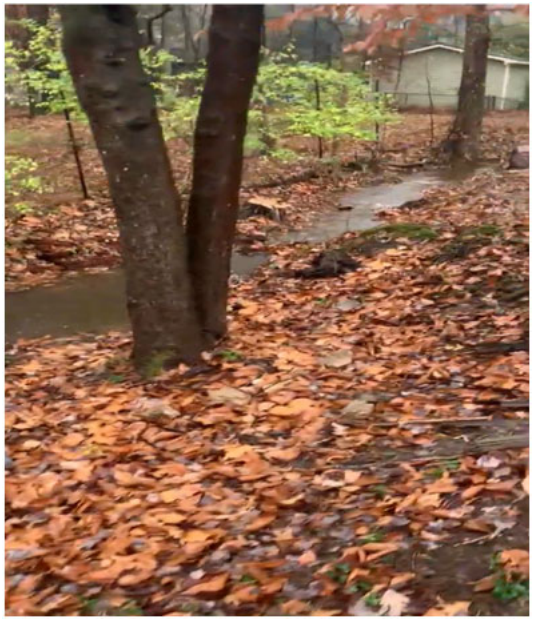


Montgomery Planning Upcounty Division

10/31/2024

Agenda Item No. 7

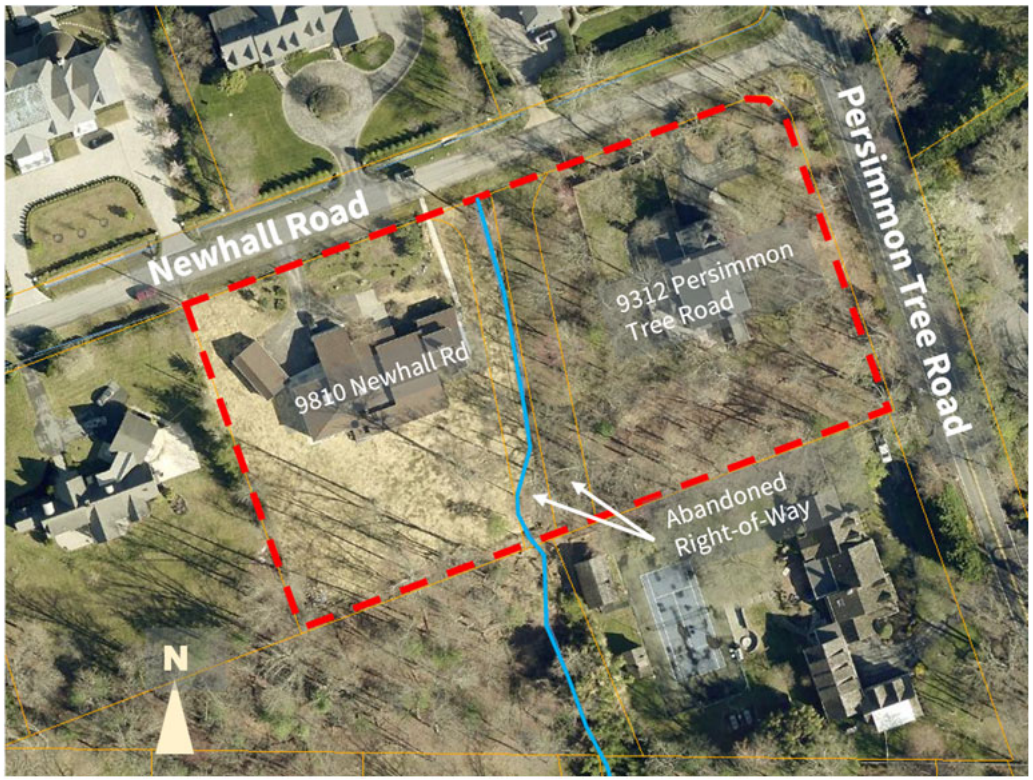
Appeal of Denial of Natural Resources Inventory/Forest Stand Delineation No. 420240850 for Persimmon Tree Subdivision

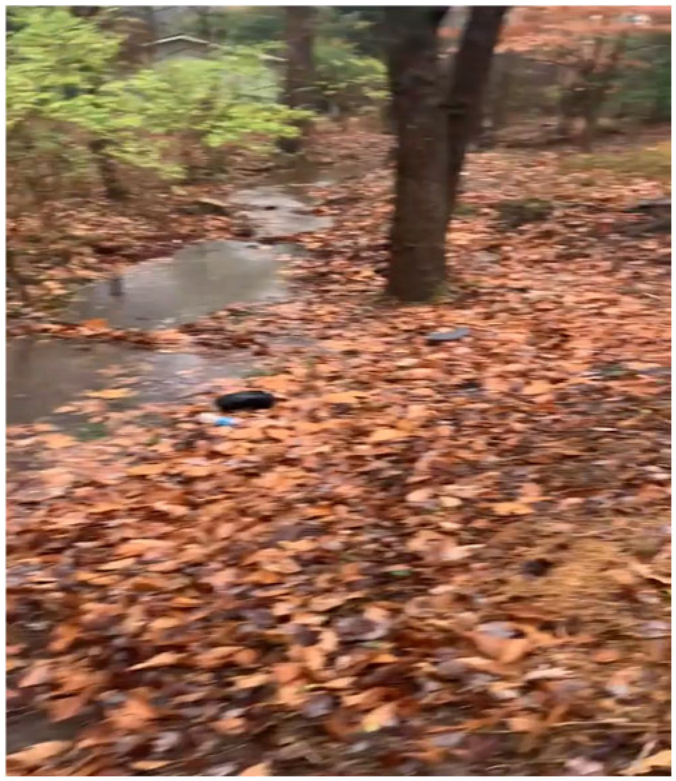
De Novo Hearing pursuant to Chapter 22A-20(c)

Overview

- Planning Staff approves all Natural Resources Inventory/Forest Stand Delineation ("NRI/FSD").
- NRI/FSDs inform the public about the existing environmental conditions at the site prior to any development.
- In an appeal, the Planning Board makes the final determination as to the existence and classification of the stream.
- Staff's position is to deny the appeal and uphold the Planning Director's denial of the NRI/FSD No. 420240850.
- Staff has determined that there is an intermittent stream that was filled and piped on the Subject Property.

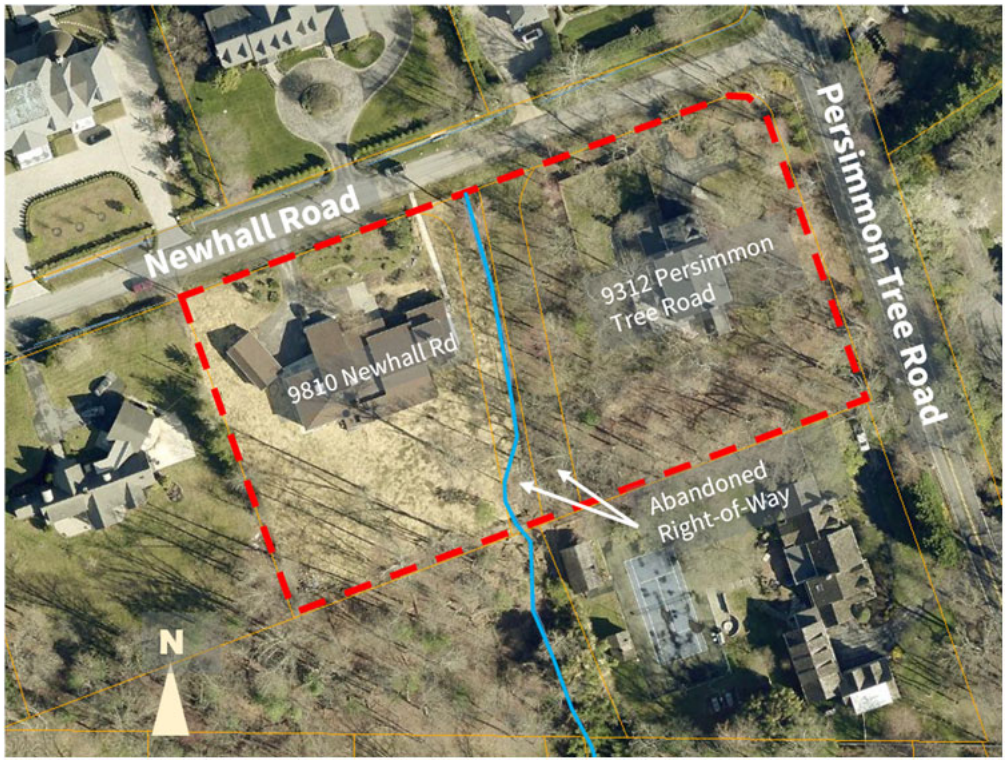
Intermittent Stream on the Subject Property





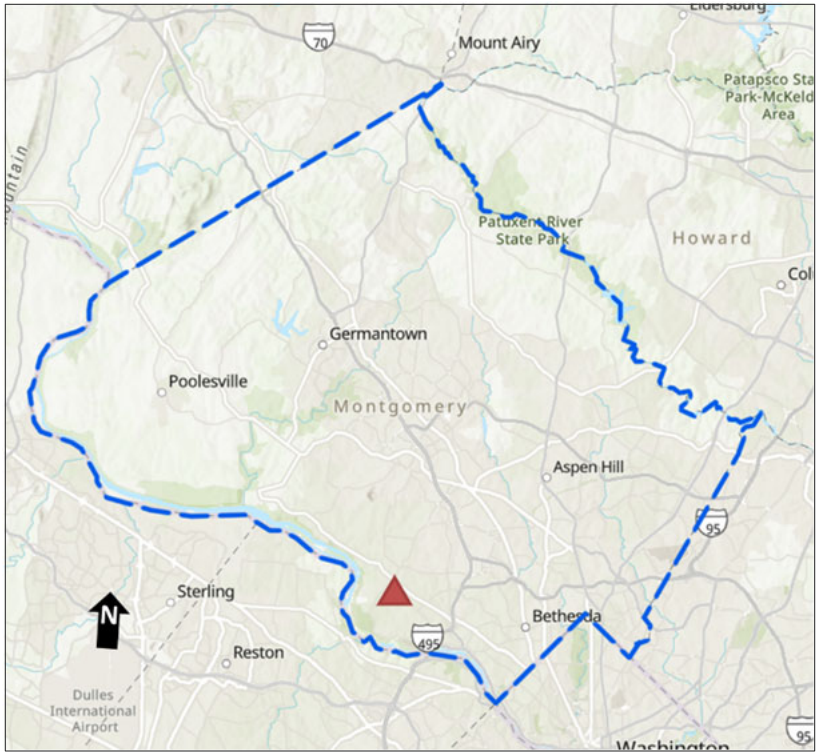
Video submitted by the Applicant in Dec 2023

