- West to Maple Hill Ave
- East to Willard Avenue
- North

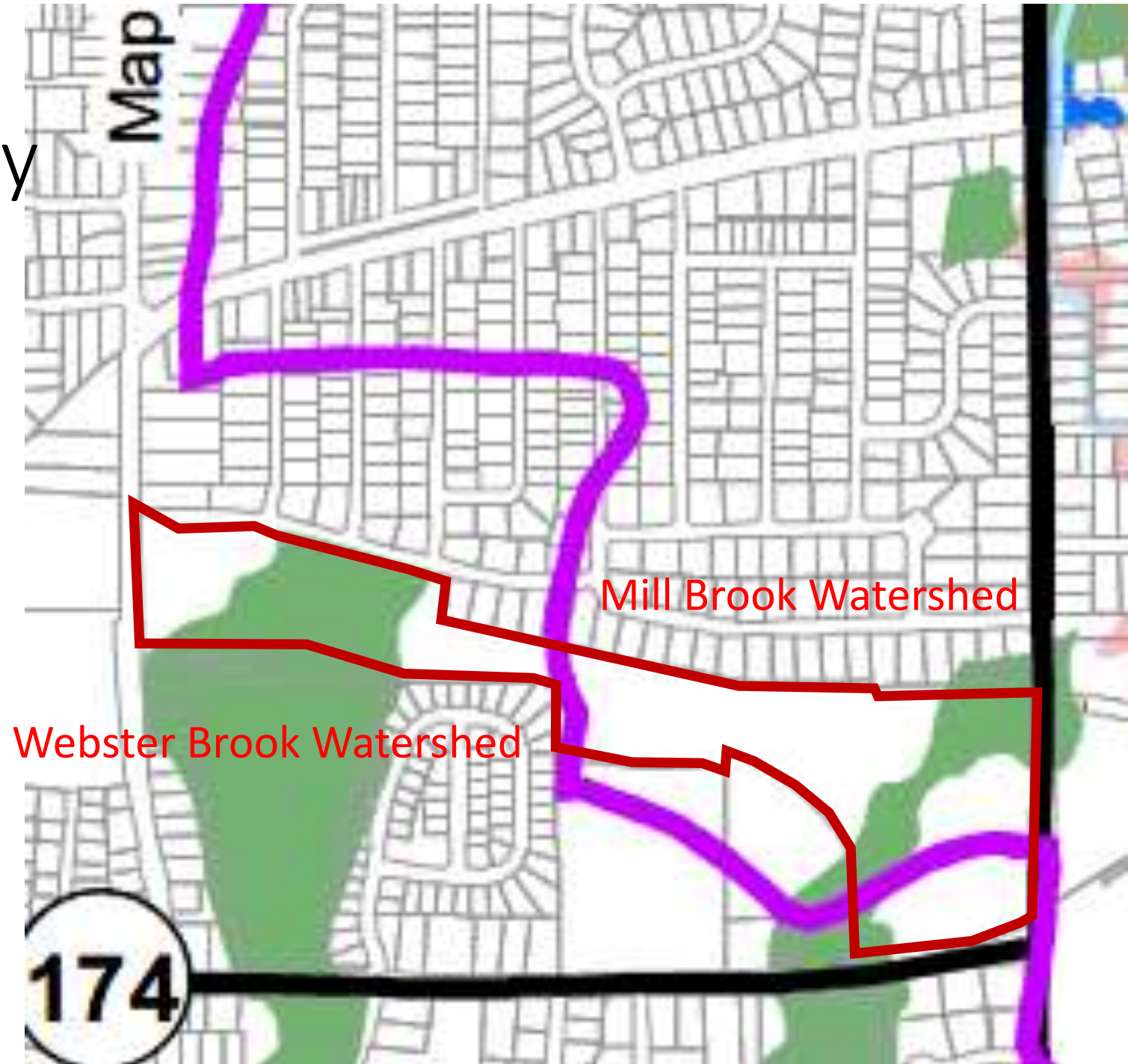




# Regional Hydrology

East – Mill Brook

West - Webster Brook



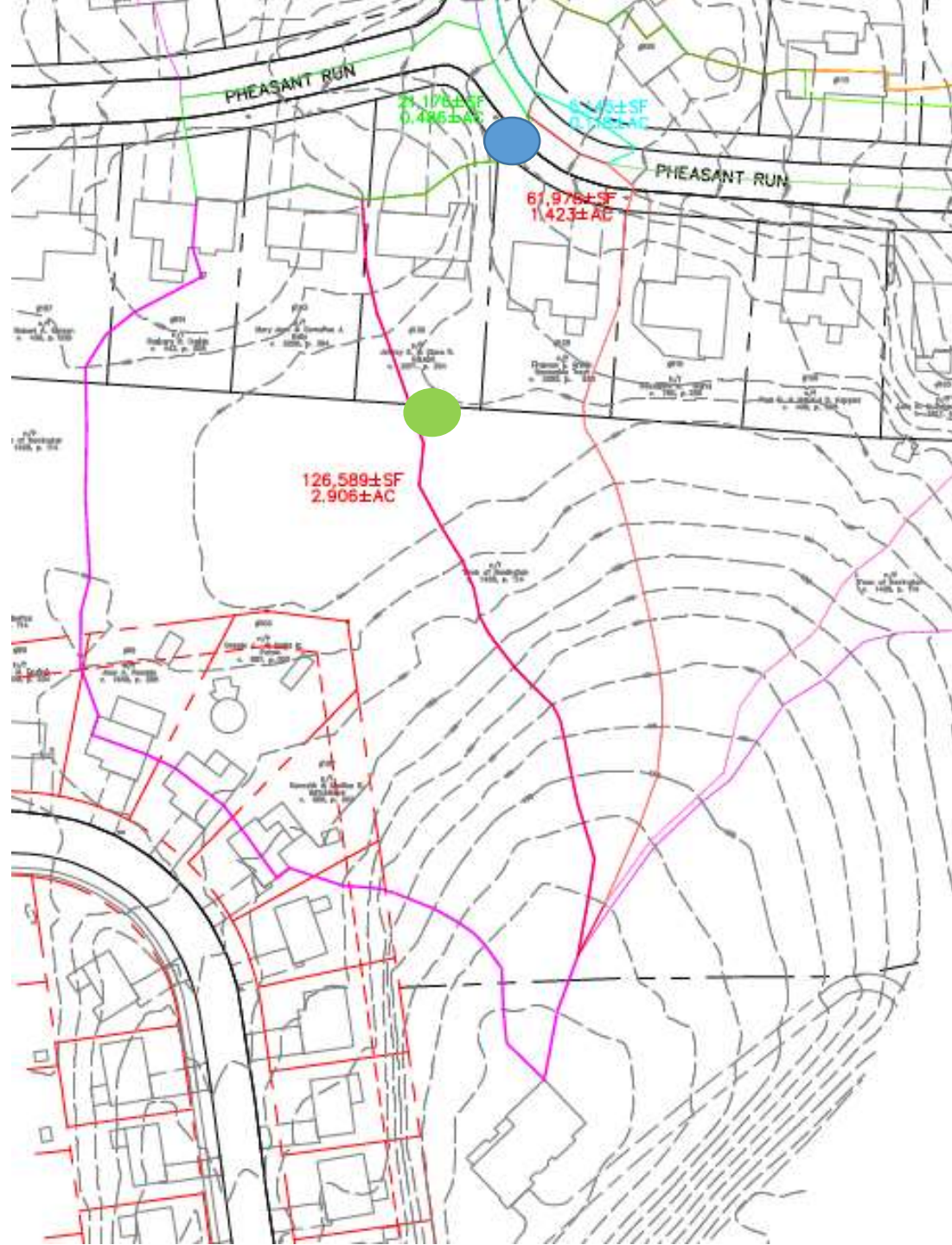
# Site Hydrology

~5 Acre watershed

Evaluated

- Overland flow
- Pipe flow (Pheasant Run)

Hydraulic analysis





# Hydraulic Analysis



Design storm: 10-year

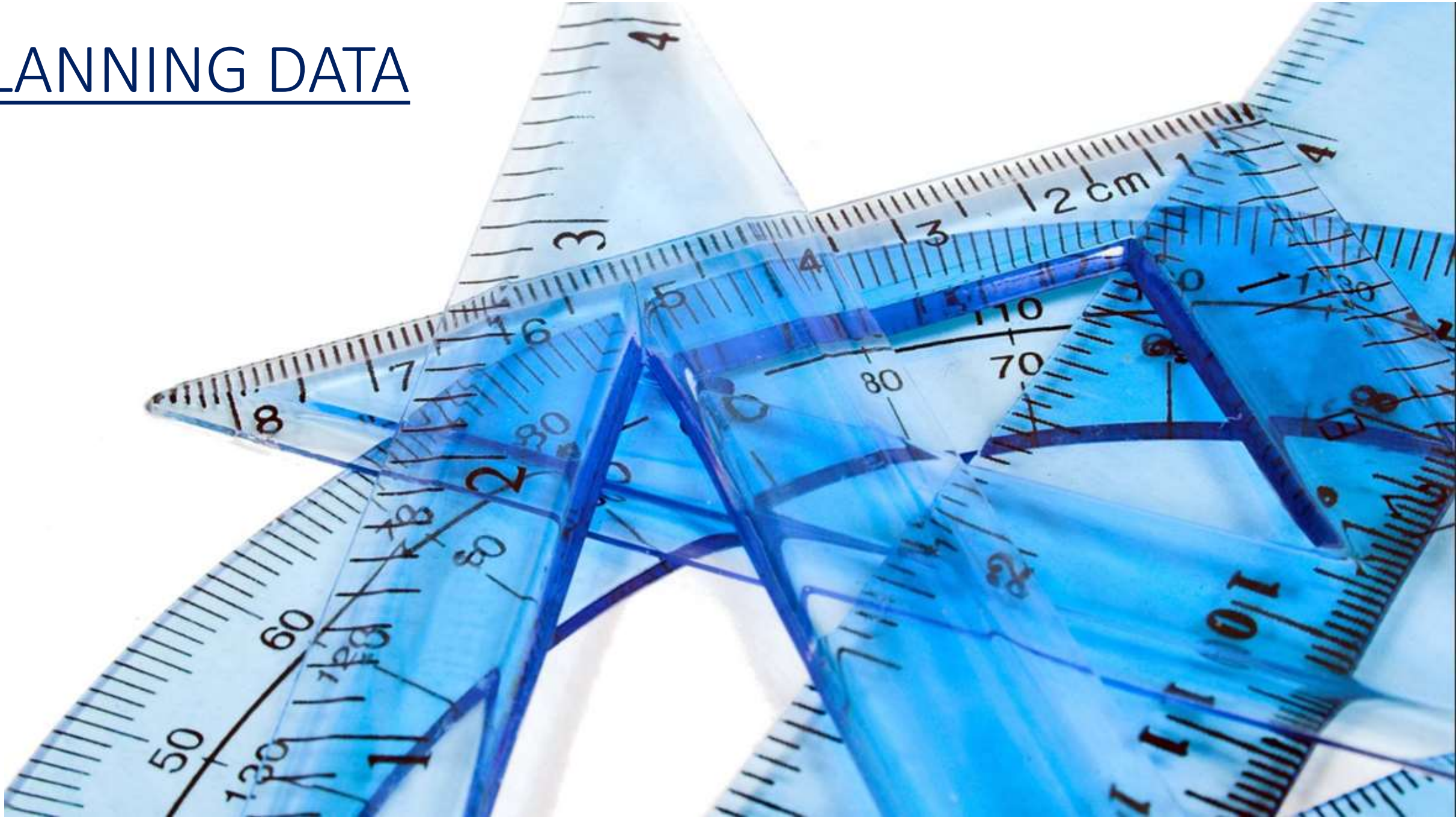
Existing Pipe Analysis (Pheasant Run drainage system):

- 2-year storm – surcharged system
- 10-year storm – water in street – not acceptable

Proposed Pipe Analysis (Pheasant Run drainage system) – Upsize pipes:

