pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0267546**
Wastewater Type	**Sewage**	APS ID	**1044575**
Facility Type	**SRSTP**	Authorization ID	**1363777**

NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**Bruce & Nancy Werner**	Facility Name	**Werner SRSTP**
Applicant Address	171 Clemson Drive	Facility Address	171 Clemson Drive
	Carlisle, PA 17013-8891		Carlisle, PA 17013-8891
Applicant Contact	Bruce Werner	Facility Contact	Bruce Werner
Applicant Phone	(717) 385-3889	Facility Phone	(717) 385-3889
Client ID	364579	Site ID	851079
SIC Code	8800	Municipality	Middlesex Township
SIC Description	Private Households	County	Cumberland
Date Application Received	July 29, 2021	WQM Required	Yes
Date Application Accepted	August 11, 2021	WQM App. No.	2121406
Project Description	New SRSTP.		

Summary of Review

This report supports the issuance of an NPDES permit for discharge of treated sewage from a new single residence sewage treatment plant (SRSTP) located in Middlesex Township, Cumberland County. The WQM permit application is also received and the IRR has been prepared separately for the WQM permit.

Based on the review, it is recommended that the NPDES permit be drafted.

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		*Jinsu Kim* Jinsu Kim / Environmental Engineering Specialist	August 11, 2021
X		Daniel W. Martin Daniel W. Martin, P.E. / Environmental Engineer Manager	August 23, 2021

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0004
Latitude	40º 14' 29"	Longitude	-77º 9' 4"
Quad Name		Quad Code	
Wastewater Description:	Treated Sewage		
Receiving Waters	Dry Stream Channel to Conodoguinet Creek (WWF, MF)	Stream Code	See Comments below
NHD Com ID	56405229	RMI	See Comments below
Drainage Area	0.0681 sq.mi.	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	See Comments below	Q_{7-10} Basis	See Comments below
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-B	Chapter 93 Class.	
Existing Use	None	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Organic Enrichment		
Source(s) of Impairment	Unknown		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	PA American Water Co.		
PWS Waters	Conodoguinet Creek	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	14

Drainage Area

The discharge will be to a dry stream channel and then to Conodoguinet Creek. DEP's eMapPA does not provide a specific stream code for this channel nor depicts the stream channel line on the map. DEP's aquatic biologist conducted a Point of First Use Survey (POFU) on May 17, 2021 and observed that the channel was dry at the time of the investigation and very few puddles of water were observed in the area between the proposed discharge point and the downstream road culvert, likely from heavy rains from the previous day. The survey also indicated that from the discharge point, water would flow south towards Clemson Drive and through the roadway culvert. It would then flow east for about 75 meters and turns south, flows about 135 meters to where it meets the Conodoguinet Creek. No definable channel was located while there was some moving surface water throughout this channel. The survey concluded that the channel at the proposed discharge point is intermittent but there is aquatic life to be protected in the UNT to Conodoguinet Creek about 215 meters down-gradient from the proposed discharge. A full POFU document is attached to this fact sheet. A drainage area upstream of this POFU is estimated to be 0.0681 sq.mi. according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow

USGS StreamStats is not able to provide low flow statistics as the drainage area is significantly lower than the minimum value required to be used in regression equation and also stream density is estimated to be 0 miles/sq.mi.

Conodoguinet Creek

The discharge is ultimately to Conodoguinet Creek. Under 25 Pa Code §93.9o, the entire basin of Conodoguinet Creek and unnamed tributaries of Conodoguinet Creek between PA 997 at Roxbury to Mouth are designated as warm water fishes and support migratory fishes. No special protection water will therefore be impacted by this discharge. No Class A Wild Trout Fishery will be impacted by this discharge. Based on DEP's 2020 integrated water quality report, Conodoguinet Creek near the proposed discharge point is impaired for organic enrichment as a result of unknown source. No TMDL has yet been developed to address this impairment.