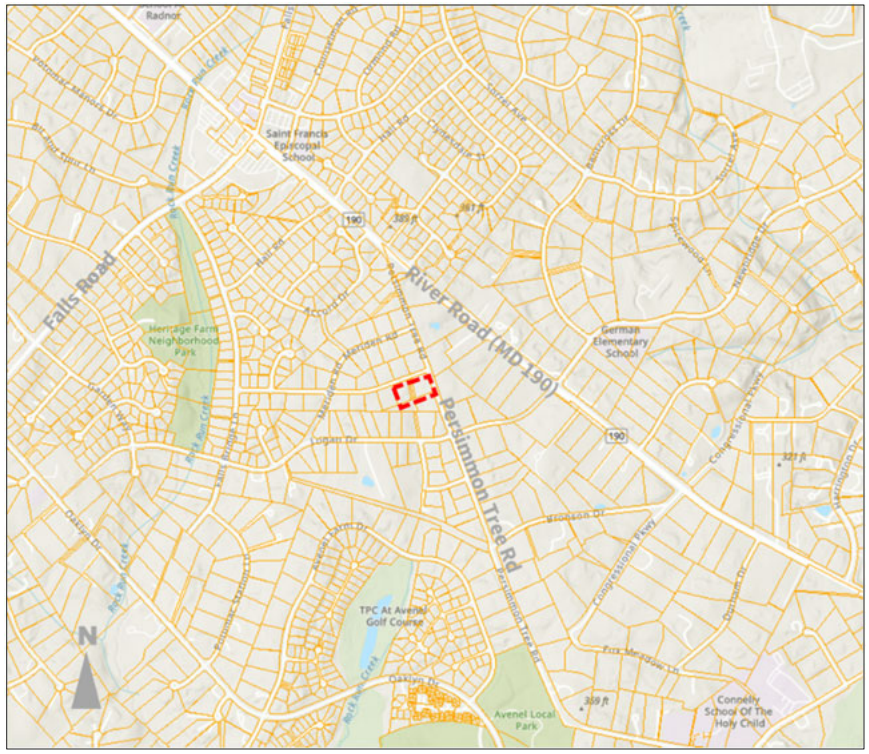
Intermittent Stream on the Subject Property



Baseflow (Low) conditions were observed during field visit by planning staff on April 25, 2024.

Property Location





Generally located south of Potomac Village, north of the TPC at Avenel Golf Course, and east of Heritage Farm Neighborhood Park, this area is situated within the Rock Run watershed.

Overview

I. What is an NRI/FSD?

II. What was incorrect about the Applicant's NRI/FSD?

III. What evidence supports that the stream is intermittent?

IV. Why was the Applicant's evidence not persuasive?

Overview

I. What is an NRI/FSD?

II. What was incorrect about the Applicant's NRI/FSD?

III. What evidence supports that the stream is intermittent?

IV. Why was the Applicant's evidence not persuasive?

I. What is an NRI/FSD?

- The NRI is a complete analysis of existing natural resources and must contain specific information covering the development site and the first 100 feet of adjoining land or the width of the adjacent lot, whichever is less.
- The purpose of the NRI is to provide environmental information early in the concept development phase that will allow for more environmentally-friendly site design.
- As a precursor to development requiring a Forest Conservation Plan or Forest Conservation Law Exemption, an applicant must submit a Natural Resources Inventory / Forest Stand Delineation ("NRI/FSD" or "NRI").

Environmental Management Objectives

per The Environmental Guidelines approved by the Planning Board (2021)

These guidelines are intended to ensure that adequate consideration is given to the following environmental management objectives throughout the development process:

- **Maintenance of biologically viable and diverse streams and wetlands**
- **Protection and restoration of stream water quality**
- Reduction in flood potential
- Protection of water supply reservoirs against sedimentation and eutrophication
- **Conservation of forests and trees**
- Protection of steep slopes
- Preservation/protection of wildlife habitat, wildlife corridors, and exemplary communities including rare, threatened, and endangered species
- Protection against development hazards on areas prone to flooding, soil instability, etc.
- Provision of visual amenities and areas for recreation and outdoor education activities
- **Implementation of state and county riparian buffer programs.**

NRI/FSD Standard Requirements

NRI PLAN SHEETS

Provide the following information in the title block:

- Name of project (that matches ePlans, Hansen, and Application Form)
- Plan number
- Subdivision information
- Election district
- Revision block

Include the following in the plan notes:

- Tax ID
- Property owner name and address
- Gross tract size
- Zoning
- Presence of RTE species
- Floodplain source (FEMA map #)
- Wetland source
- Watershed w/ use class
- Presence of historic features
- Tree measure method (usually D-tape)
- Presence of SPA or PMA
- Name of person doing work
- Date of work

Provide all of the following elements on all NRI plan sheets:

- Graphic scale
- North arrow
- Legend
- Approval stamp placeholder (4"x3")
- Certificate of plan preparer
- Vicinity map
- Property lines
- Existing manmade features
- Proposed improvements (if FCPE)
- LOD (if FCPE)
- Topography w/ labels
- All trees >24 inches in diameter
- Streams and stream buffers (if present)
- Wetlands and wetland buffers (if present)
- Floodplain and floodplain buffer (if present)
- Soil boundaries
- Steep slopes (if present)
- Aerial extent of tree cover
- N/A Forest stand (if present)

Provide the following tables:

- Tree table, with any of the following noted:
  - National/State/County Champion trees
  - Trees at least 75% of State Champion
- Soils table
- Data table
  - Wetlands
  - Floodplains
  - Streams
  - Associated buffers

Streams definitions

per The Environmental Guidelines approved by the Planning Board (2021)

- **Perennial Stream** – Streams that typically have continuous baseflow from the groundwater table, which is generally located above the streambed throughout the year.
- **Intermittent streams** -- streams that typically have ***baseflow at least once per year***. Typically, in the winter and spring, the groundwater table is elevated, increasing the likelihood that the ***groundwater*** level is higher than the bed of a stream channel. Therefore, an intermittent stream will usually have baseflow during the winter and spring seasons and infrequent baseflow during the rest of the year. Because of discontinuous flow regimes, intermittent streams typically have physical, hydrological, and biological characteristics that are not as well-developed as perennial streams. Depending on the frequency and duration of flows, however, the characteristics of intermittent streams can be similar to those of either perennial or ephemeral streams.
- **Ephemeral streams** -- streams that are above the groundwater table and convey flow only during, and for a short duration after (**generally less than 48 hours**), and in direct response to, **a precipitation event**. Ephemeral streams do not include roadside ditches.

Stream Buffer Widths

per The Environmental Guidelines approved by the Planning Board (2021)

Slope Range (percent)***	Use I/I-P (Water Contact Recreation and Aquatic Life)	Use III/III-P (Natural Trout Waters)	Use IV/IV-P (Recreational Trout Waters)
0 to <15	100	150	125
15 to <25	125	175	150
25 and greater	150	200	175

The Environmental Guidelines approved by the Planning Board (2021) identify different types of streams – perennial, intermittent, and ephemeral – and provide criteria for Planning Staff to characterize streams and apply the appropriate buffer in order to protect sensitive environmental resources near these waterways.

All streams and/or drainage courses located on or within 200 feet of a subject property must be shown on the NRI/FSD summary map.

Stream Types and Their Characteristics

per The Environmental Guidelines approved by the Planning Board (2021)

Typically Present in Intermittent Streams
Baseflows present in the channel at least once per year
Sinuous channel
Very well-defined channel banks and bed that include riffles and pools
Evidence of fluctuating high-water marks, such as sediment-stained leaves, blackened or decaying leaf litter, bare ground, or vegetation drift lines
Evidence of soil and debris movement (scouring) in the channel. Leaf litter is transient or temporary in the channel.
Wetland or hydrophytic vegetation may be present
Stream bank soils with hydric indicators at or above the low flow conditions
Seeps, springs, or wetlands may be adjacent to or feed into the stream channel
Aquatic fauna present when there is surface flow; during dry periods, signs of the presence of stream biota at other times of the year
Algae-covered or water-stained rocks
Channel head-cuts at the beginning of intermittent streams may be, but are not always, present
Sorted sediments

Typically Present in Ephemeral Streams
poorly-developed sinuosity
evidence of leaf litter or small debris jams in flow areas
poorly-sorted sediments
poorly-developed removal of vegetation litter
poorly-developed vegetation drift lines
fibrous roots in channel
side slope soils with characteristics typical of the surrounding landscape

Overview

I. What is an NRI/FSD?

II. What was incorrect about the Applicant's NRI/FSD?

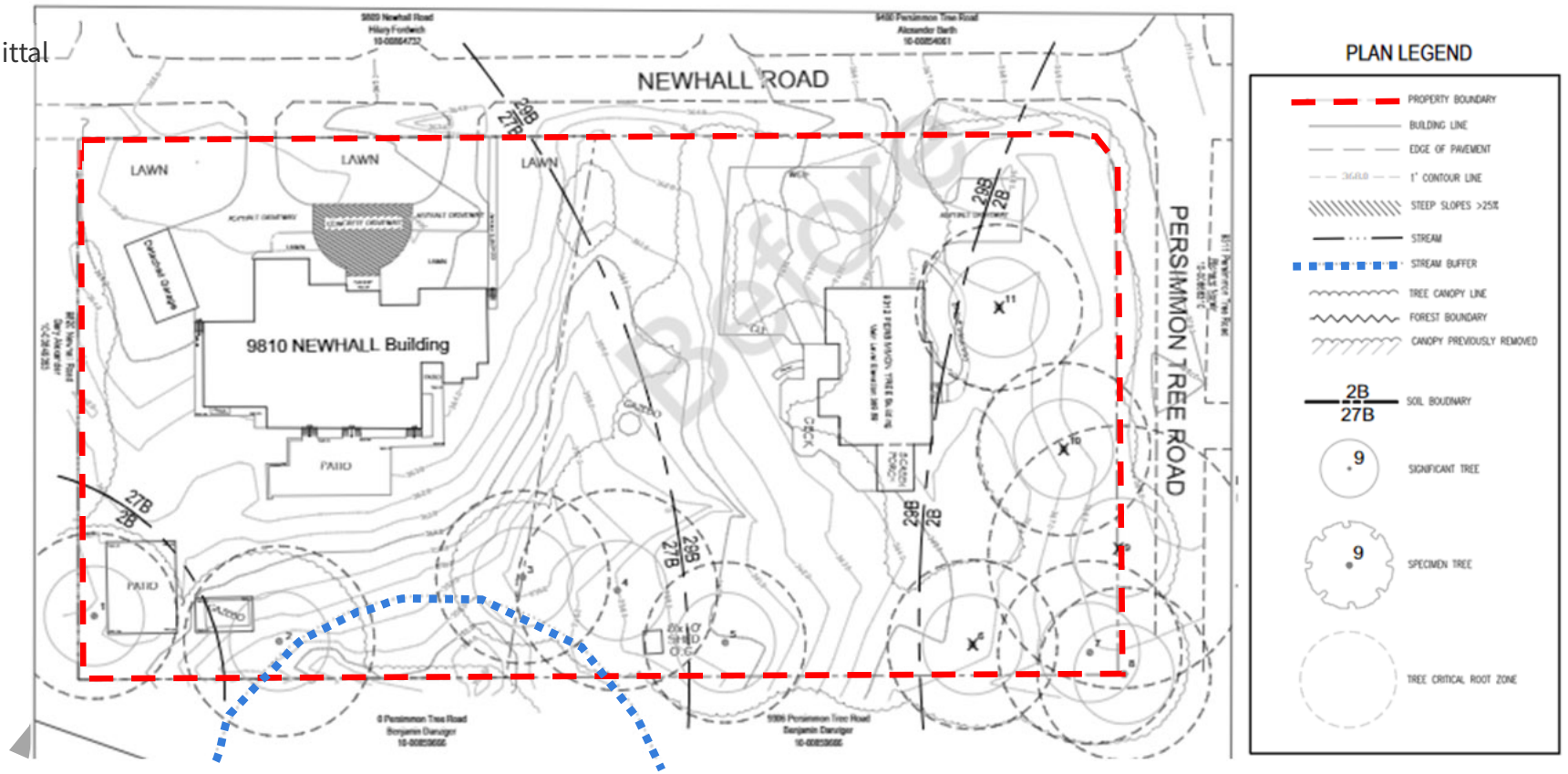
III. What evidence supports that the stream is intermittent?