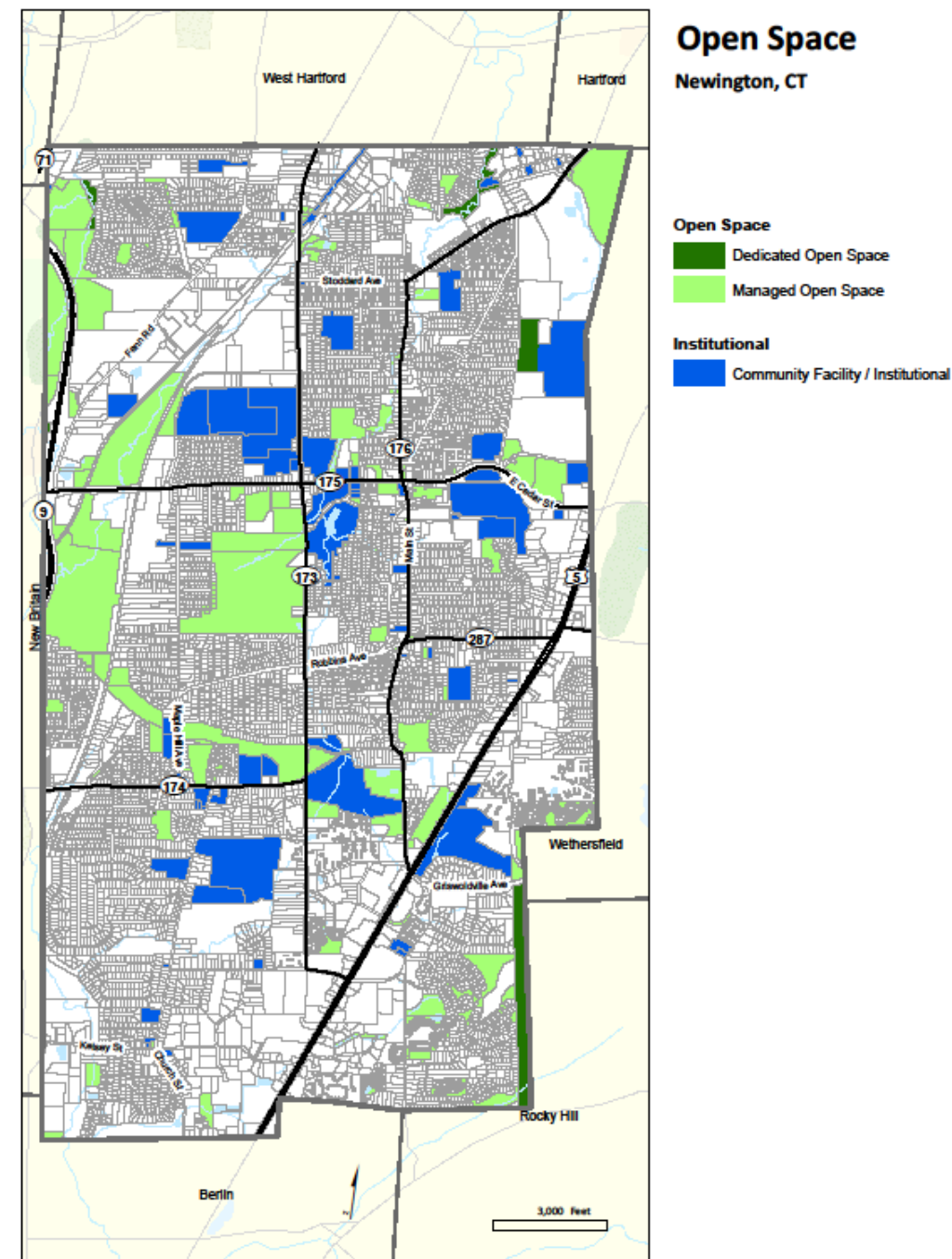
- 2-year storm – ok
- 10-year storm – surcharged system

