

 Application Type
 Renewal

 Wastewater Type
 Sewage

 Facility Type
 SRSTP

NPDES PERMIT FACT SHEET INDIVIDUAL SFTF/SRSTP

Application No.PA0057339APS ID999653Authorization ID1284340

Applicant, Facility and Project Information

Applicant Name	Brian & Cheryl Davidson	Facility Name	Davidson Properties		
Applicant Address	209 Poplar Road	Facility Address	209 Poplar Road		
	Honey Brook, PA 19344-1349		Honey Brook, PA 19344-1349		
Applicant Contact	Brian Davidson	Facility Contact	Brian Davidson		
Applicant Phone	(610) 273-9285	Facility Phone	(610) 273-9285		
Client ID	111194	Site ID	466303		
SIC Code	8811	Municipality	Honey Brook Township		
SIC Description	Services - Private Households	County	Chester		
Date Application Received August 1, 2019		WQM Required			
Date Application Accepted		WQM App. No.			
Project Description	Permit Renewal				

Summary of Review

This application is for renewal of an Individual NPDES permit to discharge 500 gallons per day (gpd) of treated sewage from the Davidson Single Residence Sewer Treatment Plant (SRSTP) to West Branch Brandywine Creek, which is designated as High Quality – Trout Stocking Fishes (HQ-TSF), Migratory Fishes (MF) and is in the Brandywine watershed (3H).

The SRSTP is an existing Norweco Singulair Model 900 with pretreatment, aeration, final clarification, sand filter, and chlorination. Chlorination is via sodium hypochlorite solution dosed by a metering pump. The Water Quality Management Part II permit is permit number 1597416.

No changes to the effluent limitations are proposed for this renewal. Effluent limitations are based on Total Maximum Daily Loads, Antidegradation Best Available Control Technology, and Standard Operating Practices. The sampling frequency for CBOD₅ and Ammonia seasonal monitoring was changed from 1/year to upon request for the Nov.1 to Apr 30 sampling period. The monitoring frequency is 1/year for CBOD₅ and ammonia which will be collected during the stricter effluent period of May 1 to Oct. 31 (further discussed below). Several parameters were not monitored during the 5-year effective period (discussed further in the Compliance History section) which were required and will remain required for this renewal.

Public Participation

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*

Approve	Deny	Signatures	Date		
		Harmonie Hawley, PHD, PE / Environmental Engineering Specialist	August 29, 2019		
		Pravin C. Patel, P.E. / Environmental Engineer Manager			

Summary of Review

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.

Act 14 Notifications:

Chester County Commissioners - July 12, 2019 Honey Brook Township - July 16, 2019

The draft permit was sent to the permittee.

Proposed Part C Conditions:

- A. AMR to DEP
- B. DMR to DEP if Attached
- C. 1/year Measure Depth of Septage and Scum
- D. Septic Tanks Pumped Once Every Three Years
- E. Total Residual Chlorine Requirement
- F. No Stormwater
- G. Necessary Property Rights
- H. Proper Sludge Disposal
- I. Abandon STP when Municipal Sewers Available

NPDES Permit Fact Sheet Davidson Properties

Discharge, Receiving	Waters and Water Supply Informati	on			
Outfall No. 001		Design Flow (MGD)	0.0005		
Latitude 40° 6'	Latitude 40° 6' 28.17"		-75º 54' 59.43"		
Quad Name Honey Brook		Quad Code	1838		
Wastewater Descrip	tion: Sewage Effluent				
	West Branch Brandywine Creek				
Receiving Waters	(HQ-TSF, MF)	Stream Code	00085		
NHD Com ID	26091464	RMI	53.0400		
Drainage Area	0.3	Yield (cfs/mi ²)	0.1		
Q7-10 Flow (cfs)	0.03	Q7-10 Basis	Pennsylvania Stream Stats		
Elevation (ft)	851	Slope (ft/ft)	0.042		
Watershed No.	03H	Chapter 93 Class.	HQ-TSF, MF		
Existing Use		Existing Use Qualifier			
Exceptions to Use		Exceptions to Criteria			
Assessment Status	Impaired				
Cause(s) of Impairm	ent Nutrients; Siltation				
Source(s) of Impairn	nent Agriculture				
TMDL Status Final, July 2006		Name Christina Riv	/er Basin		

Changes Since Last Permit Issuance: None

Other Comments: None

Compliance History			
Summary of DMRs:	This facility submits Annual Monitoring Reports (AMRs) and laboratory reports.		
Summary of Inspections:	The site was inspected on 07/30/2018 and no violations were noted.		

Other Comments: The lab results submitted for the 2014 to 2019 permit period do not contain results for all the parameters listed in the permit. While the permit effective from February 1, 2009 to January 31, 2014 only required NH₃-N, DO and pH analysis "upon request", the subsequent permit effective July 1, 2014 to June 30, 2019 (the 2014 permit) requires testing for these parameters once per year (which is consistent with Standard Operating Procedures discussed on the following page). In addition, TN and TP were added to the 2014 permit to be monitored once per year. Results for these five (5) parameters were not submitted with the AMRs for the years 2014 through 2019. TN and TP were added to the 2014 permit for data collection and for future implantation of Total Maximum Daily Loads (TMDLs). The updates to the 2014 permit renewal were stated on the Fact Sheet corresponding to the 2014 permit renewal.