IV. Why was the Applicant's evidence not persuasive?

Applicant's Stream Buffer Delineation

Original NRI/FSD Submittal

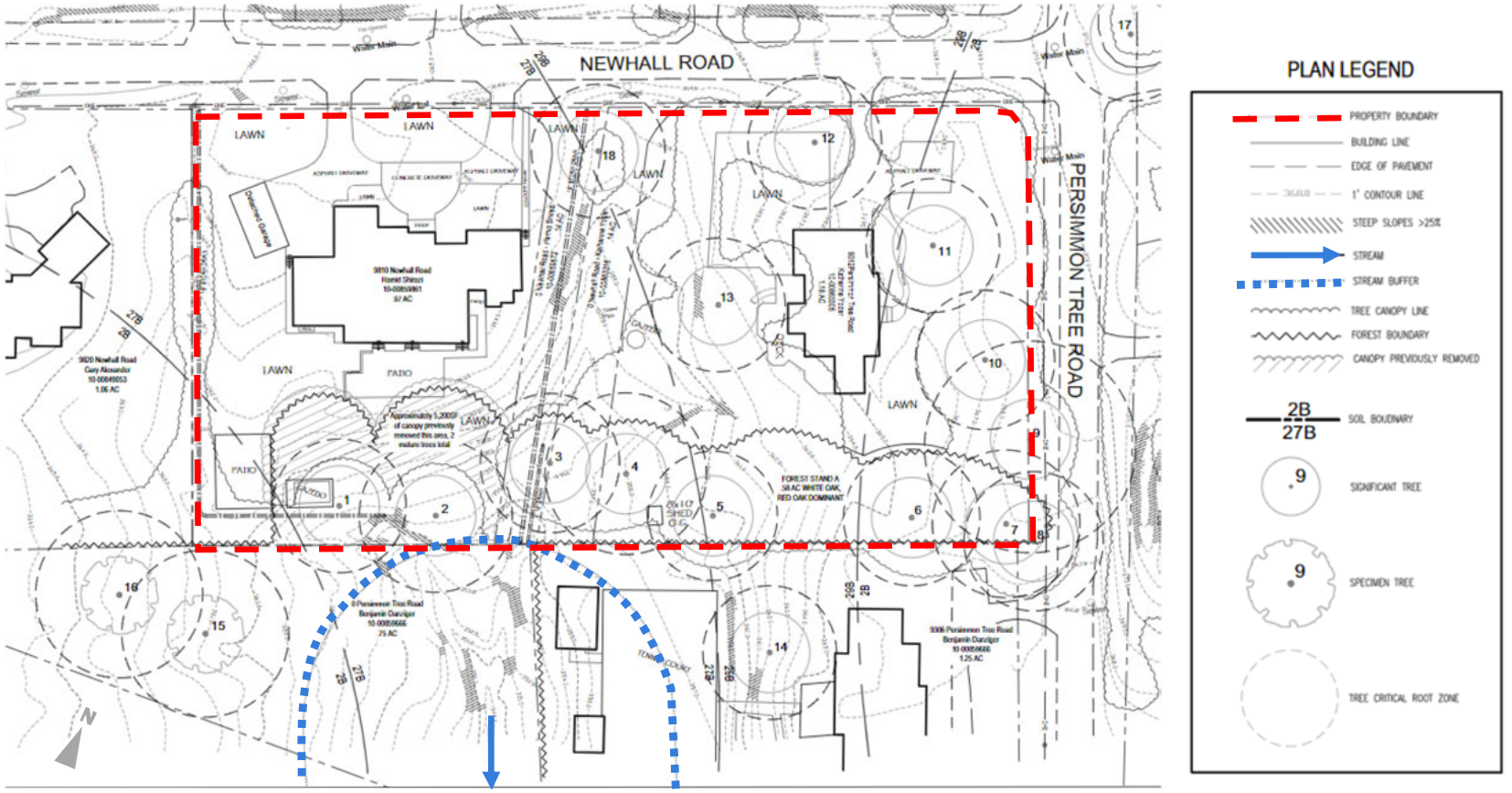
October 30, 2023



Applicant's Stream Buffer Delineation

Revised NRI/FSD

January 9, 2024

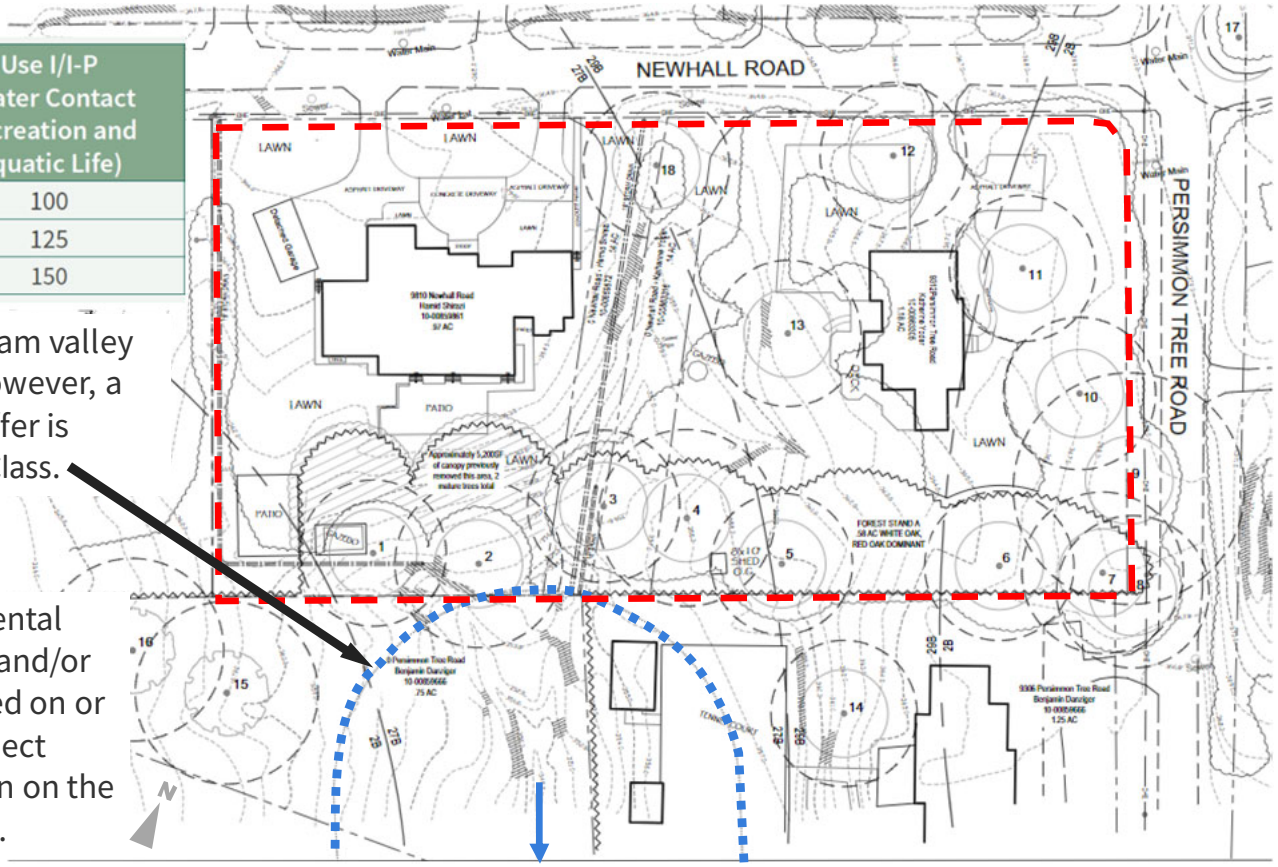


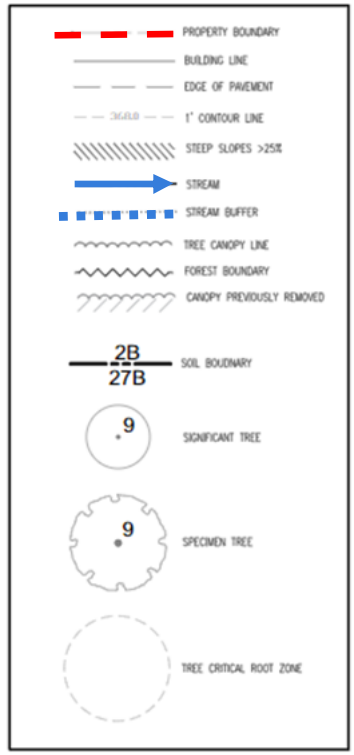
Applicant's Stream Buffer Delineation

Slope Range (percent)***	Use I/I-P (Water Contact Recreation and Aquatic Life)
0 to <15	100
15 to <25	125
25 and greater	150

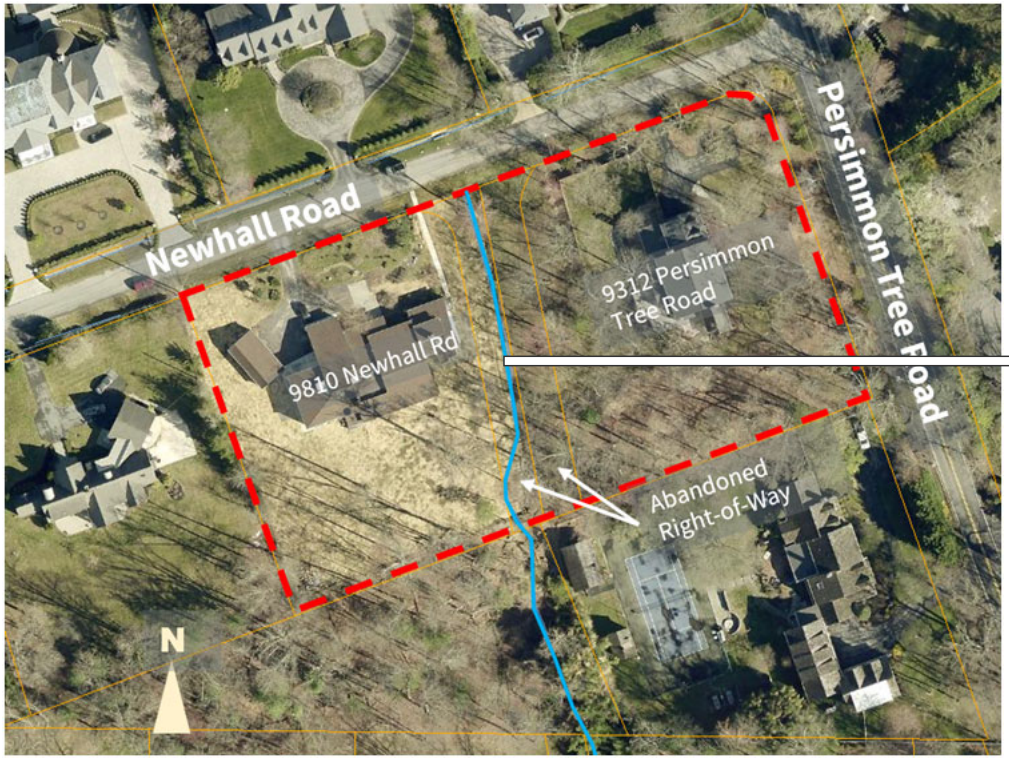
A minimum of 66 ft stream valley buffer was provided; however, a 100-ft stream valley buffer is necessary for this Use Class.