# PLANNING DATA

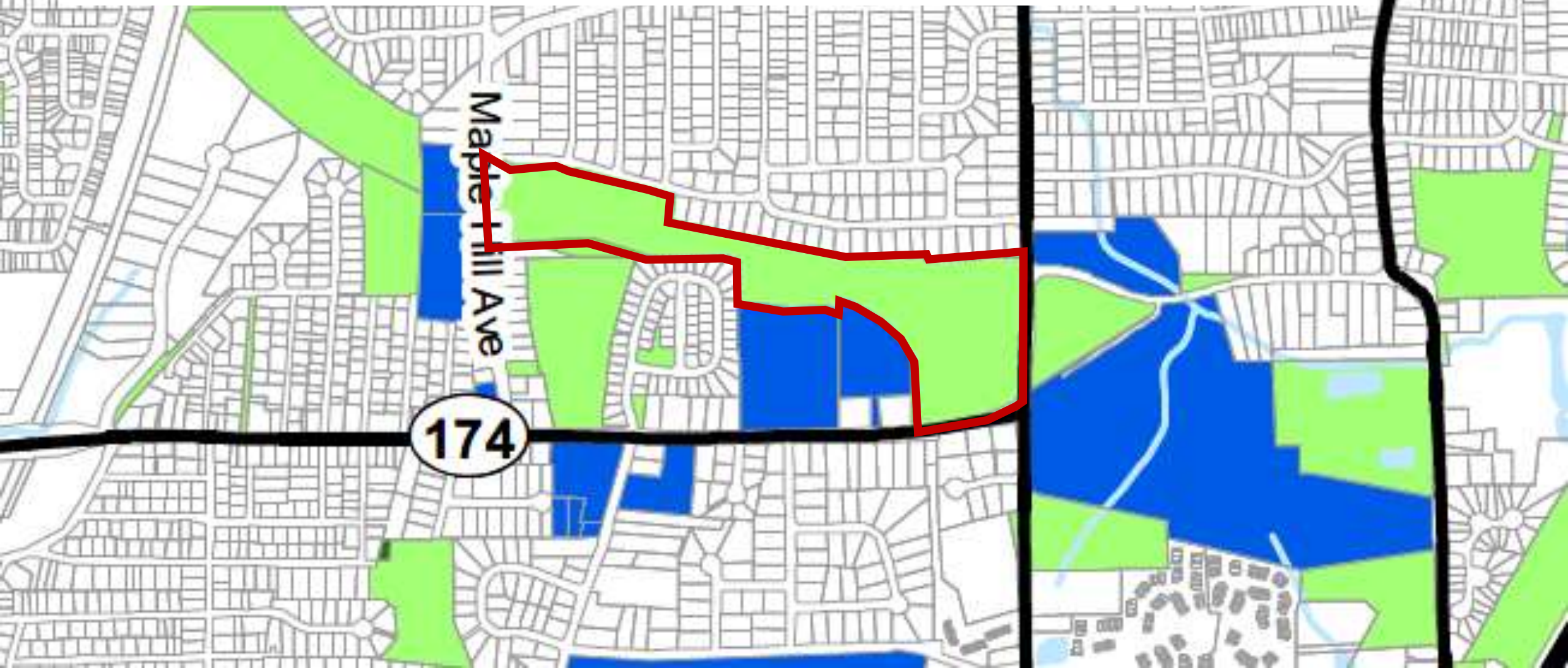




# 2020 POCD Open Space



# 2020 POCD Open Space Corridor



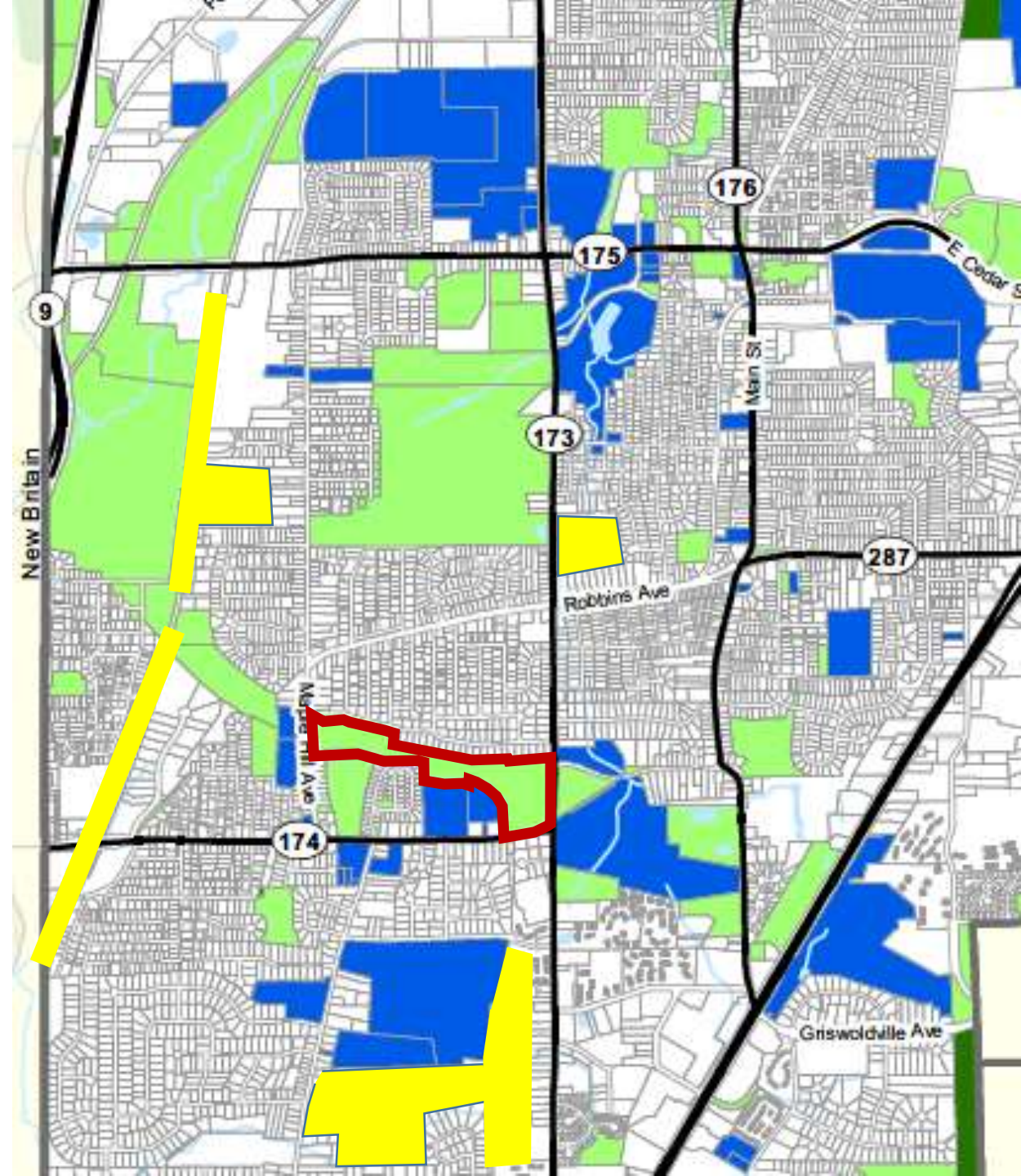


# Open Space Network

Contiguous with hundreds of acres

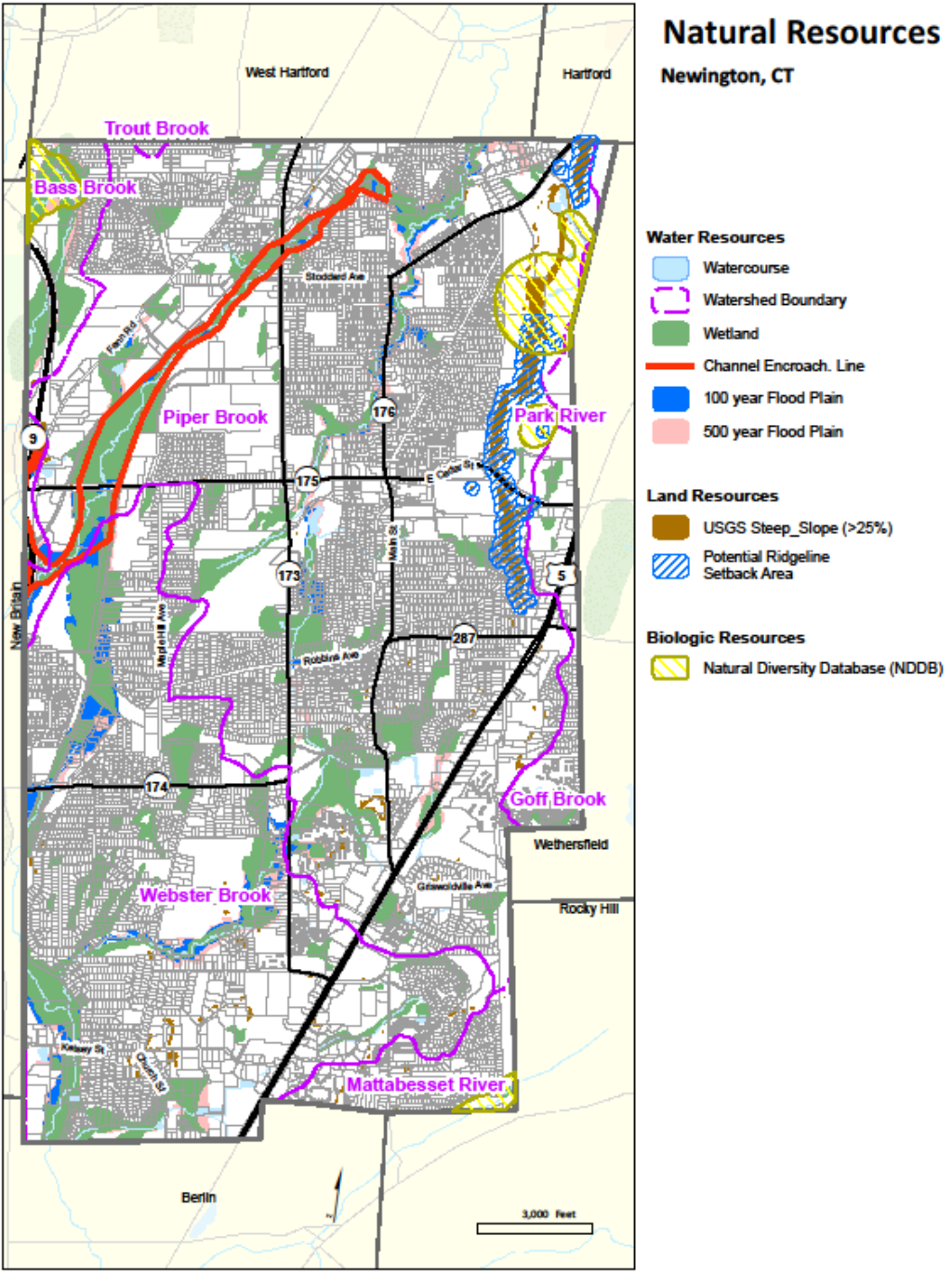
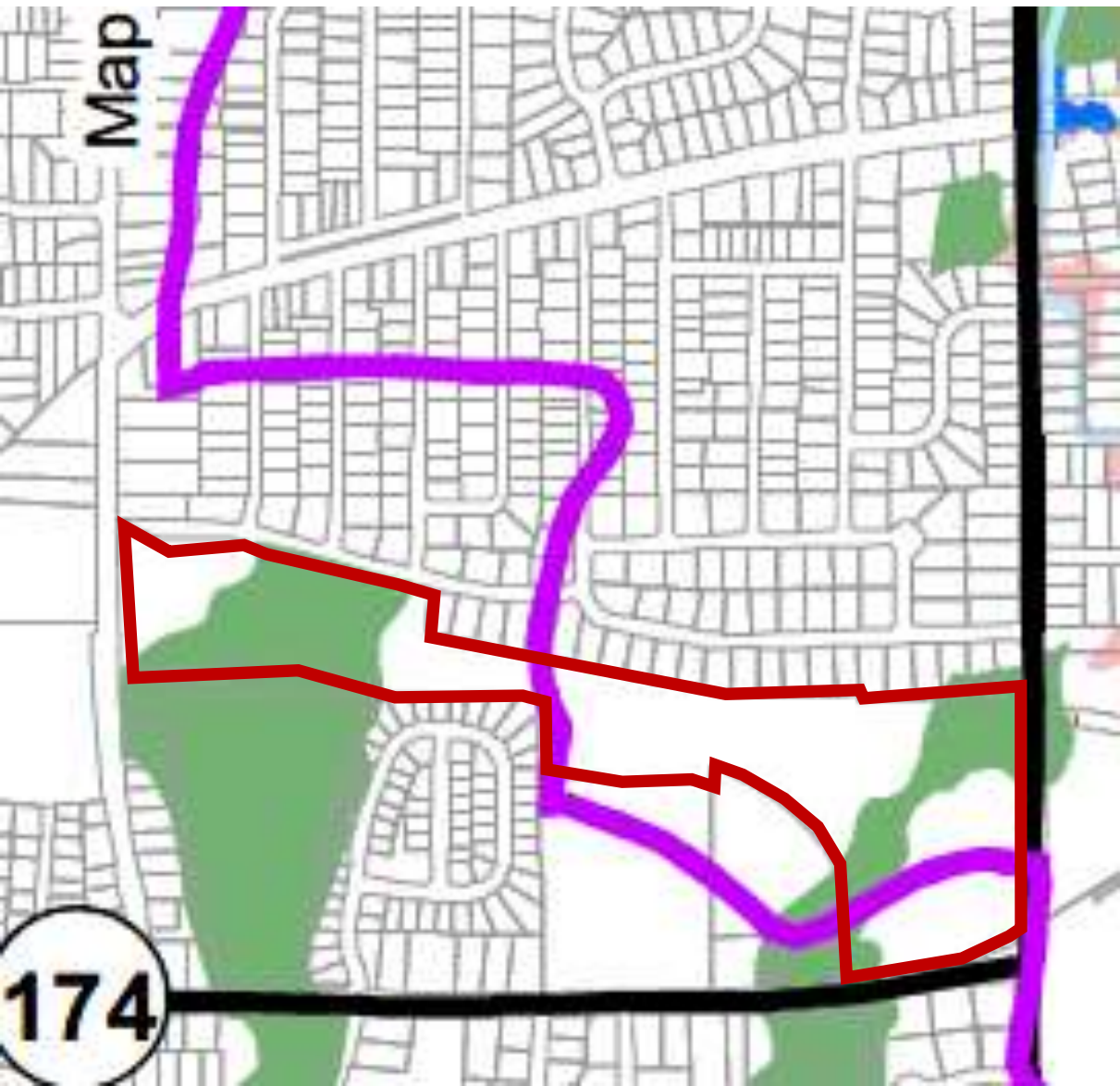
1. Public open space
2. TON Parks
3. Private undeveloped land
4. Recreation

- Only passive use
- No trails
- No public access





# 2020 POCD Wetlands

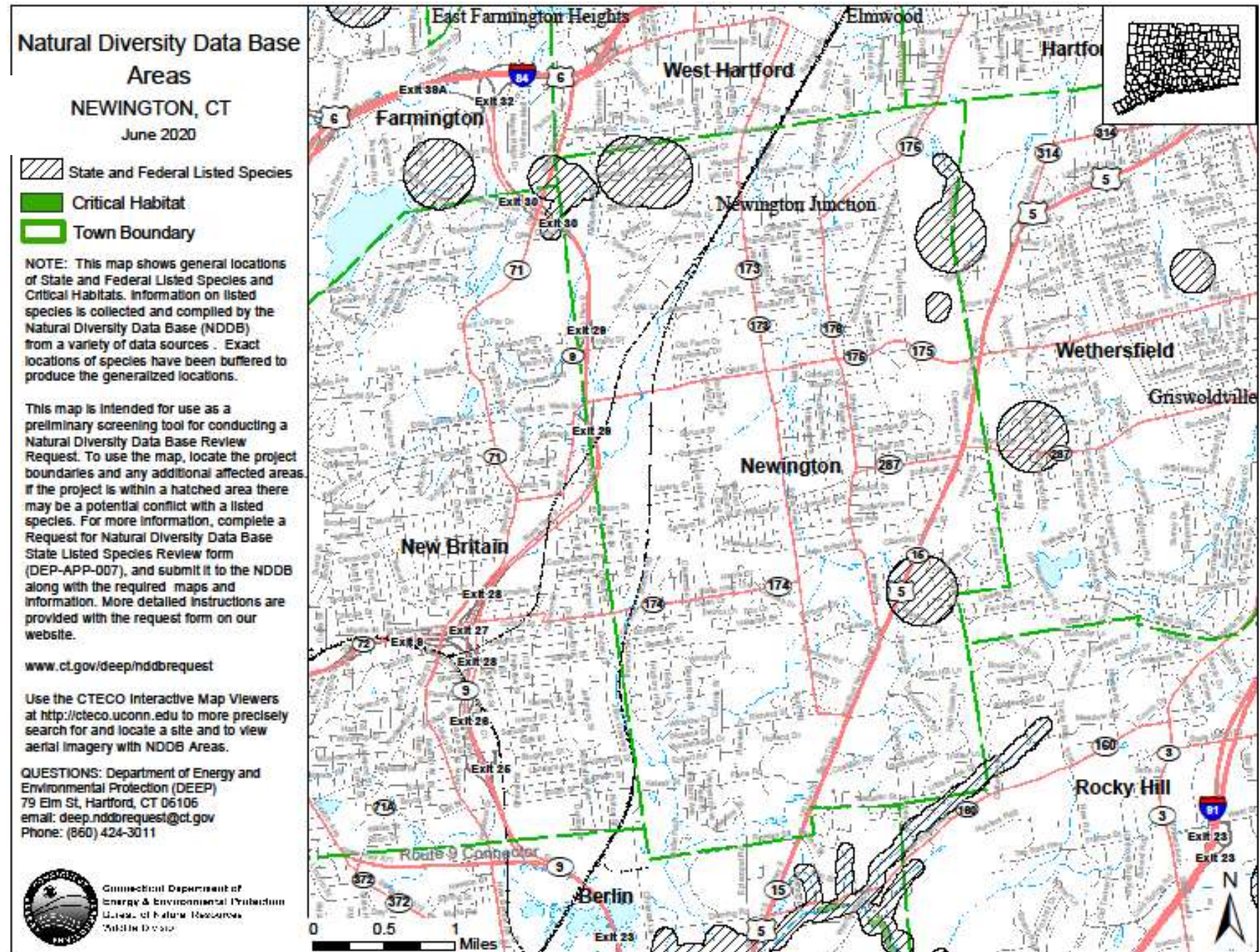




# CTDEEP NDDDB

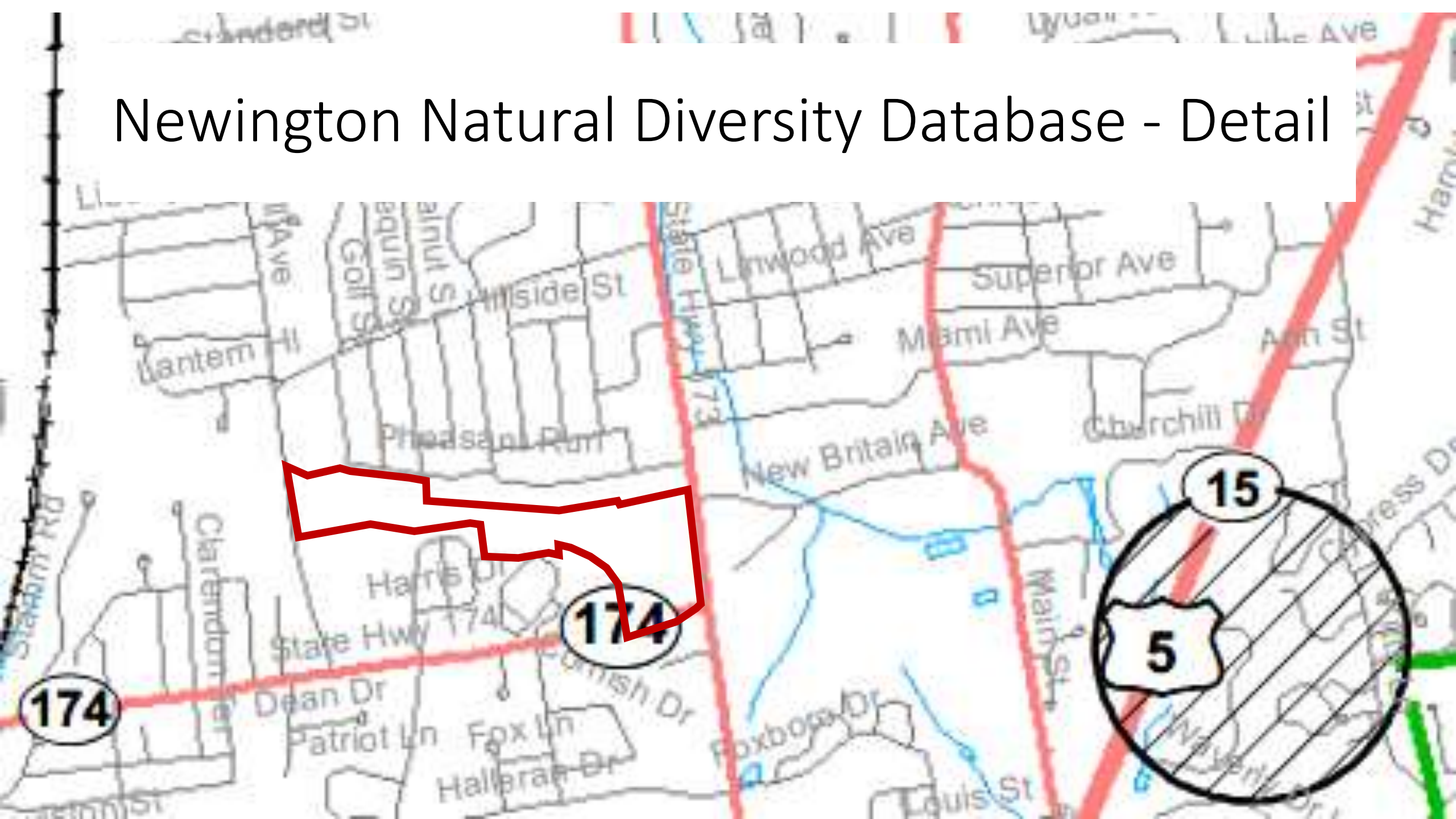
## Protected

1. Species
2. Habitat





# Newington Natural Diversity Database - Detail





# SOLUTIONS CONSIDERED



# Solution Objectives

1. Reduce erosion, wet yards, icing conditions, fallen trees
2. Low maintenance solution
3. Avoid private property easements/impacts
4. Keep water in existing watershed
5. Comprehensive neighborhood solution
6. Construct using TON staff and equipment