The SRSTP discharges into the West Branch Brandywine Creek which is designated as High Quality – Trout Stocking Fishes (HQ-TSF), Migratory Fishes (MF), and is part of the Christina River Basin for which a Total Maximum Daily Load (TMDL) exists. The effluent limitations from the previous NPDES permit for this facility, PA0057339 effective July 1, 2014, were retained for this renewal.

This facility is listed for Waste Load Allocations (WLA) for low flow (document: EPA, Total Maximum Daily Loads of Nutrients and Dissolved Oxygen Under Low-Flow Conditions in the Christina River Basin, Pennsylvania, Delaware and Maryland, January 19, 2001; Revised October 2002; revised April 2006). The TMDLs are for nutrients and dissolved oxygen under low-flow conditions and are listed in Table 13: TMDL Summary for Brandywine Creek West Branch. The WLA found in Table 13 for CBOD₅ and NH₃-N are 25 mg/l and 30 mg/l, respectively. The TMDL did not require reductions to existing effluent limits for SRSTPs.

The facility is listed for WLA for high flow (document: EPA, Revisions to Total Maximum Daily Loads for Nutrient and Low Dissolved Oxygen Under High Flow Conditions Christina River Basin, Pennsylvania, Delaware, and Maryland, September 2006). The TMDL for nutrients and low dissolved oxygen under high-flow conditions in the Christina River Basin are found in Tables 1-5 and 2-2. The limitations are 25 mg/l for CBOD₅, 10 mg/l for NH₃-N and 10 mg/l for TP. The limit for DO is 6 mg/l as a daily average.

The Brandywine Creek is listed as HQ-TSF and as such the DEP's Antidegradation Policy is applicable to this site. The existing average monthly effluent limitations of CBOD₅ (10 mg/l), NH₃-N (1.5 mg/l) and DO (6.0 mg/l), with appropriate seasonal limitations, were based on Antidegradation Best Available Combination of Technologies (ABACT). The average monthly effluent limit for TSS is 20 mg/l per ABACT. The ABACT limitations are more stringent than the TMDL for CBOD₅ and NH₃N.

The existing limitations for CBOD₅, NH₃-N, and DO will remain in this permit renewal.

The current average monthly limits for TSS of 10 mg/l will remain in the permit for it is more stringent than the TMDL or the ABACT. The Fecal Coliform limit will remain the same in this permit renewal (200 cfu/100 ml). Both constituent limitations are consistent with the Standard Operating Procedure (SOP) for Clean Water Program New and Reissuance Small Flow Treatment Facility Individual NPDES Permit Applications (SOP No. BCW-PMT-003), Final November 9, 2012; Revised May 17, 2019, Version 1.8, pages 7 to 8.

Existing effluent limits for pH (6 – 9 STD units) will continue in this permit renewal.

Monitoring for Total Nitrogen (TN) and Total Phosphorus (TP) was added to this permit in the 2014 renewal for data collection and future implementation of the TMDL WLA. The WLA for TN and TP are 40 mg/l and 10 mg/l, respectively. The same monitoring requirements for TN and TP will be retained for the renewed permit.

A limit of 1.0 mg/l for Total Residual Chlorine (TRC) was added to the 2014 permit with a monitoring frequency of once per month.

Minimum measuring frequency for all permit parameters, other than TRC, will be required once per year in accordance with the aforementioned SOP (No. BCW-PMT-003). The CBOD₅ and NH₃-N effluent limitations have seasonal limits. As the seasonal limits are more restrictive for the May 1 to Oct 31 sampling period, the sample must be taken during that time period. The monitoring frequency for the Nov 1 to Apr 30 was reduced to Upon Request (previously the monitoring was 1/year).

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.

	Effluent Limitations				Monitoring Requirements			
Parameter	Mass Units (Ibs/day) ⁽¹⁾			Concentrations (mg/L)			Minimum ⁽²⁾	Required
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (GPD)	Report Daily Avg	XXX	XXX	XXX	XXX	XXX	1/year	Estimate
pH (S.U.)	XXX	XXX	6 Inst Min	XXX	XXX	9	1/year	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/year	Grab
TRC	xxx	XXX	XXX	xxx	1.0 Daily Max	XXX	1/month	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	20.0 Annl Avg	XXX	40	Upon Request	Grab
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	10	XXX	20	1/year	Grab
TSS	XXX	XXX	ххх	10	xxx	20	1/year	Grab
Fecal Coliform (CFU/100 ml)	XXX	XXX	ххх	200	xxx	1000	1/year	Grab
Total Nitrogen	xxx	XXX	XXX	Report	xxx	xxx	1/year	Grab
Ammonia Nov 1 - Apr 30	xxx	XXX	xxx	4.5	xxx	9	Upon Request	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	xxx	3	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	ххх	1/year	Grab

Compliance Sampling Location: Outfall 001

Other Comments: The CBOD₅ and NH₃-N effluent limitations have seasonal limits. As the seasonal limits are more restrictive for the May 1 to Oct 31 sampling period, the sample must be taken during that time period. The monitoring frequency for the Nov 1 to Apr 30 was reduced to Upon Request (previously the monitoring was 1/year) from the previous permit.