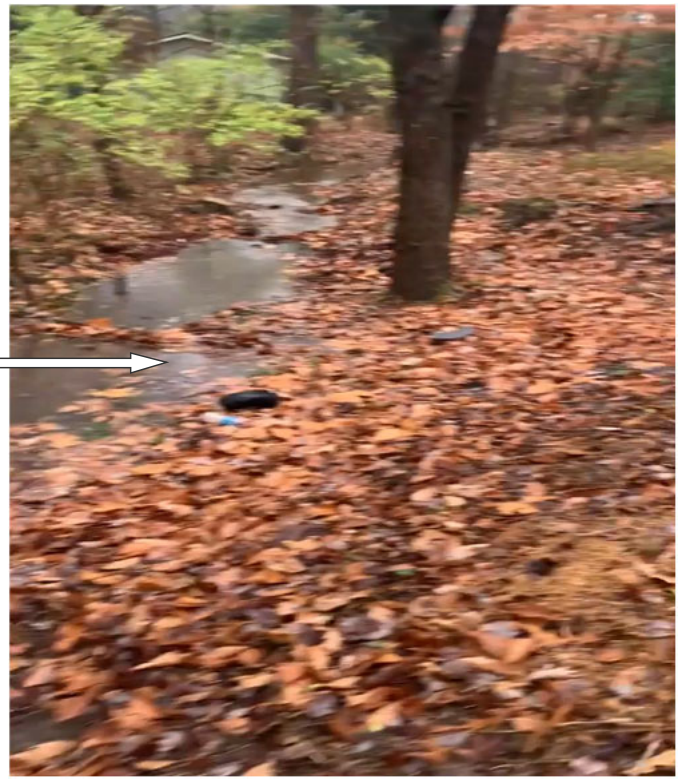
According to Environmental Guidelines, all streams and/or drainage courses located on or within 200 feet of a subject property must be shown on the NRI/FSD summary map.





Intermittent Stream on the Subject Property

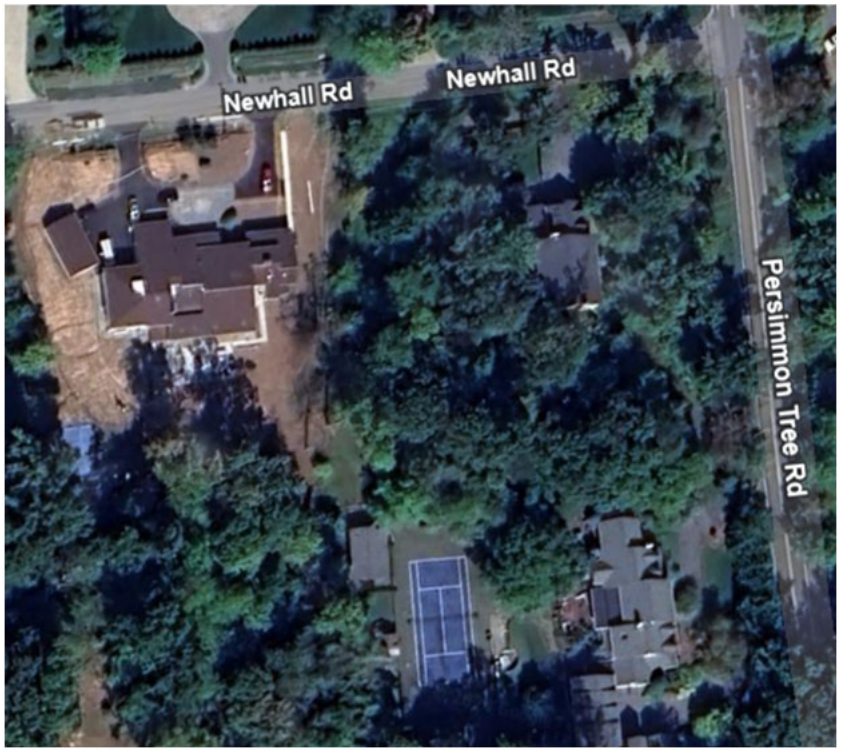




Video submitted by the applicant in Dec 2023

Site Conditions

Source: Google Maps, 05/17/2022



Source: Google Maps, 10/02/2023

Site Conditions

Source: Bing Maps, 03/18/2022

Source: Staff's photo, 25/04/2024

Site Conditions

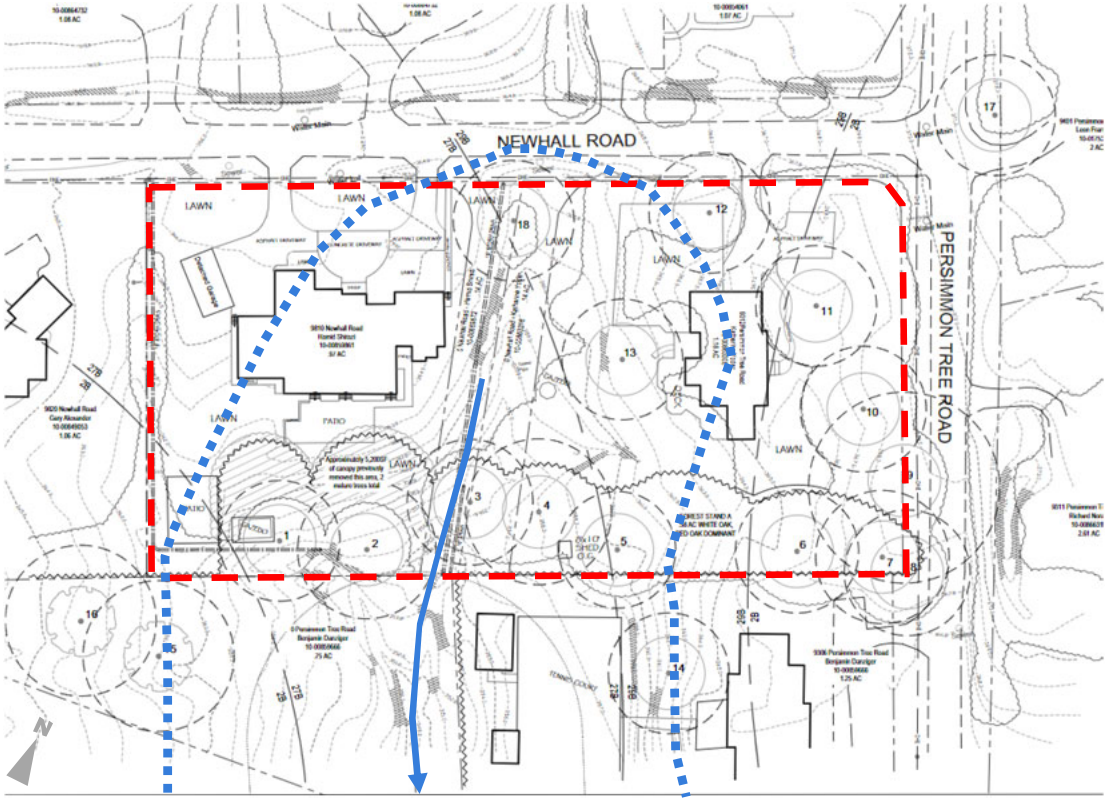
Source: Bing Maps, 08/18/2022

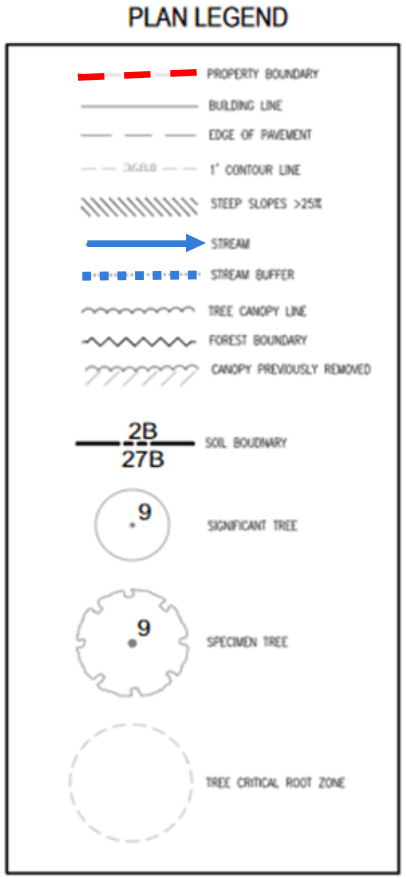
Source: Google Maps, May 2023

Stream and Buffer Delineation

Slope Range (percent)***	Use I/I-P (Water Contact Recreation and Aquatic Life)
0 to <15	100
15 to <25	125
25 and greater	150

According to Environmental Guidelines, a 100-foot stream valley buffer is necessary for this Use Class.