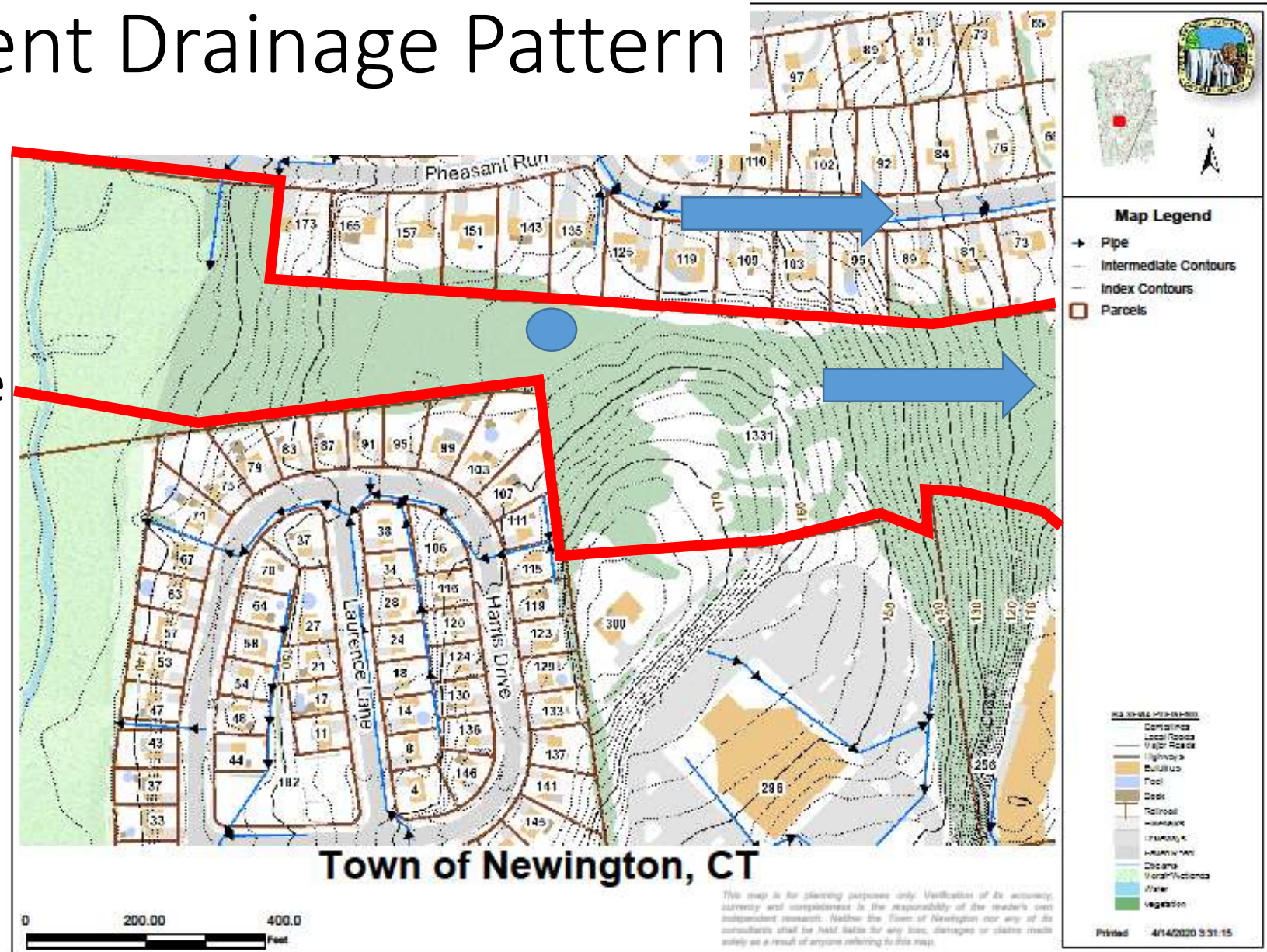


# Maintain Current Drainage Pattern

Drain to East

- TON road via pipes
- TON land via pipe/swale

To Mill Brook



# Solutions Considered

## Earthwork:

1. Drainage swale to east (on TON land) – 1A and 1B
2. Drainage swale to west (on TON land)

## Piping:

3. Storm drain pipe: pipe on private property – 3A (230') and 3B (310')
4. Storm drainage system improvements: 250 feet pipe on private property + 1,600 feet pipe in Pheasant Run
5. Storm drain pipe: pipe on TON land – 5A (800') and 5B (500' with 300' swale)
6. Private property swales

Do nothing: no impact & no improvements

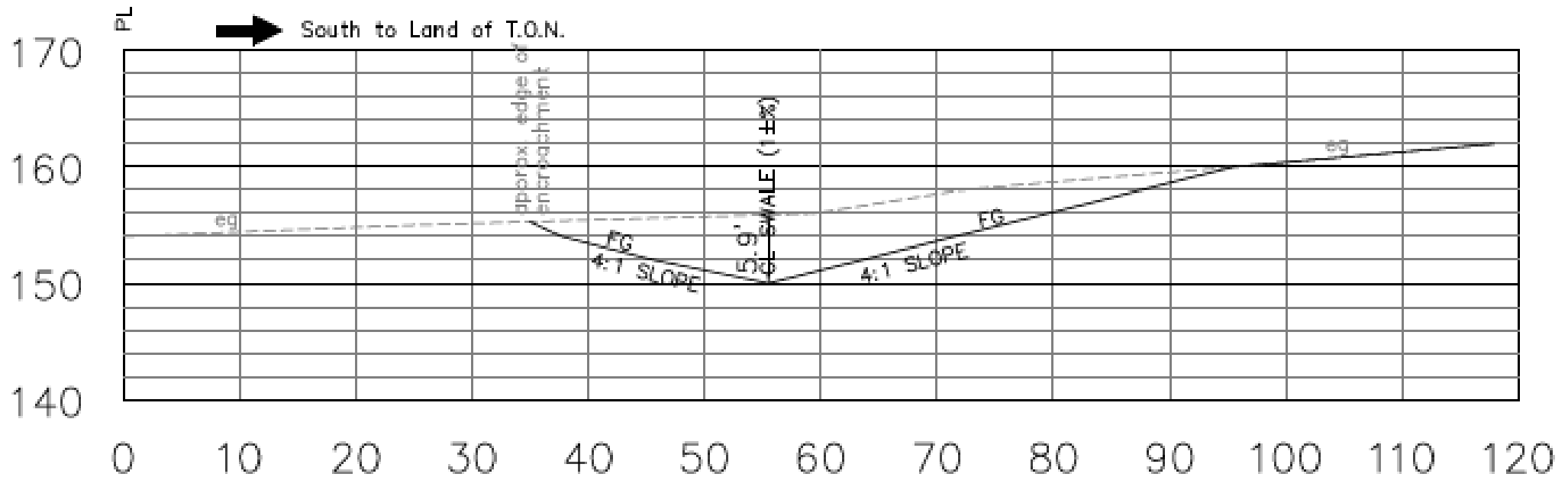


# Considerations

1. Cost to Newington tax payers
2. Neighborhood and private property impacts
3. Disturbance to TON land
4. Environmental impacts (ecosystem, habitat, wildlife, etc.)
5. Maintenance of TON infrastructure:
  - Swale – maintain swale vegetation and flowline
  - Pipe – maintain pipe inlet and clean pipe

# Considerations – Swale Solution

- Lower potential for blockage (much large flow capacity)
- Maintain vegetation in channel and berm
- Access route for construction equipment to maintain system
- Greater disturbance to environment (wider work zone)





# Considerations – Pipe Solution

Higher potential for blockage at inlet (leaves, yard debris, etc.)

- Reduce blockage potential - multiple inlets (system redundancy)

Maintain pipe inlet, manholes, and clean pipe

Access route for construction equipment to maintain system

Less disturbance to environment (narrower work zone)