Public Water Supply Intake

Based on eMapPA, the nearest downstream public water supply intake is PA American Water Co. located on the Conodoguinet Creek approximately 14 miles from the proposed discharge. Given the distance and nature, the proposed discharge is not expected to impact the water supply.

Compliance History	
Summary of DMRs:	This is a new NPDES permit; therefore, no AMR is available for review.
Summary of Inspections:	There is no open violation associated with this facility or permittee.

Treatment Facility Summary

The proposed treatment system will be located in Middlesex Township, Cumberland County (171 Clemson Drive, Carlisle, PA 17013). The proposed treatment system will serve a single residence unit including an existing 3-bedroom house with additional 2-bedroom suite attached to the existing 3-bedroom house (800 GPD) and will consist of a 2,000-gallon two (2) compartment septic tank, 500-gallon dosing tank, buried sand filter, 1,000-gallon chlorine contact tank with tablet chlorinator and outfall. The details of the proposed system are described in the Internal Review and Recommendation (IRR) report for the WQM permit application. The Official Act 537 Plan Revision was approved on June 3, 2021 (no. A3-21915-244-3S).

Development of Effluent Limitations and Monitoring Requirements

The proposed effluent limitations and monitoring requirements are derived from DEP's Standard Operating Procedure (SOP) for New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications (SOP No. BPNPSM-PMT-003).

Facilities that are designed based on a flow of less than 2,000 GPD or considered as SRSTPs are exempt from the Bay requirements. Accordingly, it is not necessary for the permittee to perform nutrient monitoring.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Annual Average	Maximum	Instant. Maximum		
Flow (MGD)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Estimate
TRC	XXX	XXX	XXX	Report Avg Mo	XXX	XXX	1/month	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20	1/year	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	1000	1/year	Grab

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection

May 17, 2021
Stream Code: 10194
Stream File: 2.21.0

SUBJECT: **Point of First Use Survey**
UNT to Conodoguinet Creek
Bruce Werner SFTF
Middlesex Township, Cumberland County

TO: **Mike McNulty**
Clean Water Program

FROM: **Andrew Blascovich**
Aquatic Biologist 2
Clean Water Program

As requested, I investigated a proposed discharge point for a proposed small flow treatment facility (SFTF) to an unnamed tributary (UNT) to Conodoguinet Creek in Middlesex Township, Cumberland County. The proposed sewage flow is 800 gallons per day. The property is located at 171 Clemson Drive in Carlisle, PA. Access to the property is from the single-family residence driveway. See Figure 1. Bruce Werner Location Map Point of First Use Survey for the property location.

This part of the Condoguinet Creek basin has a designated protected use of warm water fishes (WWF) and migratory fishes (MF) under Title 25 of the Pennsylvania Code, Chapter 93. The 2020 integrated water quality monitoring and assessment report indicates this portion of Conodoguinet Creek is attaining the Recreational Life Use, but Aquatic Life Use is impaired by organic enrichment and organic enrichment/oxygen depletion from an unknown source as of the last assessment.

On 6 May 2021 the subject site was accessed from the residence as previously described. Permission to enter the property followed coordination with the property owner. The plan (by Grant A Marshall) provided to me indicates the proposed discharge will be in a UNT approximately 125 feet (according to plan scale) north of Clemson Drive near the eastern end of the property on the landowner's property. There is a channel, though mediocre, at this location. The channel was dry at the time of my investigation. Very few puddles of water were observed in the area between the proposed discharge point and the downstream road culvert, likely from heavy rains from the previous day.

Mr. Werner directed me to this location and described the flow path of water that leads to the Conodoguinet Creek. From the proposed discharge point, water would flow south towards Clemson Drive and through the roadway culvert. It would then flow east for about 75 meters where it then turns south and flows for about 135 meters to where it meets the Conodoguinet Creek. From the roadway culvert to the point at which the path turns south there was some moving surface water, but I could not locate a definable channel (with bed and banks). At a point about 75 meters east of the roadway culvert there is a defined channel which contained some flow. Substrate

consisted primarily of silt, sand, or gravel. I followed this channel to where it flows into the Conodoguinet Creek.