Overview

I. What is an NRI/FSD?

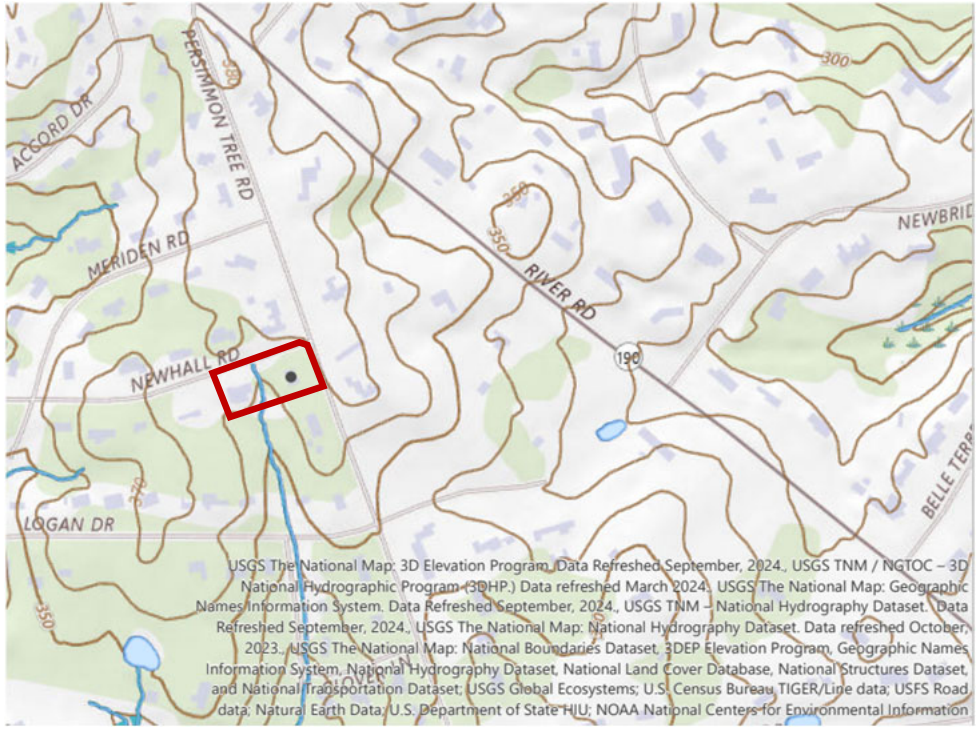
II. What was incorrect about the Applicant's NRI/FSD?

III. What evidence supports that the stream is intermittent?

IV. Why was the Applicant's evidence not persuasive?

III. What is the supporting evidence?

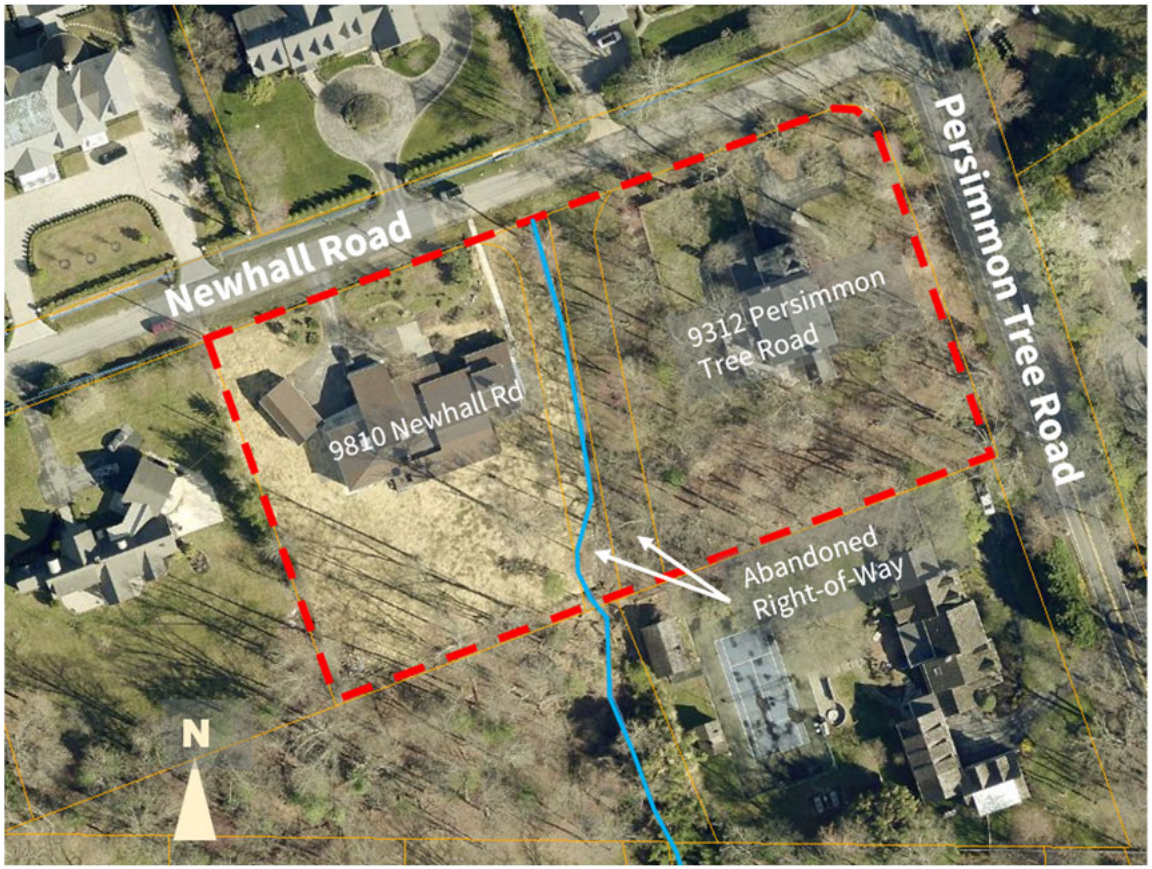
- Field data
- Documentation (video and pictures)
- Forest Conservation Plan Exemptions
- Topographic, hydrologic, and soil maps
- Geographic Information Systems (GIS)
- Fine-resolution Light Detection and Ranging (LIDAR) data



USGS TNM – National Hydrography Dataset, September 2024, and USGS National Hydrography Dataset, 2023.

Stream characteristics observed at 9810 Newhall Road

	Typically Present in Intermittent Streams	
1)	Baseflows present in the channel at least once per year	✓
2)	Sinuous channel	✓
3)	Very well-defined channel banks and bed that include riffles and pools	✓
4)	Evidence of fluctuating high-water marks, such as sediment-stained leaves, blackened or decaying leaf litter, bare ground, or vegetation drift lines	✓
5)	Evidence of soil and debris movement (scouring) in the channel. Leaf litter is transient or temporary in the channel.	✓
6)	Wetland or hydrophytic vegetation may be present	✓
7)	Stream bank soils with hydric indicators at or above the low flow conditions	✓
8)	Seeps, springs, or wetlands may be adjacent to or feed into the stream channel	✓
	Aquatic fauna present when there is surface flow; during dry periods, signs of the presence of stream biota at other times of the year	
	Algae-covered or water-stained rocks	
	Channel head-cuts at the beginning of intermittent streams may be, but are not always, present	
	Sorted sediments	



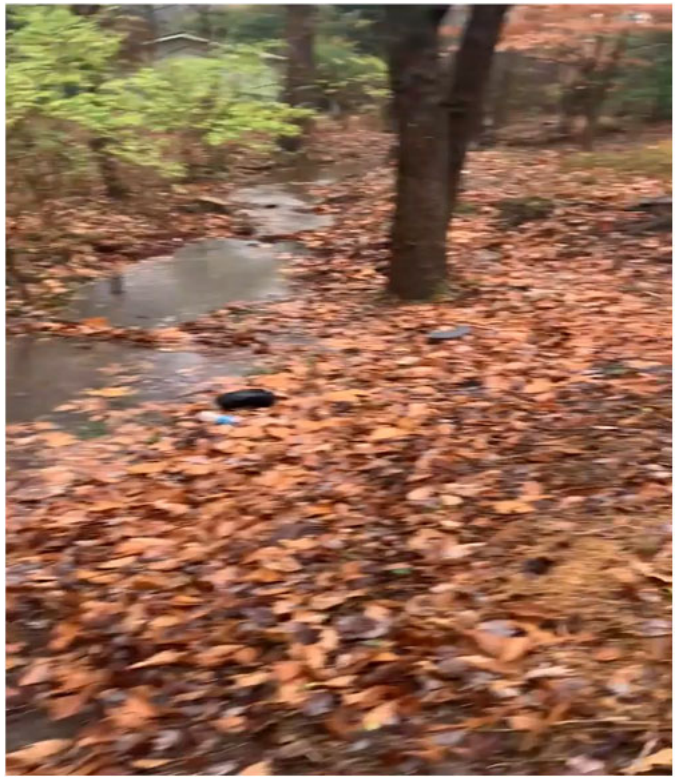
1. Baseflows Present

Climatological Data for POTOMAC 0.9 NNW, MD (CoCoRaHS) - April 2024

Date	Precipitation
2024-04-01	0.09
2024-04-02	0.24
2024-04-03	0.35
2024-04-04	0.83
2024-04-05	0.11
2024-04-06	T
2024-04-07	0.00
2024-04-08	0.00
2024-04-09	0.00
2024-04-10	0.00
2024-04-11	0.00
2024-04-12	0.18
2024-04-13	0.10
2024-04-14	0.00
2024-04-15	0.00
2024-04-16	0.01
2024-04-17	0.00
2024-04-18	0.00
2024-04-19	0.00
2024-04-20	0.06
2024-04-21	0.00
2024-04-22	0.00
2024-04-23	0.00
2024-04-24	0.00
2024-04-25	0.00
2024-04-26	0.00

Observed baseflows within the channel indicate the presence of flowing water at least once per year. This suggests a sustained source of water feeding the channel per field visit by planning staff on April 25, 2024.