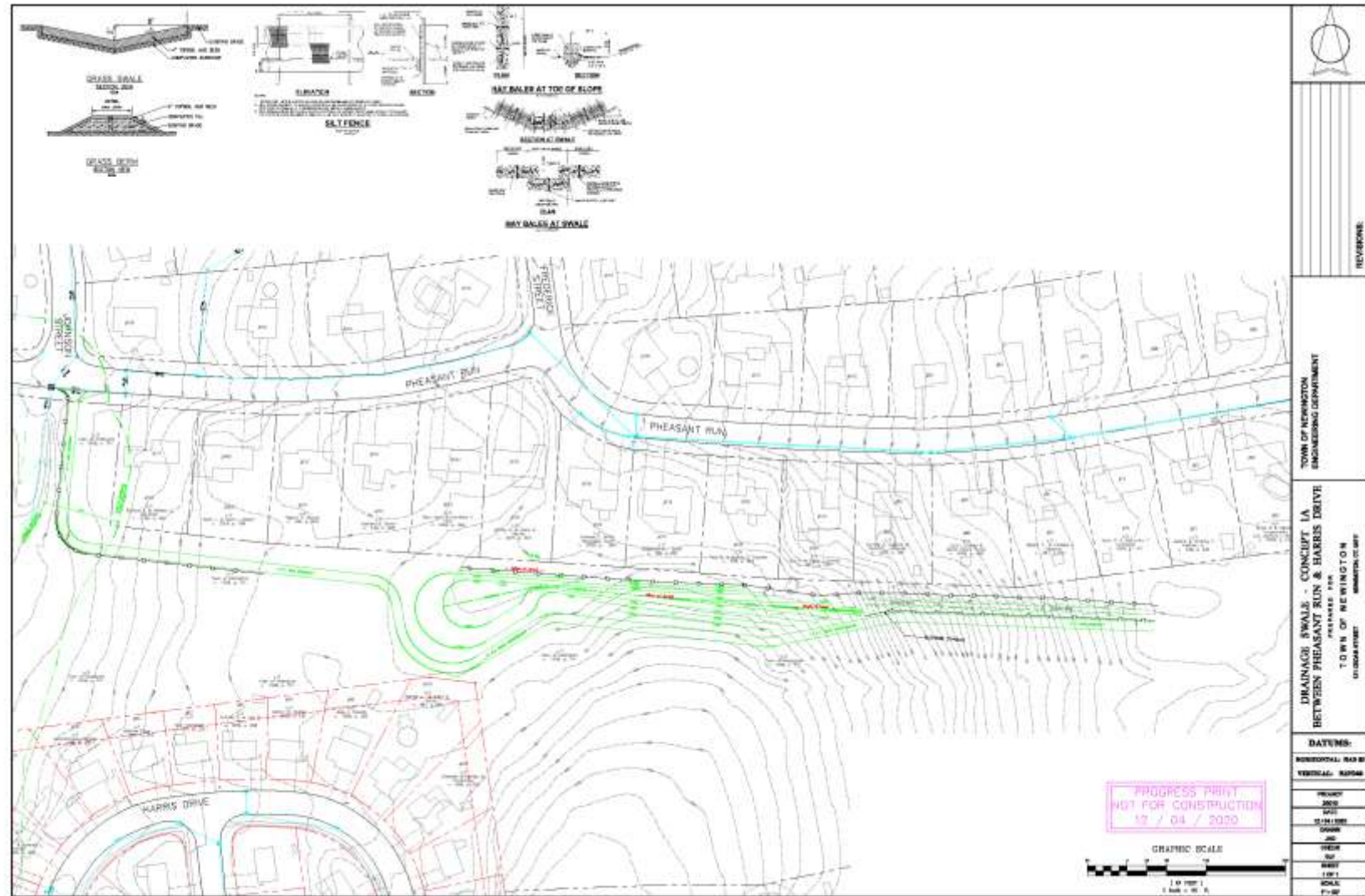
---add section/detail

# Solution 1A - Drainage Swale to East

~800' swale

~800' berm

Work on TON property





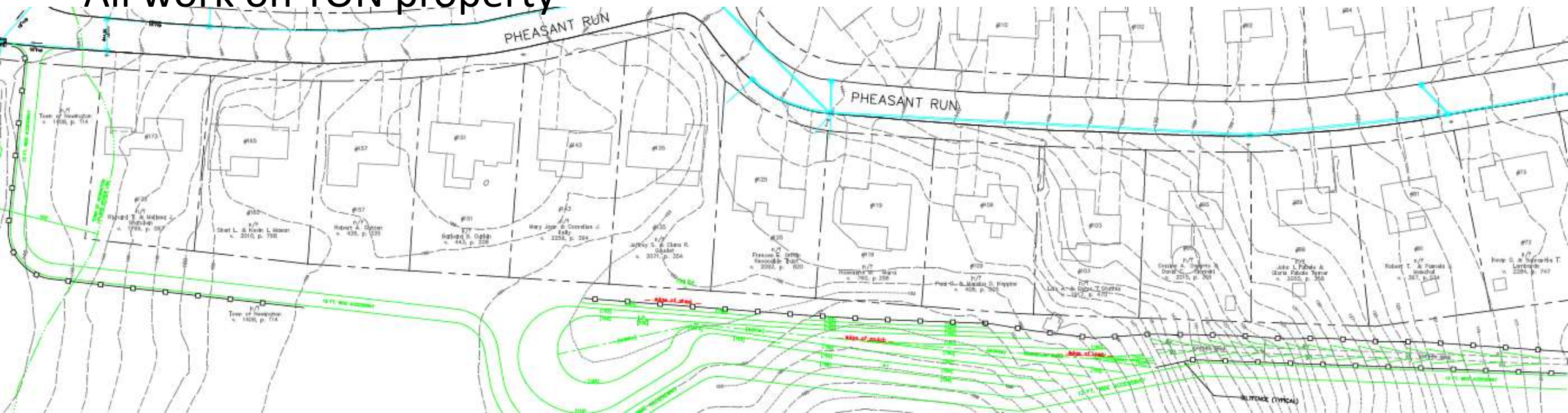
# Drainage Swale to East – Detail

V-shape swale, 4H:1V side slopes, minimum 1% slope, maximum 6 foot cut

Berm – 1 to 2 feet high

Impacted Area: 1.5 acres

All work on TON property







# Encroachments

3 sheds on TON land

135 Pheasant Run

119 Pheasant Run

103 Pheasant Run

Extend ~35 feet





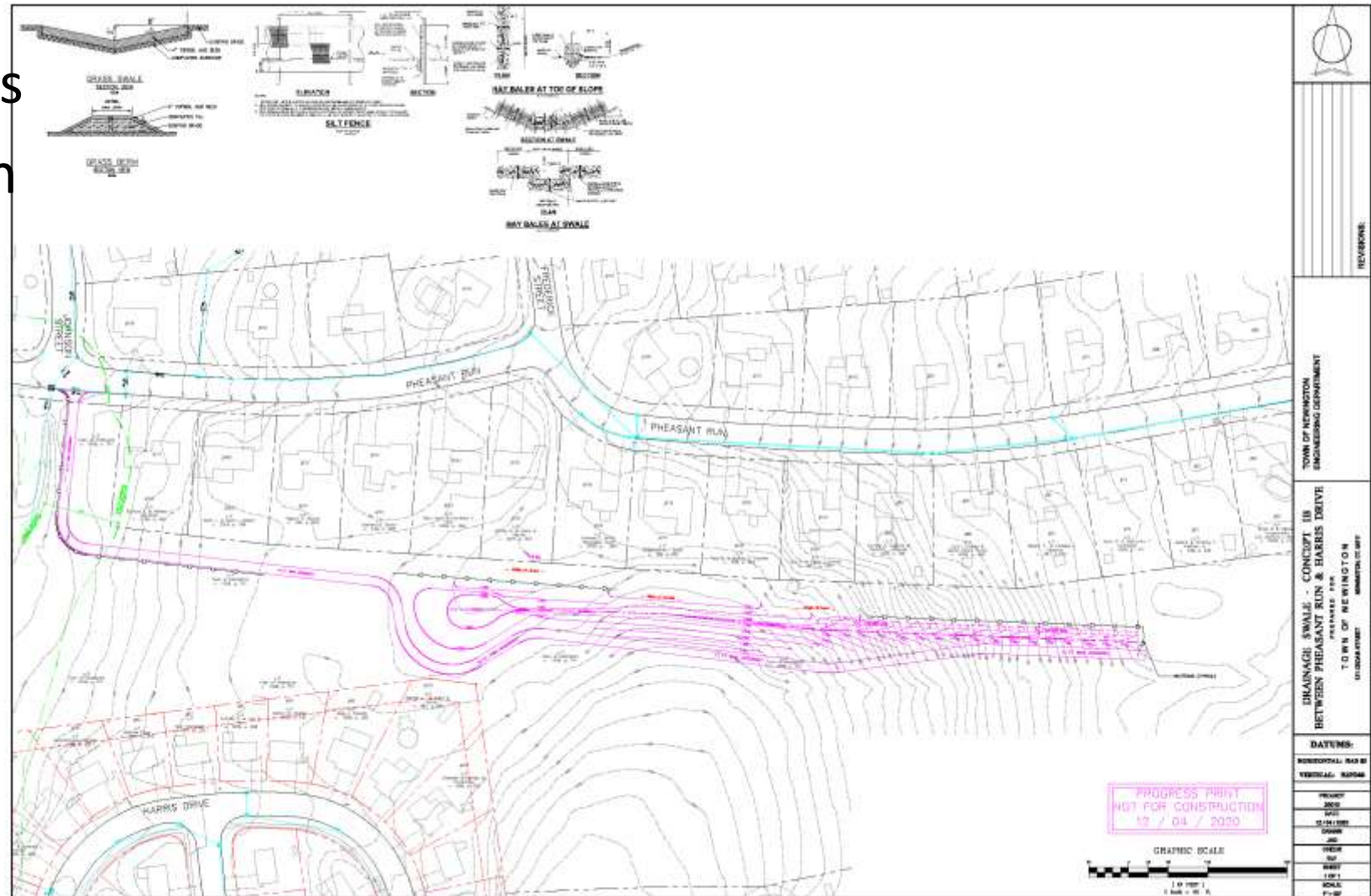
# Drainage Swale to East – Summary

NOT recommended

- Impact to neighborhood

# Solution 1B - Revised Drainage Swale to East

Offset for encroachments  
Move 30 to 50 feet south  
~800' swale  
~800' berm  
Work on TON property





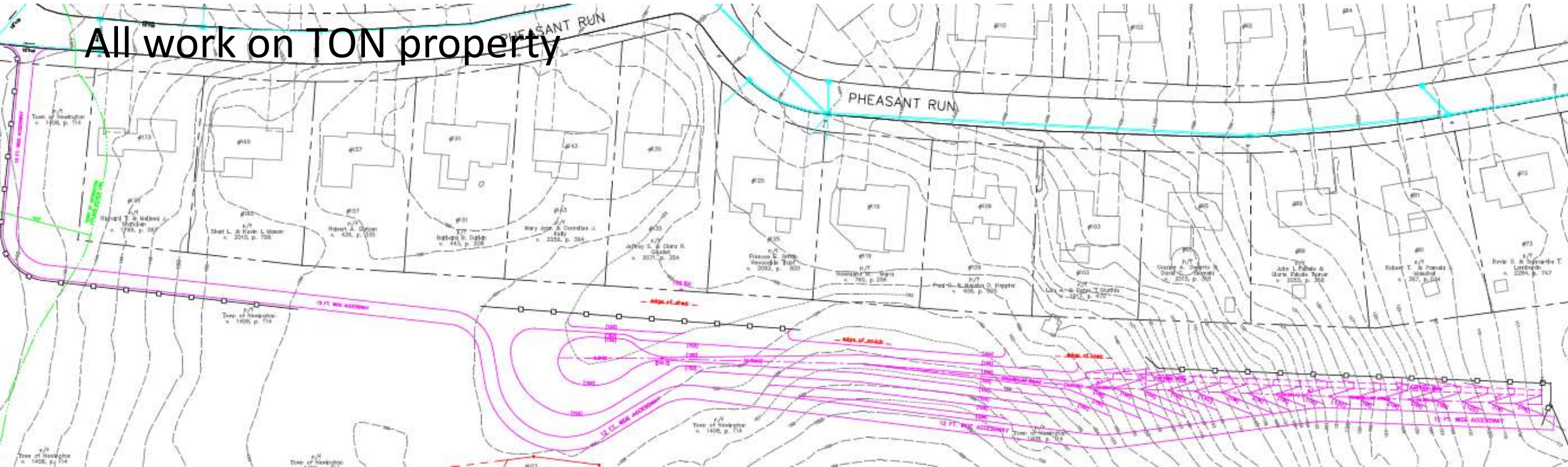
# Revised Drainage Swale to East – Detail

V-shape swale, 4H:1V side slopes, minimum 1% slope, maximum 10 foot cut

Berm – 3 to 6 feet high

Impacted Area: 2 acres

# All work on TON property



# Revised Drainage Swale to East – Summary

NOT recommended:

- Very large impact
- Unbalanced cut/fill – export soil
- Larger cut due to higher ground surface