I was able to perform two kick net samples in the UNT in the wooded area between Clemson Drive and the Conodoguinet Creek, about 100 meters south of Clemson Drive. The kick samples resulted in finding only Amphipods (i.e. scuds) and Hirudinea (i.e. leeches). The instream and riparian habitat of this UNT is of poor quality and is likely extremely limited by flow conditions. The sampling and site conditions are depicted in Images 1 through 10. Figure 2 is a location map with imagery, and Figure 3 illustrates the sampling location and other features (Carlisle, PA Quadrangle; N: 40.240052, W: -77.150362).

In summary, the channel at the proposed discharge point is clearly intermittent, but there is aquatic life to be protected in the UNT to Conodoguinet Creek about 215 meters down-gradient from the proposed discharge. Based on the lack of a robust and diverse macroinvertebrate community and flow conditions on this date, it is not likely that there is continuous surface flow year-round, especially during dry periods, in this channel.

cc: Tim Wagner
Kristen Bardell

Figure 1. Bruce Werner Location Map
Point of First Use Survey

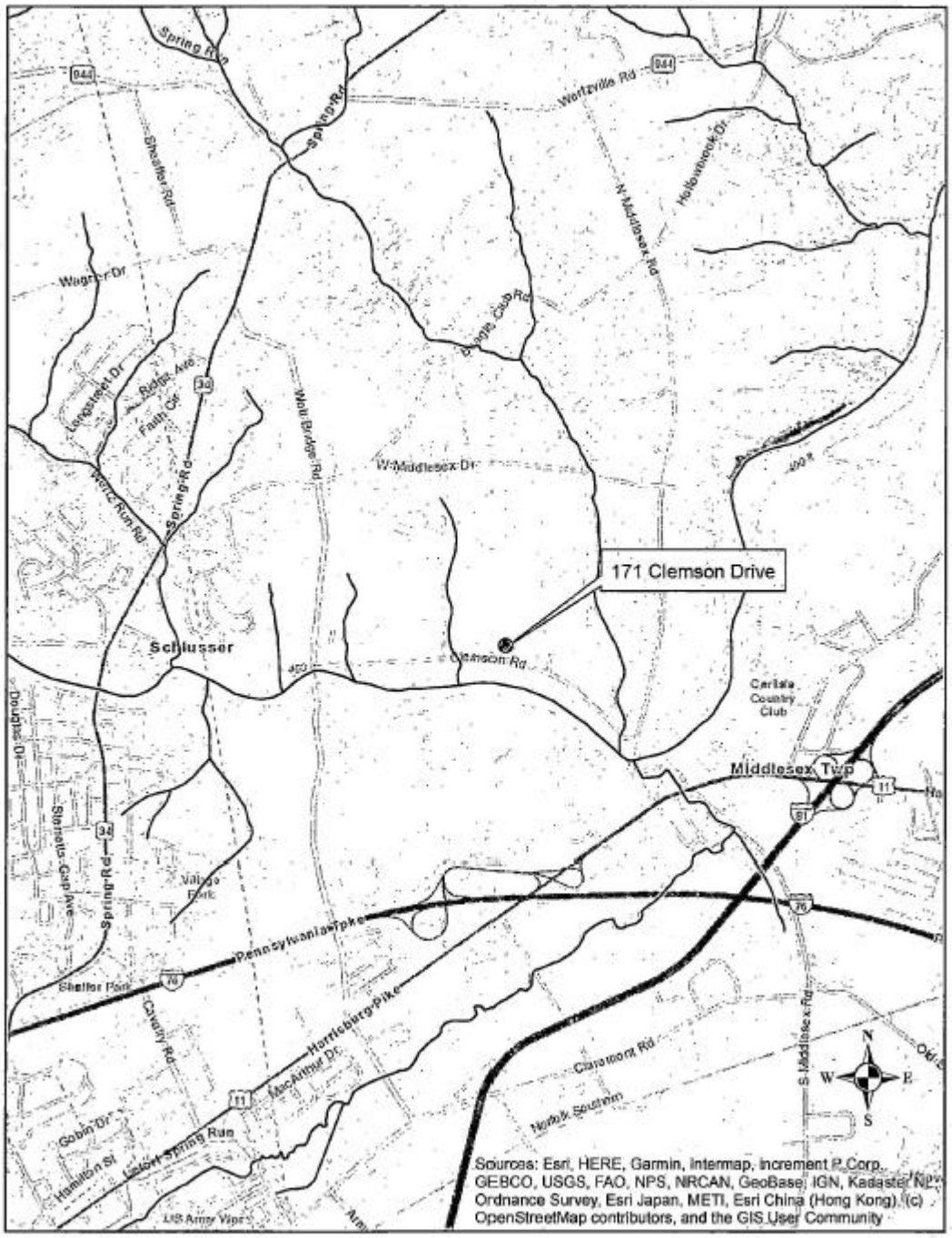


Figure 2. Imagery Location Map Point of First Use Survey

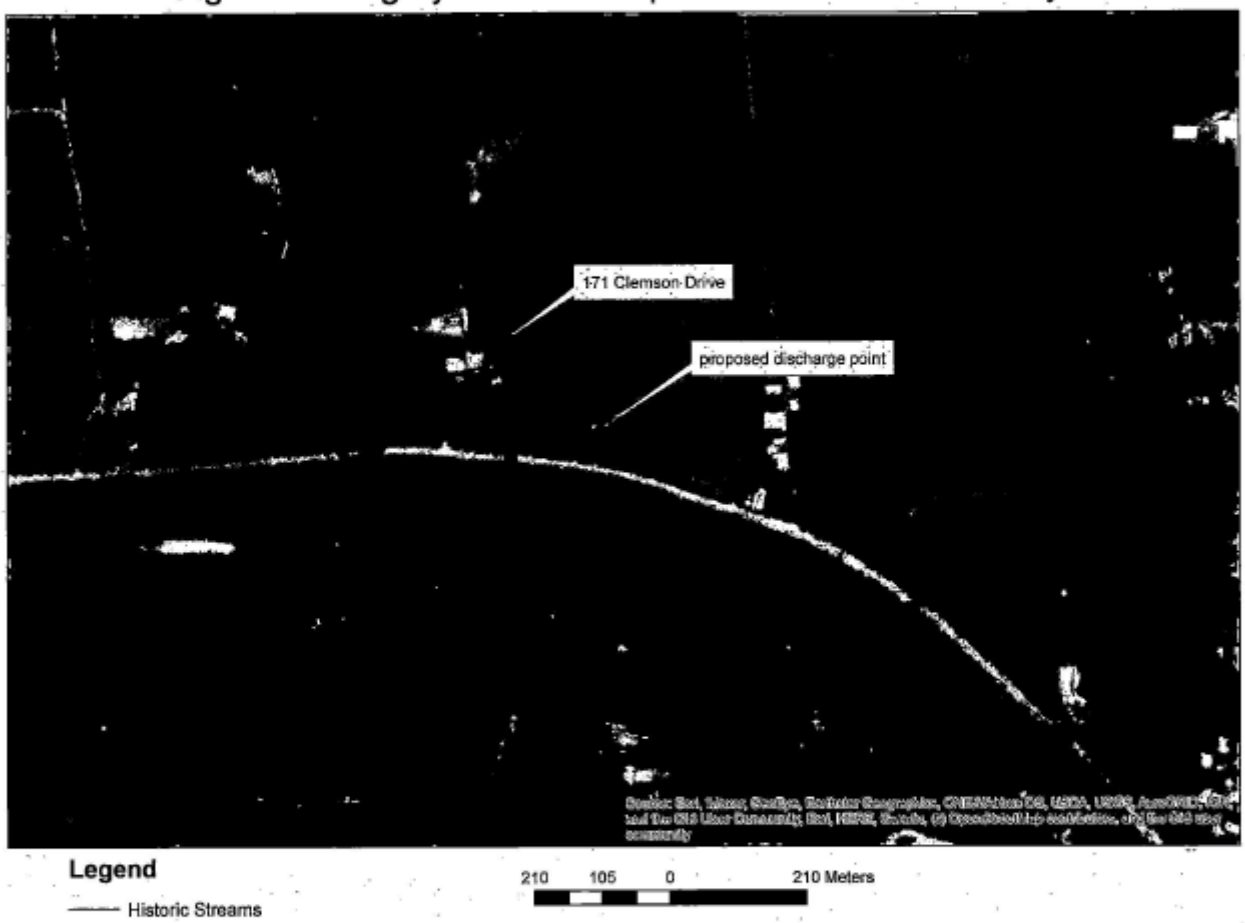
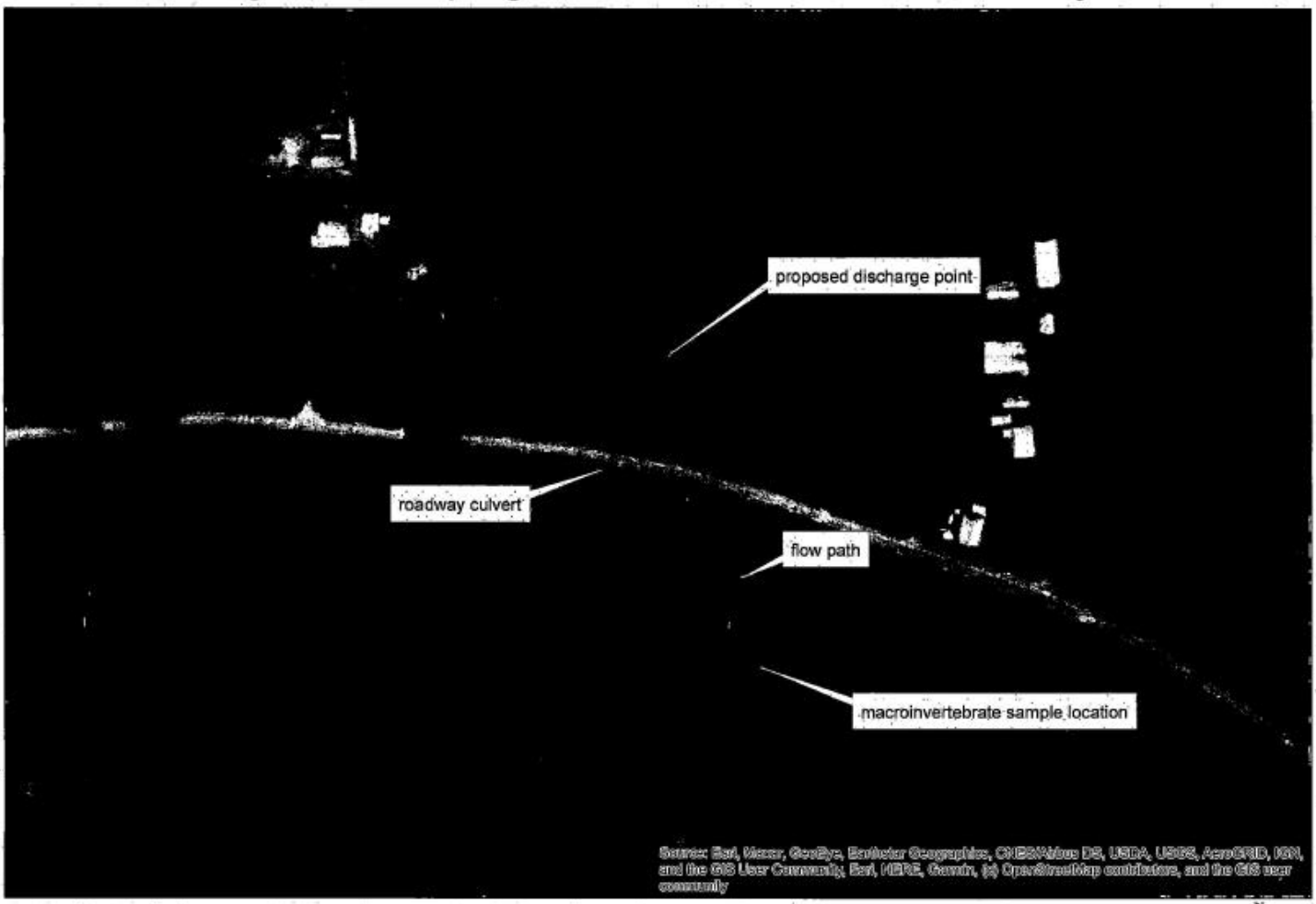