1. Baseflows Present

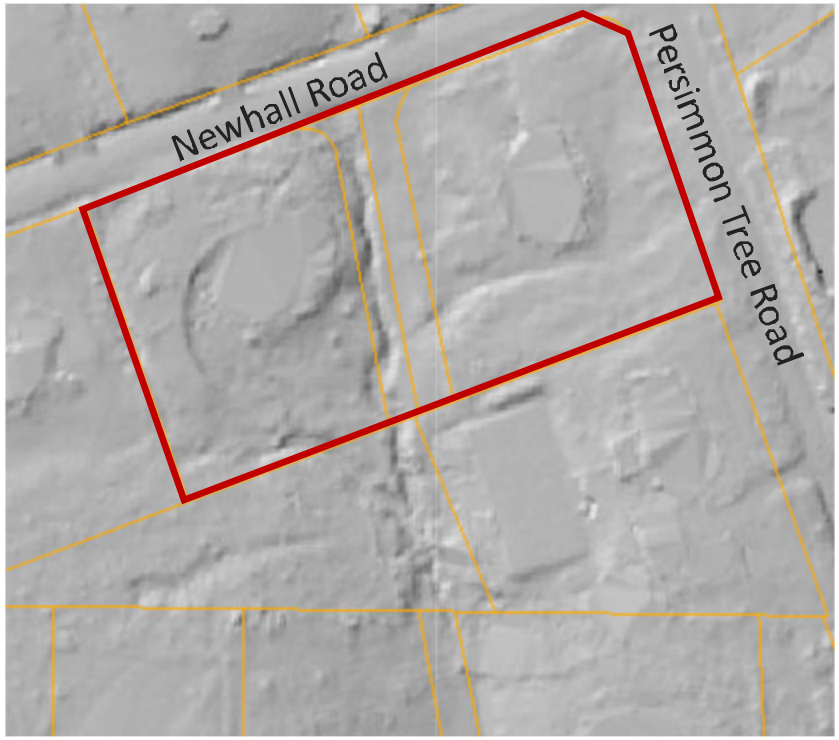


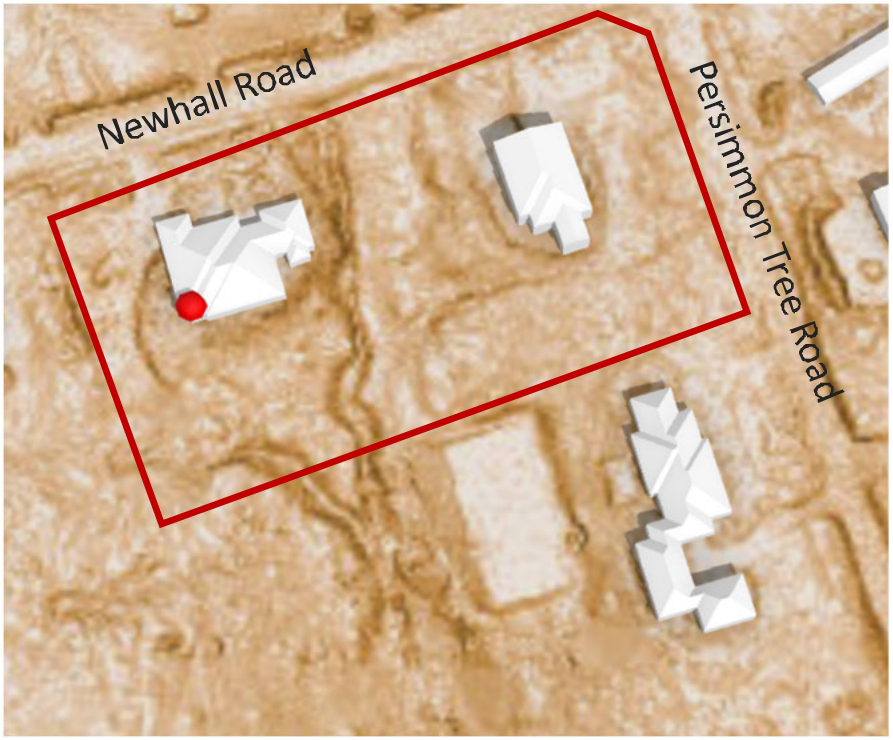
Baseflow (High) conditions were observed in Fall 2022. Video submitted by the applicant in Dec 2023.

Baseflow (Low) conditions were observed in early Spring 2024.

Observed baseflows within the channel indicate the presence of flowing water at least once per year. This suggests a Sustained source of water feeding the channel per field visit by planning staff on April 25, 2024.

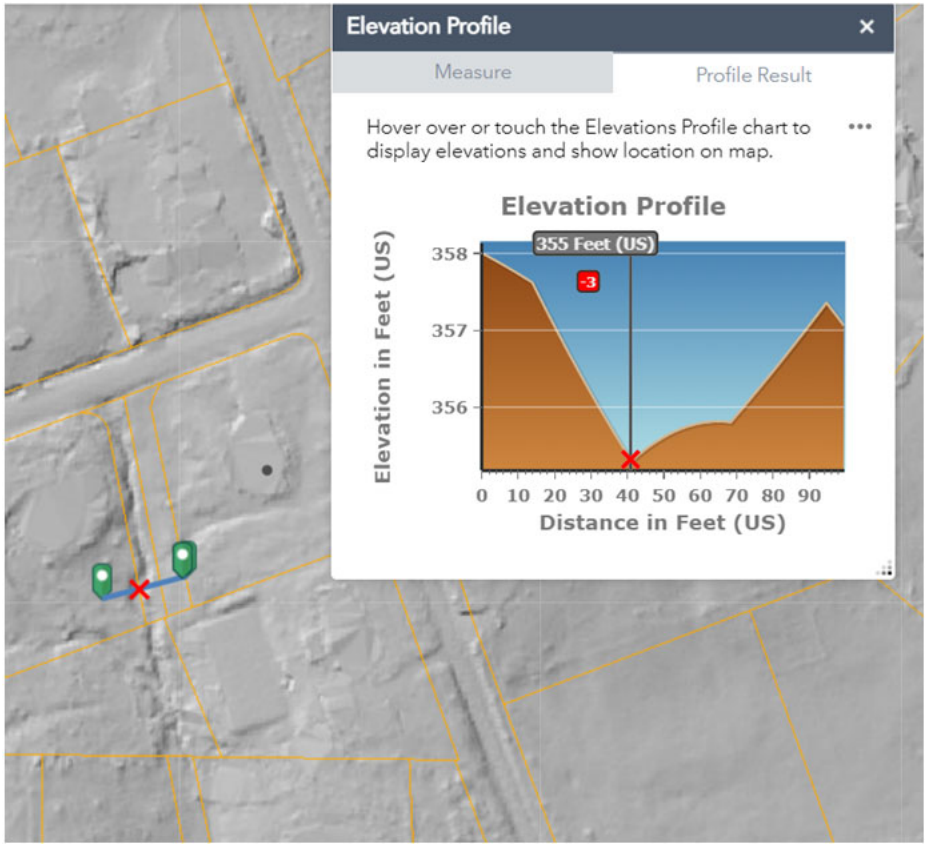
2. Sinuous Channel

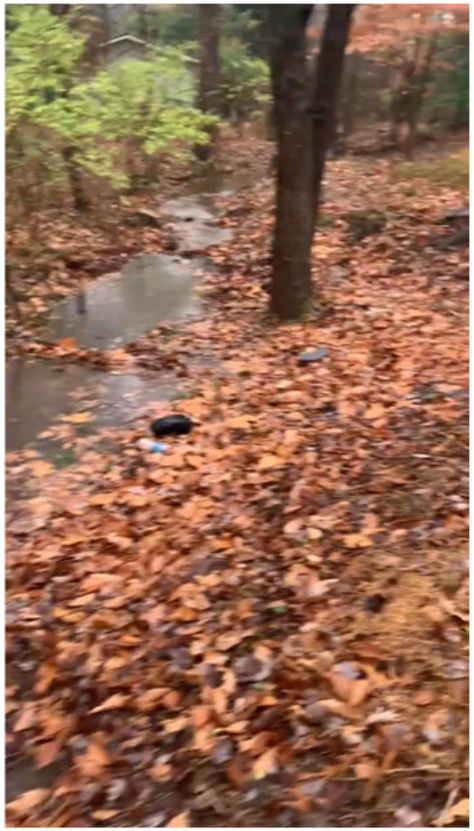




The channel exhibits a sinuous (winding) form, typical of streams that have been shaped by flowing water over time

3. Well-Defined Channel Banks and Bed



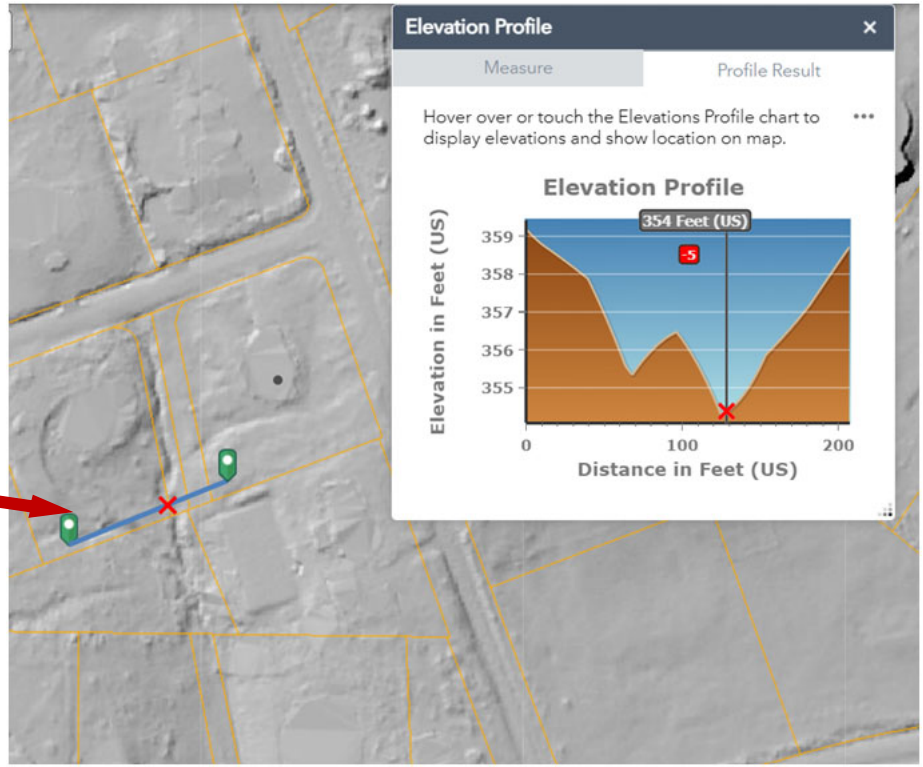


The channel possesses clearly defined banks and bed, including riffles (shallow, fast-flowing sections) and pools (deeper, slower-moving sections.

Stream Morphology Analysis, Cross section. Elevation profile 3 ft

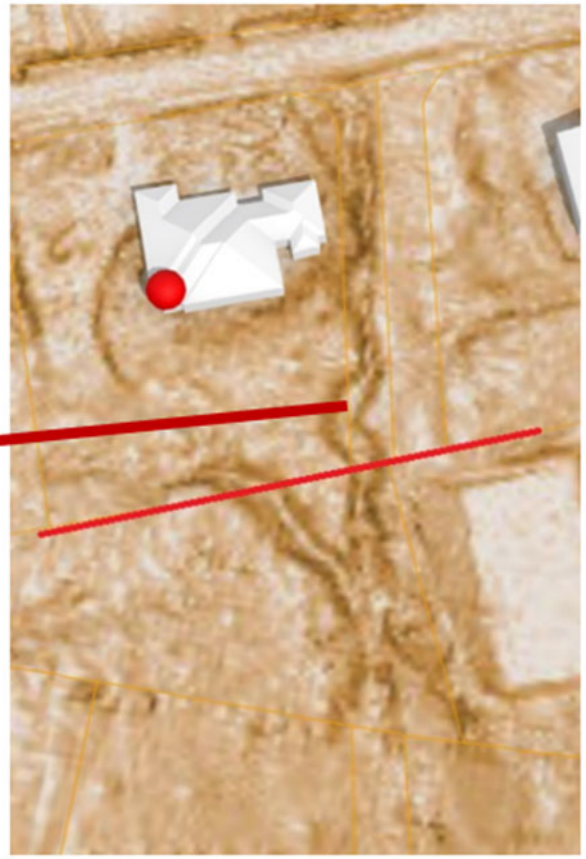
3. Well-Defined Channel Banks and Bed

The channel possesses clearly defined banks and bed, including riffles (shallow, fast-flowing sections) and pools (deeper, slower-moving sections).