Reduce impact and earthwork: Solutions 5A and 5B



# Solution 2 - Drainage Swale to West

~400' swale

~300' berm

Work on TON property

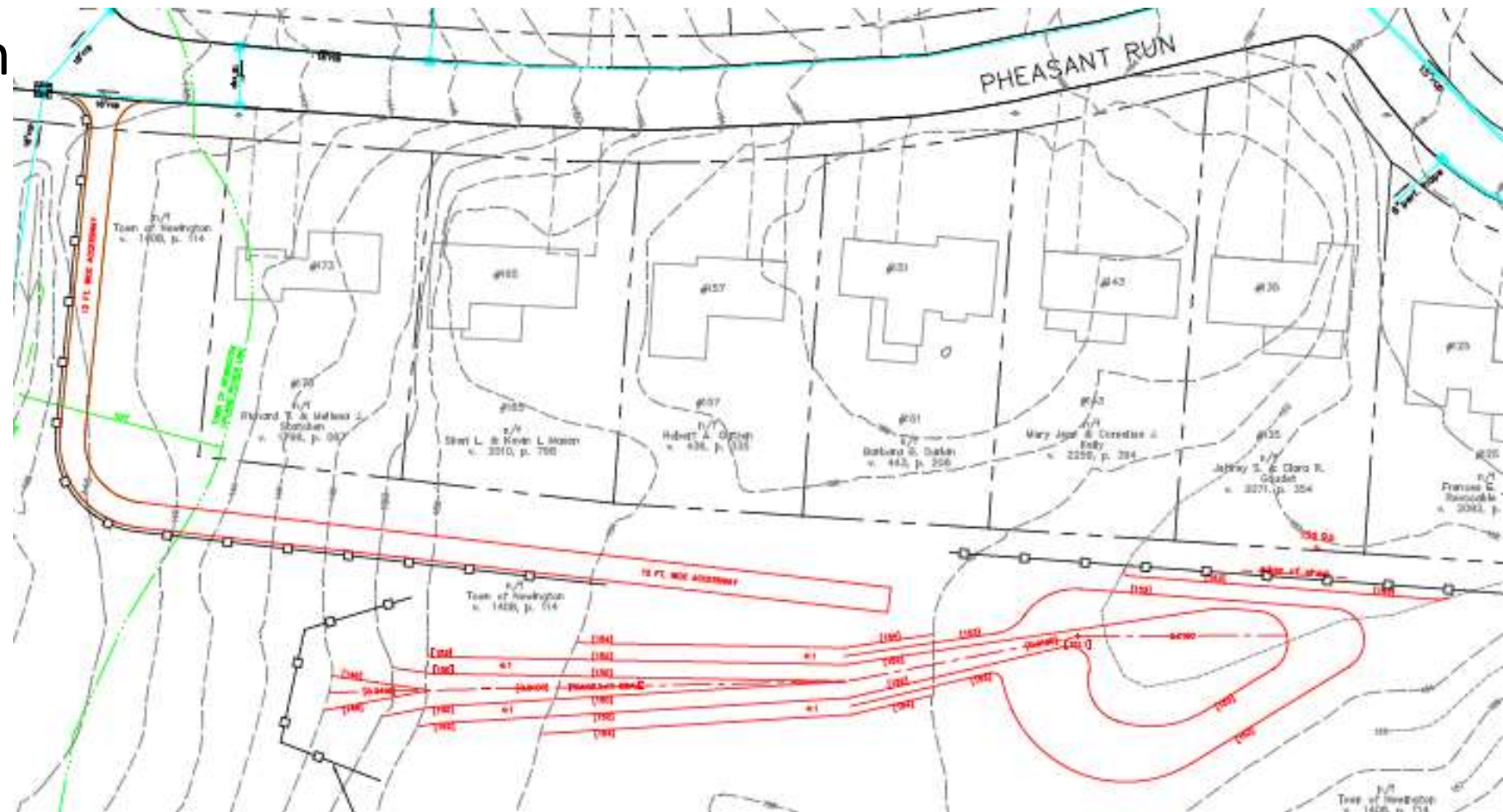


# Drainage Swale to West – Detail

V-shape swale – 4H:1V side slopes, minimum 1% slope, maximum 4 foot cut

Berm – 1 to 2 feet high

Impacted Area: 0.9 AC



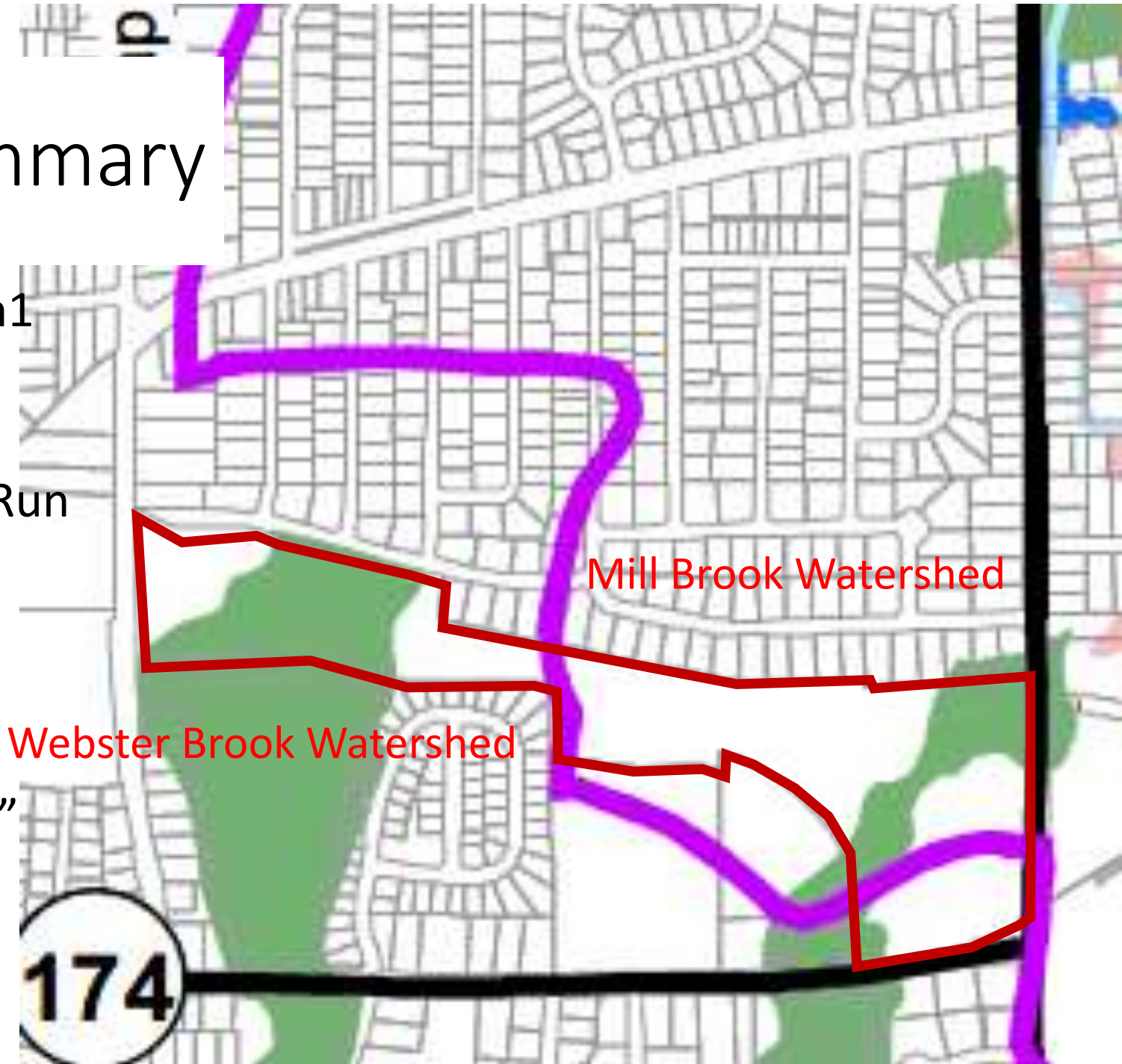


# Swale to West Summary

Less area disturbed than solution1

Not Recommended

- Different watershed
- Poor Drainage: west Pheasant Run
- Not a neighborhood solution
- Only benefits 119/125/135
- No benefit to residence west
- No benefit to residence east
- Move problem “down the road”
- Narrowest part of parcel



# Solution 3A - Drainage Pipe to Pheasant Run

~230' HDPE pipe 12" diameter

Pipe crosses private property

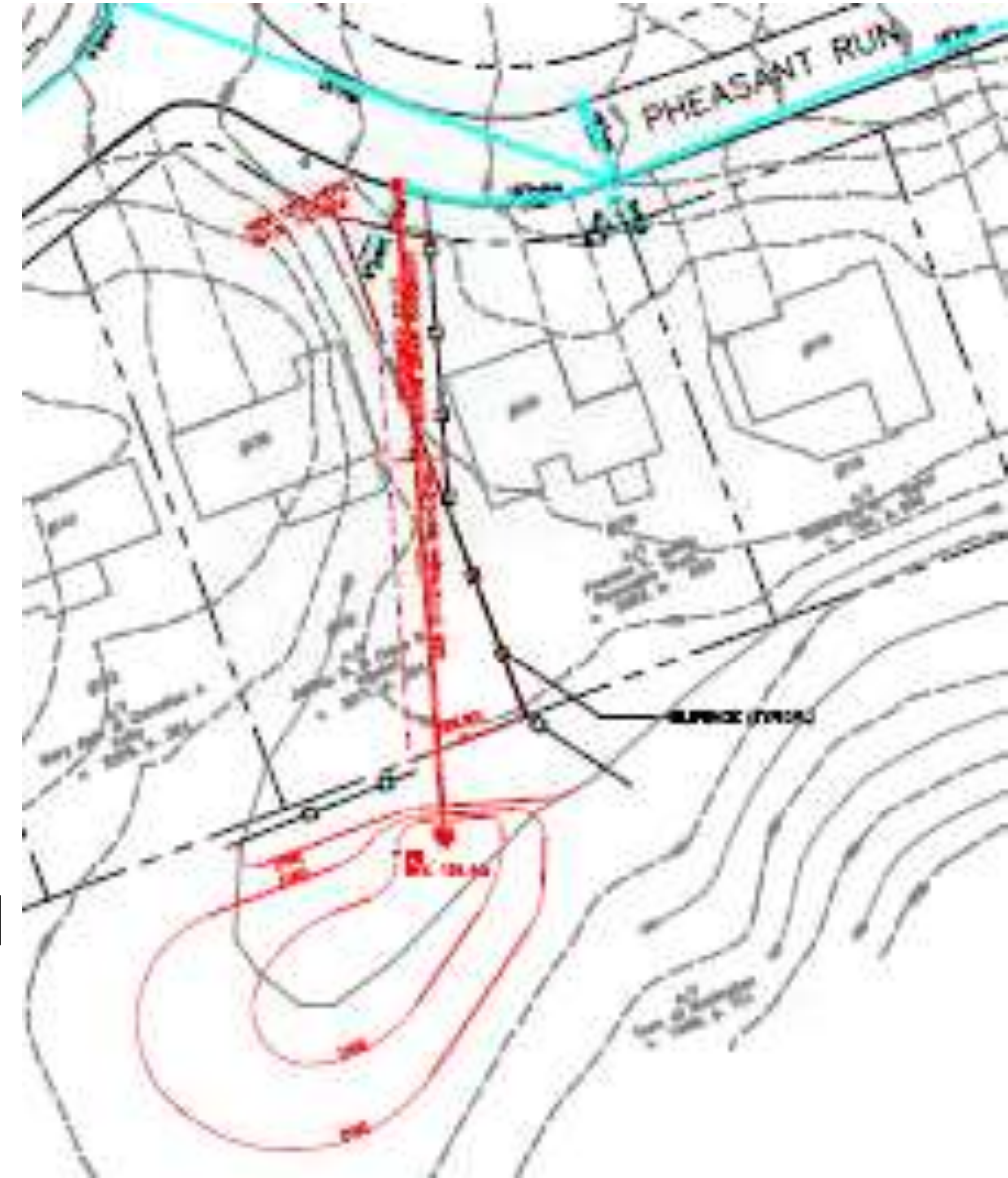
Flared ends on TON property

Impacted area: 0.5 Acres w/ bowl

Easements (install and maintain):

- 125 Pheasant Run
- 135 Pheasant Run

Connect to undersized drainage system in road





# Solution 3B - Drainage Pipe to Pheasant Run

~310' HDPE pipe 12" diameter + manhole

Pipe crosses private property

Flared ends on TON property

Impacted area: 0.5 Acres w/ bowl

Easements (install and maintain):

- 119 Pheasant Run
- 125 Pheasant Run

Connect to undersized drainage system in road



# Drainage Pipe Only Summary

Least impact to TON land

NOT Recommended:

- Residents not grant easements (install and maintain pipe)
- Inadequate drainage in Pheasant Run pipe network



# Solution 4 – Pheasant Run Drainage Improvement

## With Solution 3A/3B

# Inadequate drainage in Pheasant Run

# Upsize drainage system

- Pipes and Catch Basins

~1600 HDPE pipe

~360' 18" HDPE pipe

~660' 24" HDPE pipe

~340' 30" HDPE pipe

~240' 36" HDPE pipe

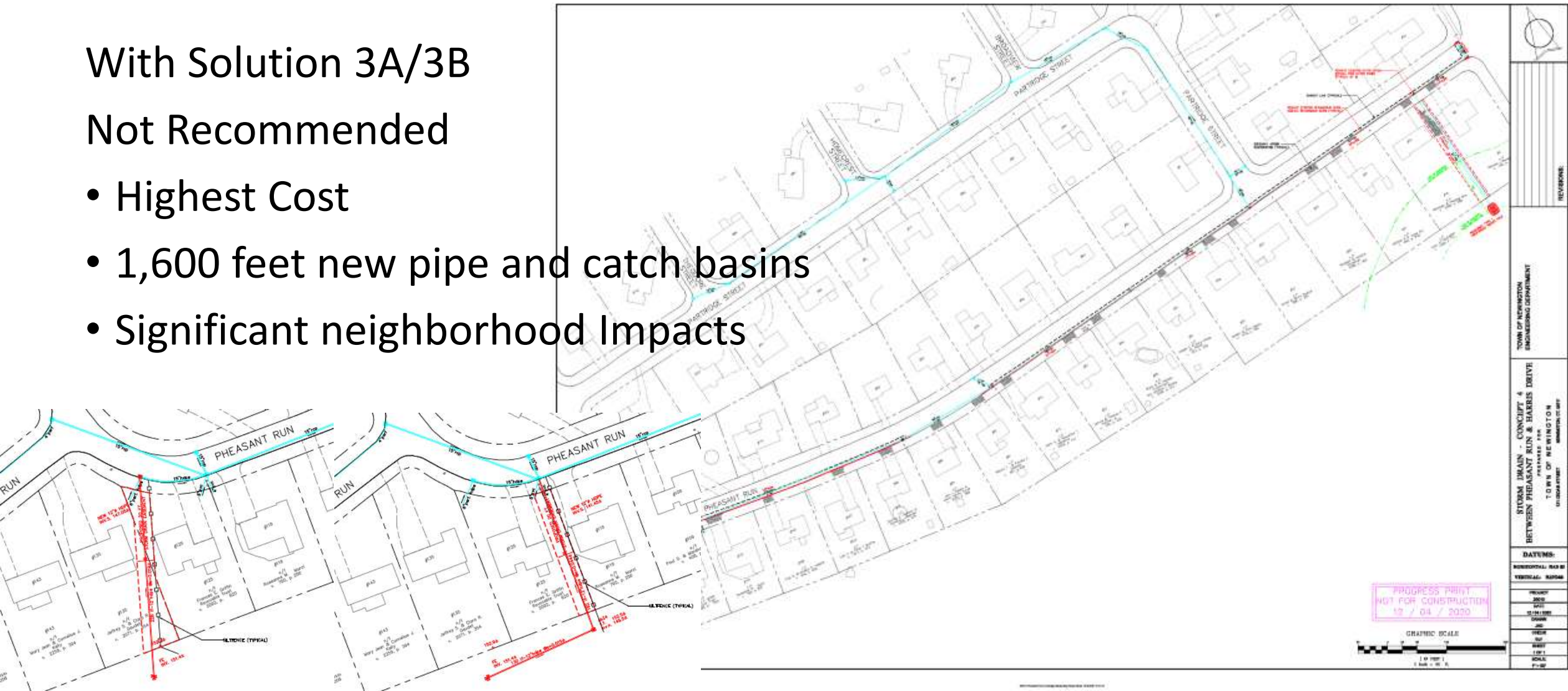


# Pheasant Run Drainage Improvements Summary

## With Solution 3A/3B

# Not Recommended

- Highest Cost
- 1,600 feet new pipe and catch basins
- Significant neighborhood Impacts