Figure 3. Sampling Location Point of First Use Survey



Project: Werner POFU, Cumberland County	Date: 6 May 2021 Photos taken by: A. Blascovich

Image 1: area of proposed discharge, facing south (truck at Clemson Drive)

Image 2: dry stream channel at proposed discharge point area

Project: Werner POFU, Cumberland County	Date: 6 May 2021 Photos taken by: A. Blascovich

Image 3: Clemson Drive roadway culvert, view of upstream end

Image 4: about 75 meters east and south of Clemson Drive culvert

Project: Werner POFU, Cumberland County	Date: 6 May 2021 Photos taken by: A. Blascovich

Image 5: view of channel facing south toward Conodoguinet Creek (far wood line)

Project: Werner POFU, Cumberland County	Date: 6 May 2021 Photos taken by: A. Blascovich

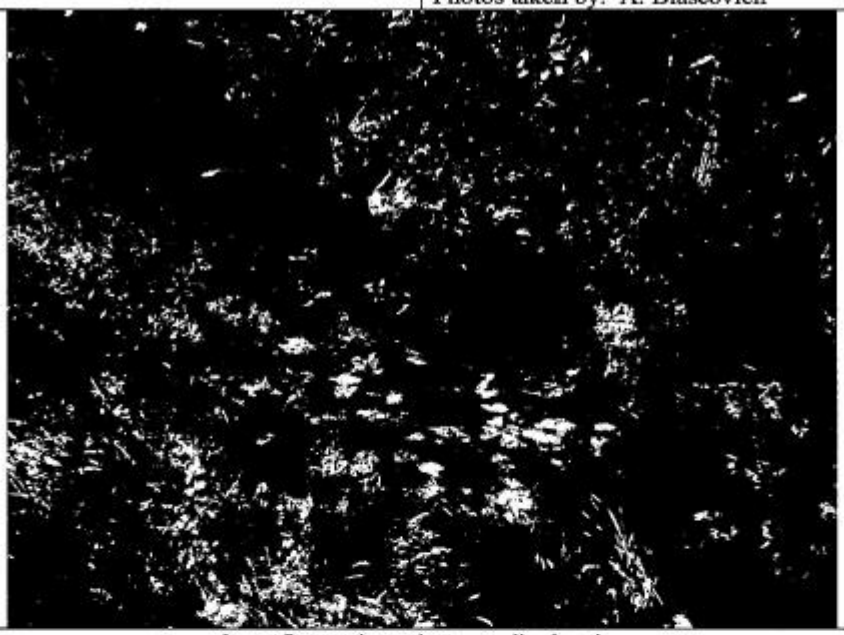


Image 7: macroinvertebrate sampling location

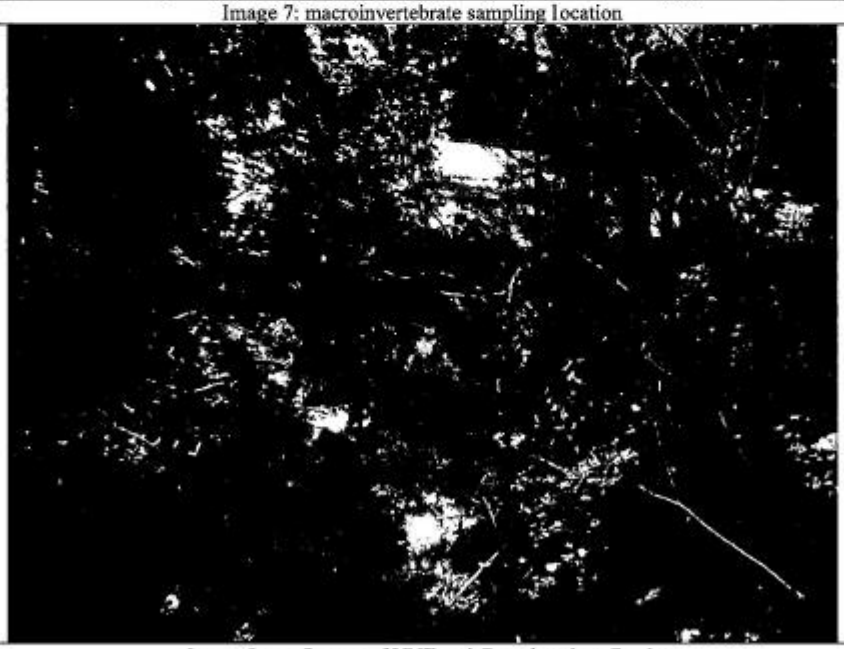


Image 8: confluence of UNT and Conodoguinet Creek