Stream Morphology Analysis, Cross section. Elevation profile 5 ft

4. Fluctuating High-Water Marks



Evidence of fluctuating water levels is present, as indicated by sediment-stained leaves, blackened or decaying leaf litter, bare ground along the banks, and vegetation drift lines. These features suggest periodic inundation by the stream

5. Evidence of Scouring

Signs of soil and debris movement (scouring) within the channel were observed. This indicates the erosive power of flowing water

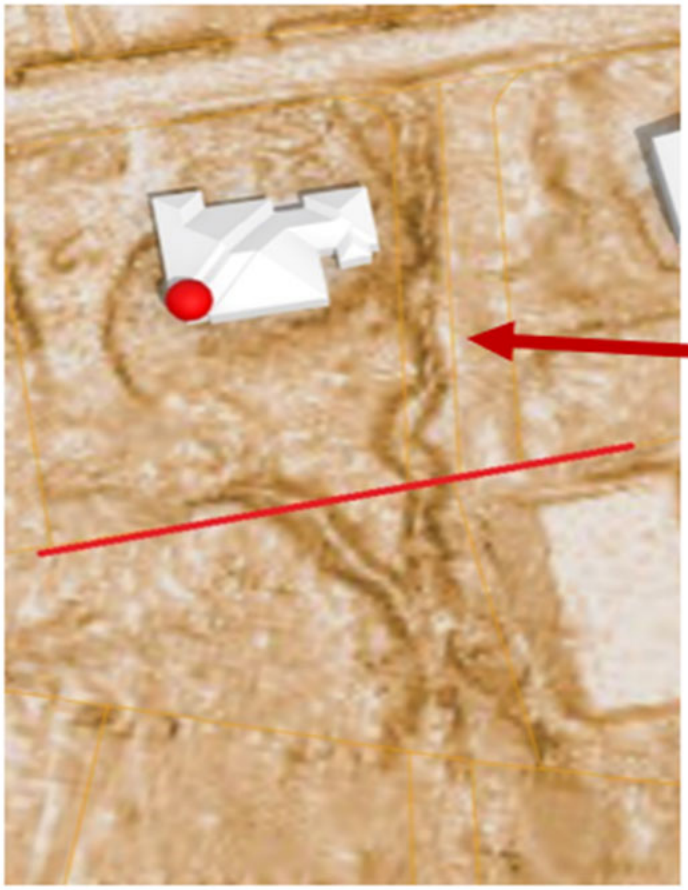
6. Transient Leaf Litter

Transient Leaf Litter: Leaf litter within the channel appears to be transient or temporary, suggesting periodic flushing by stream flows

7. Potential Wetland or Hydrophytic Vegetation

The presence of wetland or hydrophytic (water-loving) vegetation further supports the identification of a stream. Two American Sycamore trees were identified right next to the stream channel.

8. Hydric Soil Indicators



Stream bank soils exhibit hydric indicators at or above the low flow conditions. Hydric soils are formed under conditions of saturation, flooding, or ponding, which is consistent with the presence of a stream

8.a) Underground Water Presence

Physical presence is evidenced by saturated soil or water welling up from the ground. Conditions of saturation, flooding, or ponding, which is consistent with the presence of a stream.

Climatological Data for POTOMAC 0.9 NNW, MD (CoCoRaHS) - December 2022

Date	Precipitation
2022-12-01	0.10
2022-12-02	0.00
2022-12-03	0.22
2022-12-04	0.23

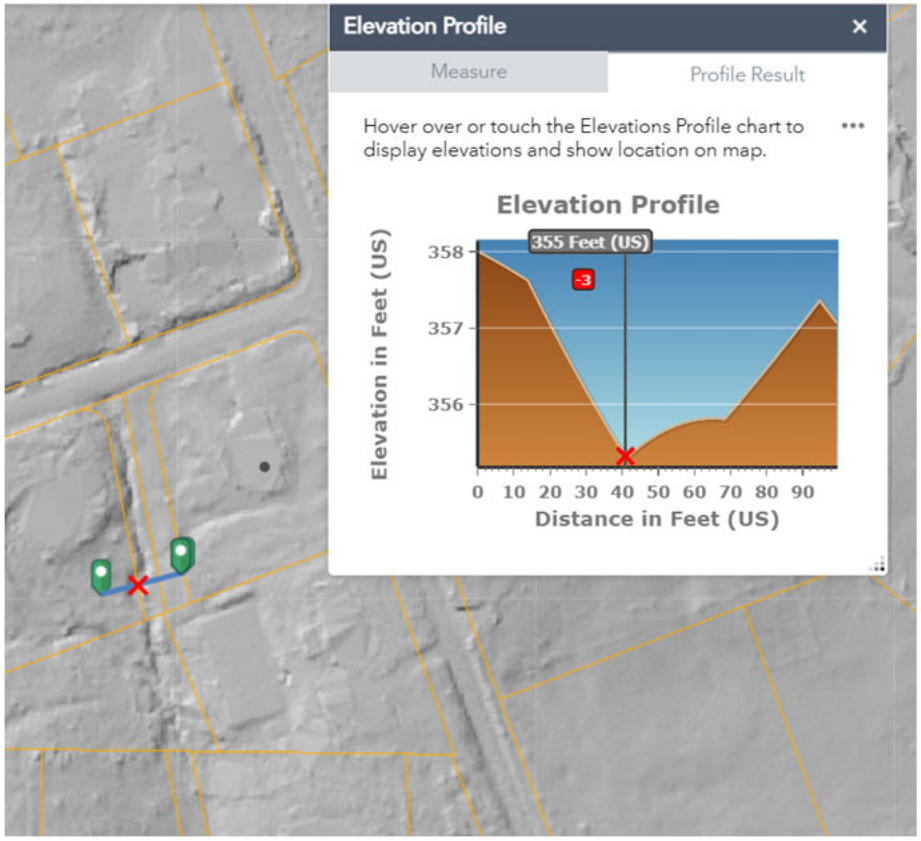
Climatological Data for POTOMAC 0.9 NNW, MD (CoCoRaHS) - November 2022

Date	Precipitation
2022-11-01	0.20
2022-11-02	0.00
2022-11-03	0.00
2022-11-04	0.00
2022-11-05	0.00
2022-11-06	0.05
2022-11-07	0.09
2022-11-08	0.00
2022-11-09	0.00
2022-11-10	0.00
2022-11-11	0.05
2022-11-12	1.13
2022-11-13	0.00
2022-11-14	0.00
2022-11-15	0.00
2022-11-16	1.30
2022-11-17	0.00
2022-11-18	0.00
2022-11-19	0.00
2022-11-20	0.00
2022-11-21	0.00
2022-11-22	0.00
2022-11-23	0.00
2022-11-24	S
2022-11-25	M
2022-11-26	0.12A
2022-11-27	0.00
2022-11-28	0.12
2022-11-29	0.00
2022-11-30	0.17
Sum	3.23
Average	-
Normal	3.27

It had rained a total of 0.27 inches. However, in regular conditions, this amount of rain can evaporate or percolate within just a few hours.

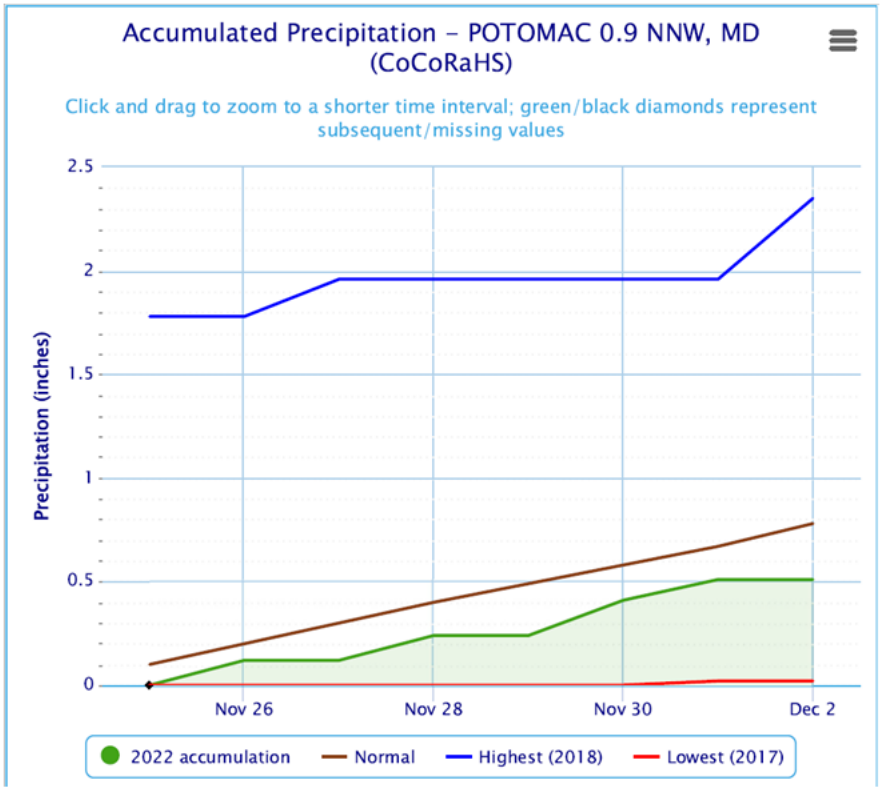
8.a) Underground Water Presence

Physical presence is evidenced by saturated soil or water welling up from the ground. Conditions of saturation, flooding, or ponding, which is consistent with the presence of a stream.



Stream Morphology Analysis, Cross section. Elevation profile 3 ft.

8.a) Underground Water Presence



It had rained a total of 0.27 inches. However, in regular conditions, this amount of rain can evaporate or percolate within just a few hours.

Conditions of saturation, flooding, or ponding, which is consistent with the presence of a stream

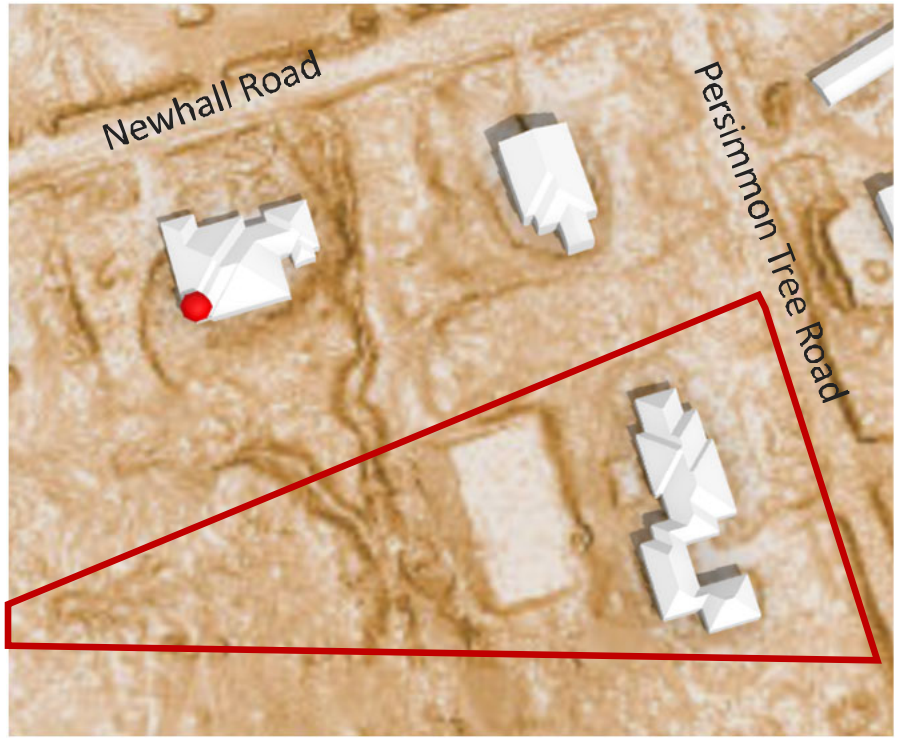
Stream characteristics observed Down Stream at 9306 Persimmon Tree Rd