# 5A Pipe to East on TON Land

800 feet pipe and 2 catch basins

Reduced environmental impact

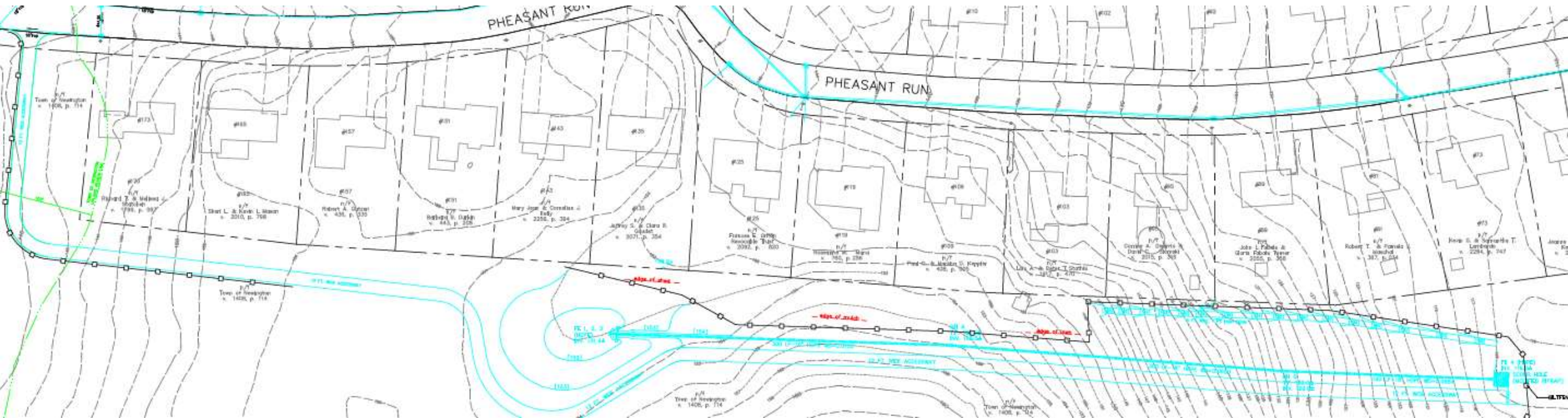
Reduced earthwork



# 5A Pipe to East on TON Land - Detail

## Not Recommended

- Higher cost than solution 1B and 5B
- Reduced environmental impact of solution 1B





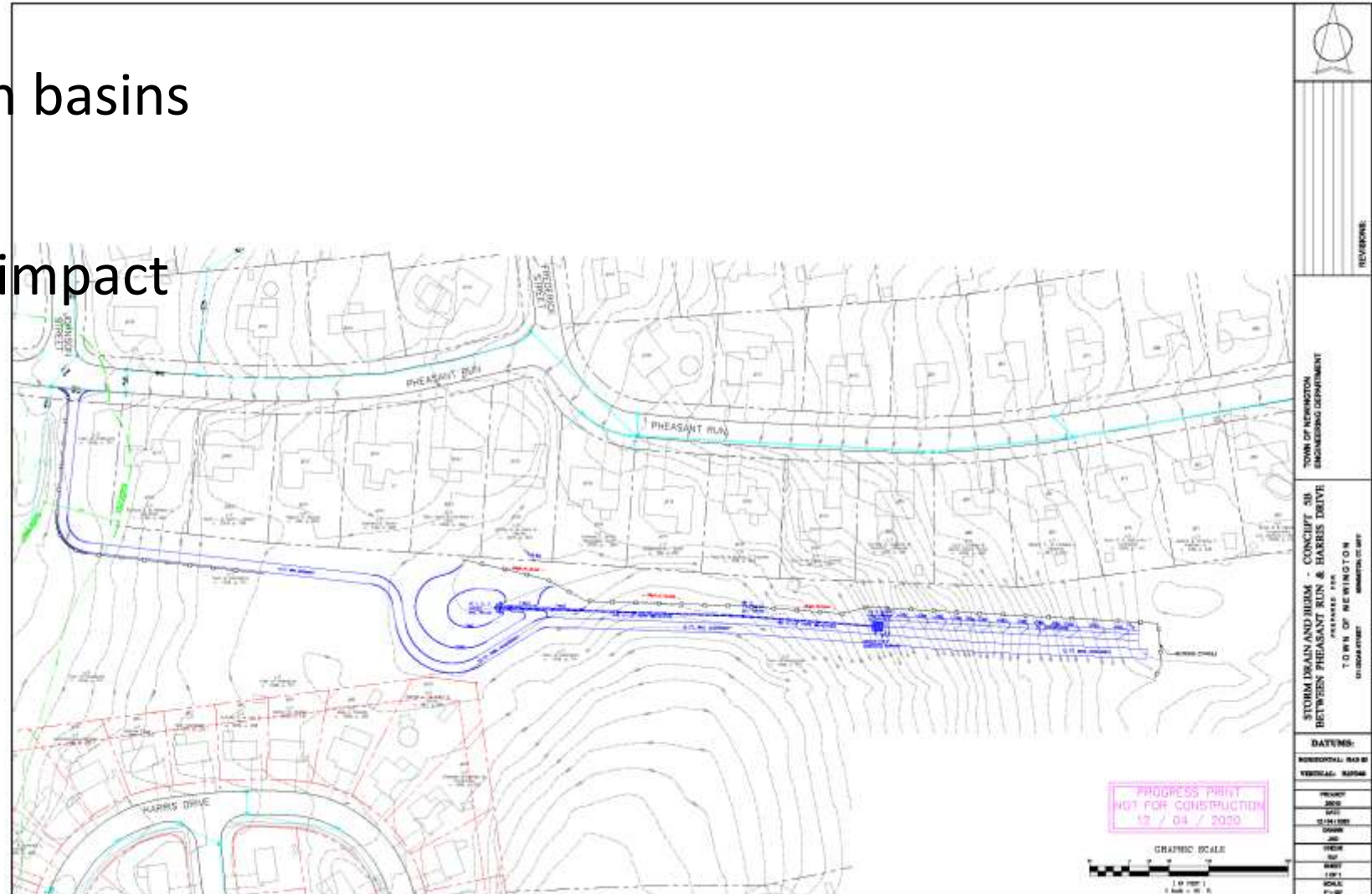
# 5B Pipe/Swale to East on TON Land

450 feet pipe and 1 catch basins

350 feet swale

Reduced environmental impact

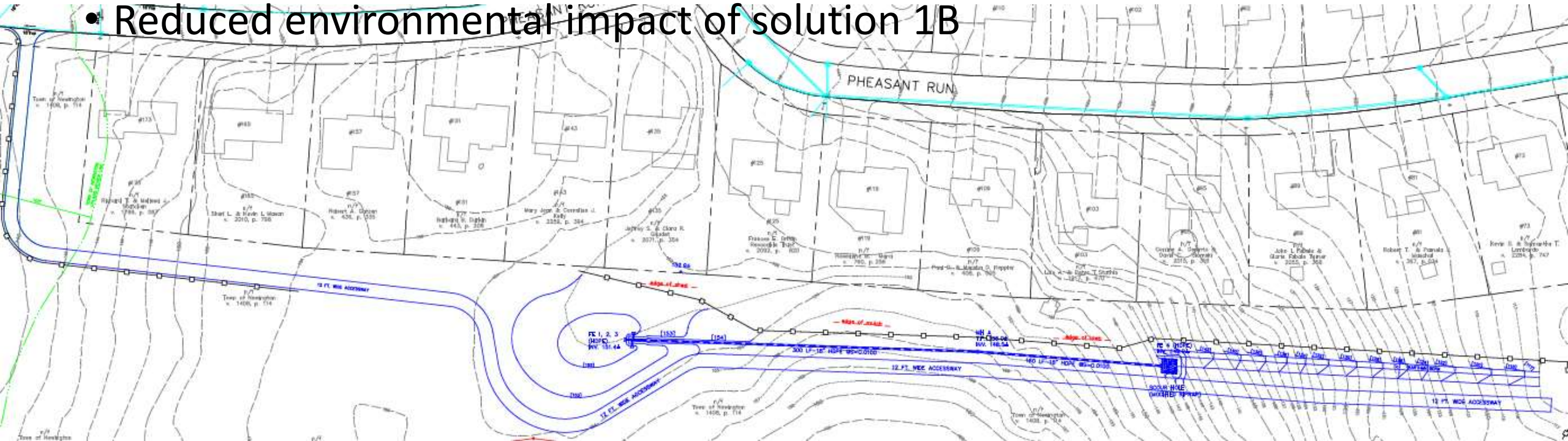
Reduced earthwork



# 5B Pipe/Swale to East on TON Land - Detail

## Recommended Solution (fewest negatives)

- Higher cost than solution 1B - Lower cost than solution 5A
- 450 feet pipe and 1 catch basin + 350 feet swale
- Reduced environmental impact of solution 1B