Project: Werner POFU, Cumberland County	Date: 6 May 2021 Photos taken by: A. Blascovich

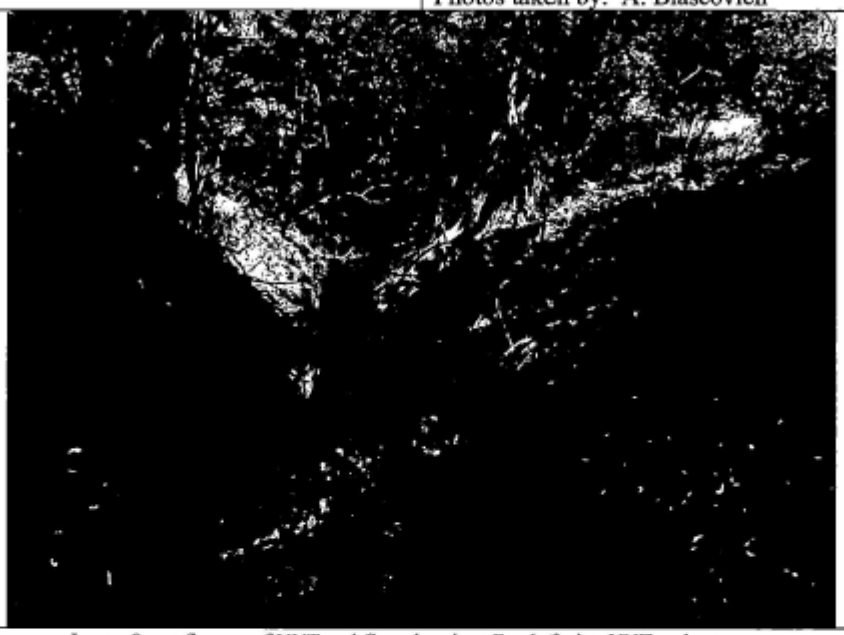


Image 9: confluence of UNT and Conodoguinet Creek facing UNT and upstream

Image 10: standing along Clemson Drive (south side of roadway), sampling gear in approximate flow path of surface water

StreamStats Report

Region ID: PA
Workspace ID: PA20210811125226884000
Clicked Point (Latitude, Longitude): 40.24037, -77.15039
Time: 2021-08-11 08:52:45 -0400

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0681	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	0	miles per square mile
ROCKDEP	Depth to rock	5	feet
CARBON	Percentage of area of carbonate rock	0	percent

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0681	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	0	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit

Low-Flow Statistics Citations

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2