	Typically Present in Intermittent Streams	
1)	Baseflows present in the channel at least once per year	✓
2)	Sinuous channel	✓
3)	Very well-defined channel banks and bed that include riffles and pools	✓
	Evidence of fluctuating high-water marks, such as sediment-stained leaves, blackened or decaying leaf litter, bare ground, or vegetation drift lines	
	Evidence of soil and debris movement (scouring) in the channel. Leaf litter is transient or temporary in the channel.	
	Wetland or hydrophytic vegetation may be present	
	Stream bank soils with hydric indicators at or above the low flow conditions	
	Seeps, springs, or wetlands may be adjacent to or feed into the stream channel	
	Aquatic fauna present when there is surface flow; during dry periods, signs of the presence of stream biota at other times of the year	
	Algae-covered or water-stained rocks	
	Channel head-cuts at the beginning of intermittent streams may be, but are not always, present	
	Sorted sediments	

1. Baseflows Present

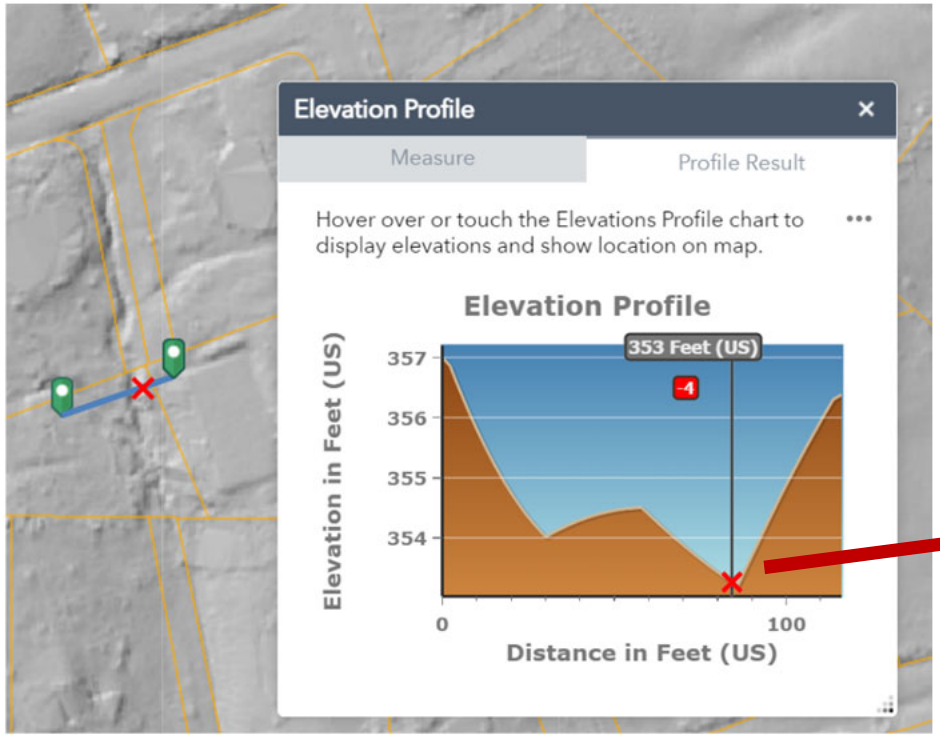
Observed baseflows within the channel indicate the presence of flowing water at least once per year. This suggests a sustained source of water feeding the channel field visit by planning staff on April 25, 2024.

2. Sinuous Channel



The channel exhibits a sinuous (winding) form, typical of streams that have been shaped by flowing water over time

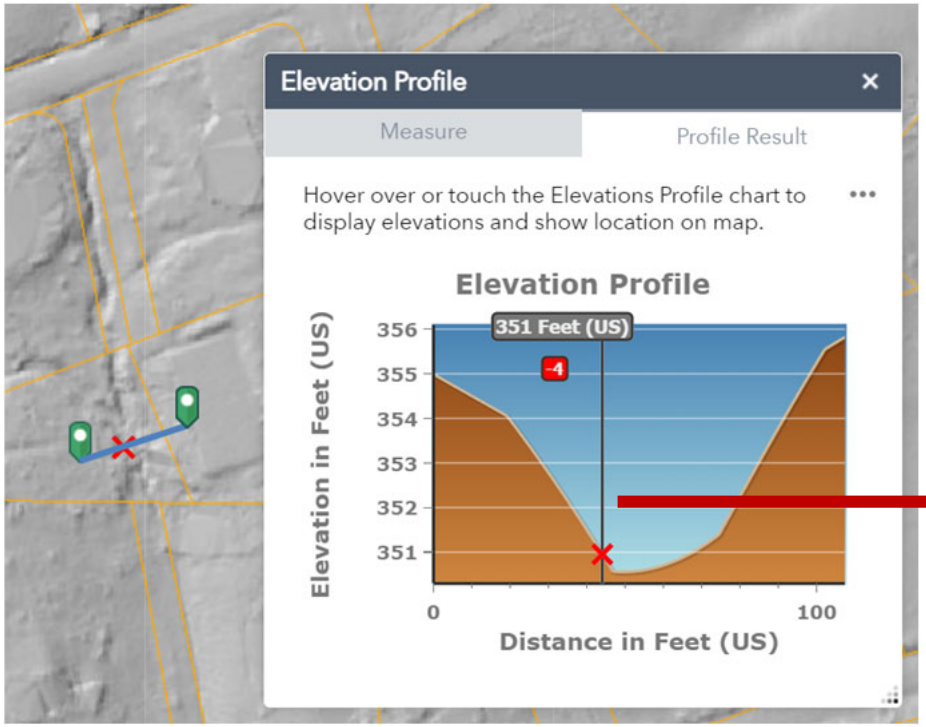
3. Well-Defined Channel Banks and Bed



Stream Morphology Analysis, Cross section.
Elevation profile 4 ft.

The channel possesses clearly defined banks and bed, including riffles (shallow, fast-flowing sections) and pools (deeper, slower-moving sections).

3. Well-Defined Channel Banks and Bed



Stream Morphology Analysis, Cross section.
Elevation profile 4 ft.

The channel possesses clearly defined banks and bed, including riffles (shallow, fast-flowing sections) and pools (deeper, slower-moving sections).

Overview

I. What is an NRI/FSD?

II. What was incorrect about the Applicant's NRI/FSD?

III. What evidence supports that the stream is intermittent?

IV. Why was the Applicant's evidence not persuasive?

IV. Why was the Applicant's evidence not persuasive?

Although MDE did provide input on jurisdictional issues, stream delineation and their associated buffer is solely the responsibility of the Montgomery County Planning Department, using the 2021 Environmental Guidelines.

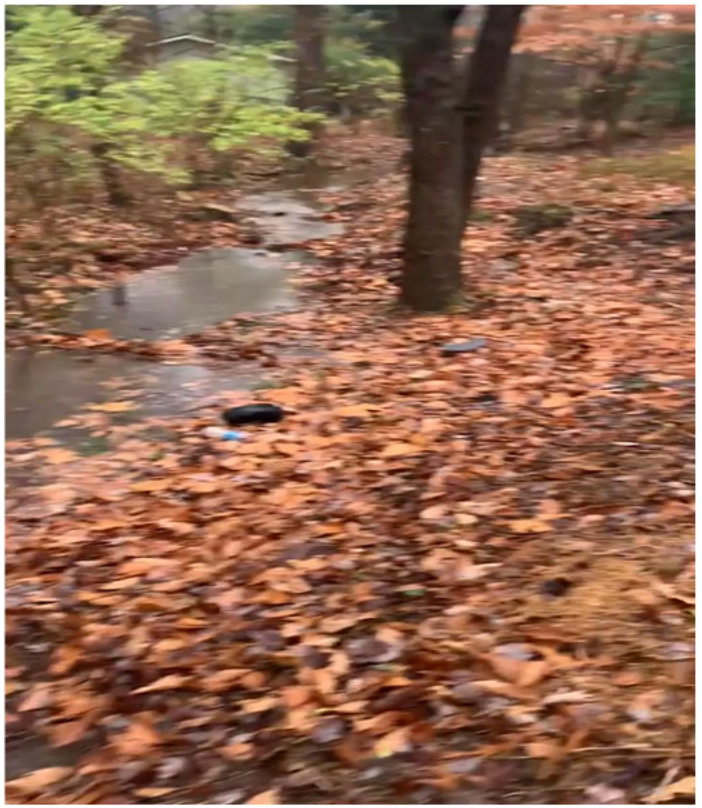
On April 22, 2024, a field investigation at the property located at 9810 Newhall Road revealed evidence of water flow). Notably, the National Weather Service recorded no precipitation in the 96 hours leading up to this observation. Five environmental planners visited the site to confirm the existence of an intermittent stream, following the 2021 Environmental Guidelines.

The stream delineation method used by the consulting companies differs from that used in Montgomery County, which is outlined in the Environmental Guidelines.

Staff identified eight key factors listed on the stream delineation characteristics of the Environmental Guidelines along with underground water presence, topographic and hydrology maps (USGS map) that confirm the presence and the extent of the intermittent stream on the subject property.

Intermittent Stream at 9810 Newhall Rd

Typically Present in Intermittent Streams	
Baseflows present in the channel at least once per year	✓
Sinuous channel	✓
Very well-defined channel banks and bed that include riffles and pools	✓
Evidence of fluctuating high-water marks, such as sediment-stained leaves, blackened or decaying leaf litter, bare ground, or vegetation drift lines	✓
Evidence of soil and debris movement (scouring) in the channel. Leaf litter is transient or temporary in the channel.	✓
Wetland or hydrophytic vegetation may be present	✓
Stream bank soils with hydric indicators at or above the low flow conditions	✓
Seeps, springs, or wetlands may be adjacent to or feed into the stream channel	✓
Aquatic fauna present when there is surface flow; during dry periods, signs of the presence of stream biota at other times of the year	
Algae-covered or water-stained rocks	
Channel head-cuts at the beginning of intermittent streams may be, but are not always, present	
Sorted sediments	



Intermittent streams that typically have ***baseflow at least once per year***. Typically, in the winter and spring, the groundwater table is elevated, increasing the likelihood that the ***groundwater*** level is higher than the bed of a stream channel.

Conclusion

Staff's position is to deny the appeal and uphold the Planning Director's denial of NRI/FSD No. 420240850 for Persimmon Tree Subdivision. The Application does not satisfy all applicable requirements of the Forest Conservation Law, Montgomery County Code, Chapter 22A, and does not comply with the Montgomery County Planning Department's Environmental Guidelines. As discussed above, Planning staff has determined that the Application cannot be approved without revisions to the NRI/FSD to show the presence of an intermittent stream and associated buffer on the property.