# Private Property Improvements

## Private swale

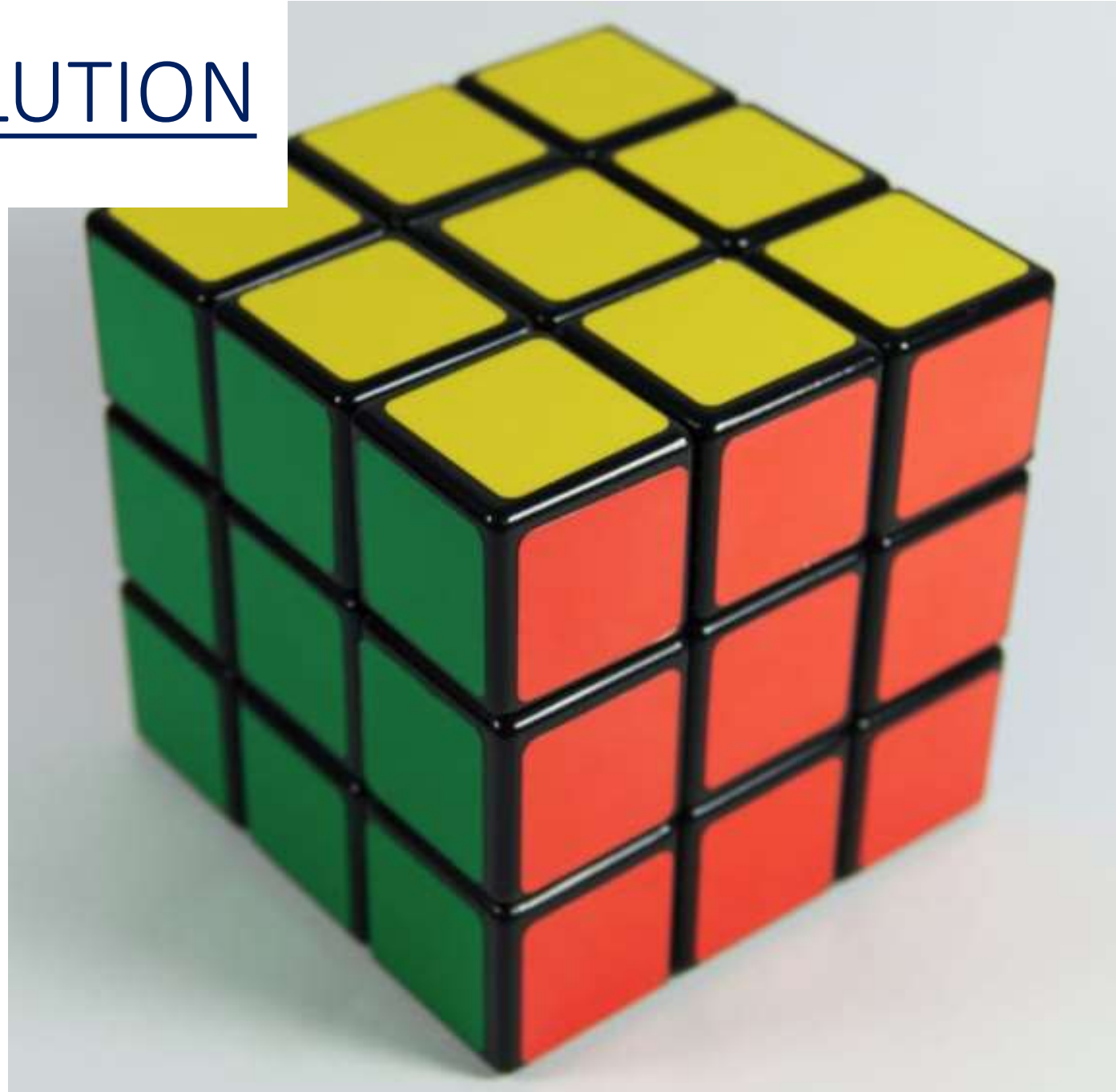
- Installed by property owners
- Maintained by property owners
- Shallow V-swale
- Along property line
- Slope to Pheasant Run

Swale between  
private property





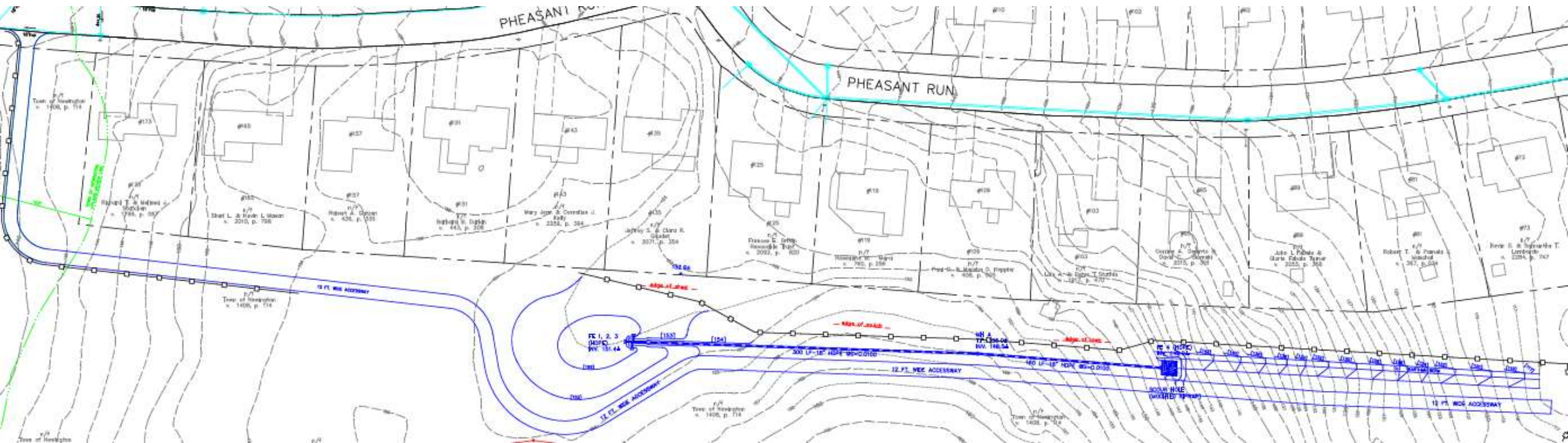
# RECOMMENDED SOLUTION



# Recommended Solution – 5B - Pipe/Swale to East

# Convey water during storm

## Dry between storms





# Sequence of Work – Solution 5B

1. Test pits
2. Stake work in the field
3. Remove trash and debris in the work zone
4. Clear brush in the work zone
5. Post trees to be removed per town ordinance
6. Clear trees in the work zone
7. Install erosion controls (silt fence or wattle) around the work zone
8. Grade (cutting) ±450-foot-long swale
9. Grade (filling) ±450-foot-long berm adjacent to the swale
10. Install pipe
11. Restore disturbed area

# Access to Work Zone

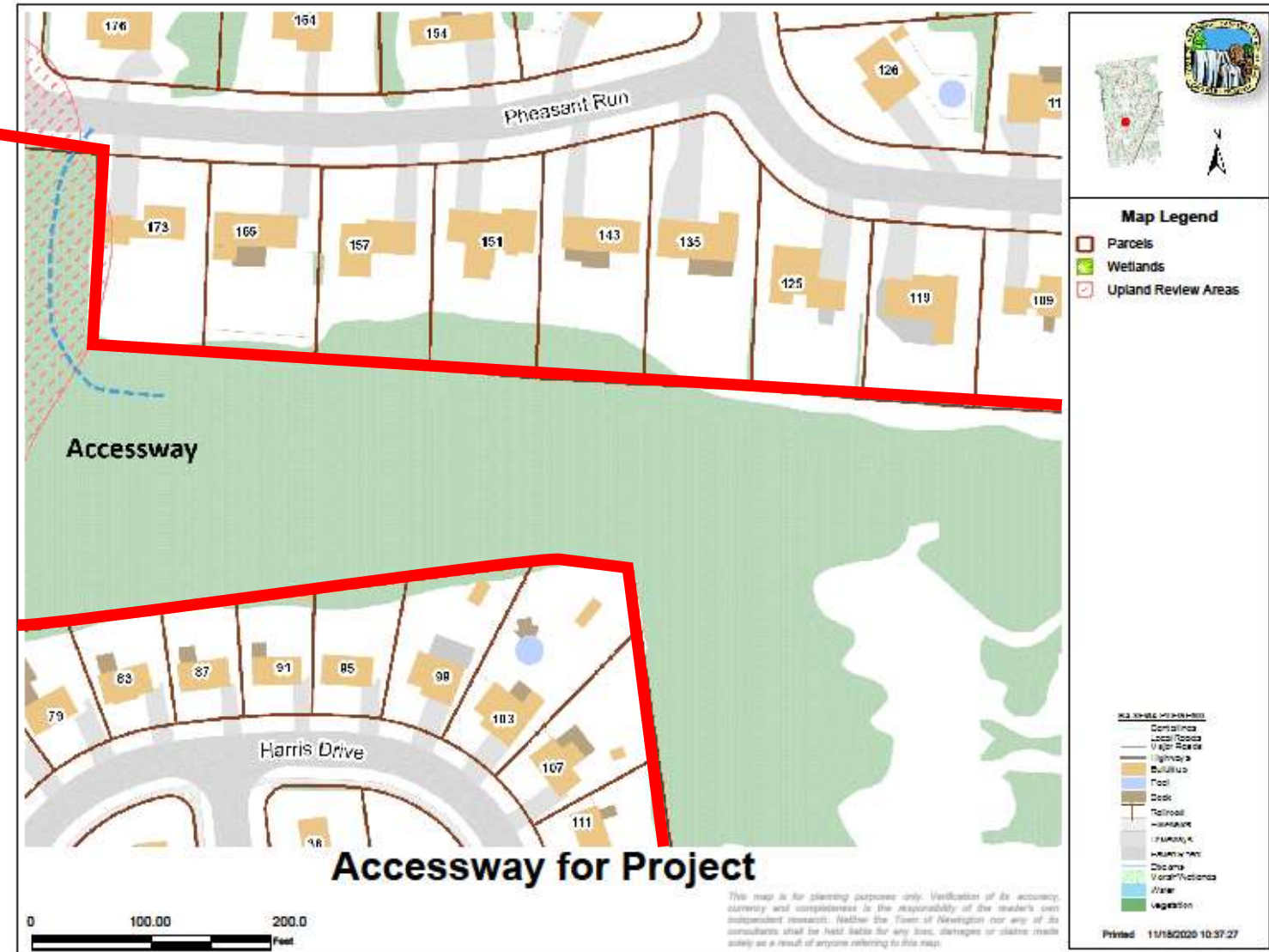
No wetland impacts

Cross 200' Upland Review Area

General Permit #1

Wetland Agent Notified

Notified Conservation Comm.





# 1. Test pit

Investigate depth to rock

- No rock to 10 feet – proceed
- Shallow rock – no go





## 2. Stake work

Swale centerline





### 3. Remove trash and debris in work zone







## MORE TRASH





## 4. Clear brush in work zone



# 5. Post trees to be removed per town ordinance



## Public Notice of Tree Removal

In accordance with Chapter 451, Section 23-59 of the Connecticut General Statutes, providing for the care and control public trees, notice is hereby given that this tree will be removed ten (10) days or more following posting of this notice.

Any person, firm, or corporation objecting to such removal, may appeal within ten (10) days of posting to the Tree Warden in writing, who shall then hold a public hearing at some suitable time and place.

Posted this 00th day of November, 2020

Tom Lapierre (Tree Warden)  
Town of Newington  
131 Cedar Street  
Newington, CT 06111  
860-667-5830

PLEASE NOTE: This tree posting can also be found on our website [www.Newingtonct.gov](http://www.Newingtonct.gov)





## 6. Clear trees in work zone

Remove:

- Trees
- Stumps
- Dead wood
- Downed wood

Clearing contractor?





# 7. Install erosion controls around work zone

Silt Fence

Wattle





## 8. Grade (cut) swale





## 9. Grade (fill) berm





# 10. Install pipe

HDPE

Stone backfill

Flared end wall



# 11. Restore disturbed area

Vegetated swale  
CDOT M.13.04





# Engineering Design Guides



# Objectives Achieved

- Reduce water flowing onto private property
- No road/lane closures
- No private property easements
- Access site via TON property
- Work limited to TON property
- Limited environmental impacts
- Impact about 1 acre of 40 acres (2.5%)





# Cost



# Drainage Improvement CIP: 30310-88416

TON providing labor and equipment

Material Cost

- 1A ~\$10,000 - Drainage swale to east (on TON land)
- 1B ~15,000 – Revised drainage swale to east (on TON land)
- 2 ~\$8,000 - Drainage swale to west (on TON land)
- 3A or 3B ~\$20,000 - Drainage pipe (on private property) to existing catch basin in Pheasant Run (without drainage improvements in Pheasant Run)
- 4 ~\$250,000 - Drainage pipe (on private property) with new drainage pipes and catch basins in Pheasant Run (with drainage improvements in Pheasant Run)
- 5A ~\$40,000 - Drainage pipe to east (on TON land)
- 5B ~\$25,000 - Drainage pipe with swale to east (on TON land)



# SCHEDULE

# 2020

## JANUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

## FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

## MARCH

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

## APRIL

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

## MAY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

## JUNE

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

## JULY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

## AUGUST

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

## SEPTEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

## OCTOBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

## NOVEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

## DECEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

# Project Schedule – Public Works

Assessed need

Reviewed existing conditions

Reviewed site history

Prepared conceptual designs

Located property corners and encroachments in field

Evaluated drainage system in Pheasant Run

Revised conceptual design

Met with residents



# Project Schedule

Leaf Collection - November 2020 (on going)

Public Outreach – 23 NOV 2020

Met with residents

Marked bowl center and swale/pipe centerline

Open Space Committee – 10 DEC 2020

Drainage Improvements: December 2020 + Winter 2021 (priority 2)

Snow/Ice Removal: December 2020 + Winter 2021 (priority 1)

# Met with Pheasant Residents

## Middle Pheasant Run

- 81 - Maschal
- 89 - Fable
- 95 – Depinto/Slomski
- 103 – Stathis

## Upper Pheasant Run

- 119 - Marci
- 135 – Gaudet

Mixed opinions





# Mixed Opinions

Not likely to get 100% agreement

General consensus



## Rule #14





# Closing

- Discussion
- Comments

