pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Southwest Regional Office**
**CLEAN WATER PROGRAM**

| | | | |
|---|---|---|---|
| Application Type | **New** | Application No. | **PA0253774** |
| Wastewater Type | **Sewage** | APS ID | **640548** |
| Facility Type | **SFTF** | Authorization ID | **1331145** |

# NPDES PERMIT FACT SHEET
# INDIVIDUAL SFTF/SRSTP

## Applicant, Facility and Project Information

| | | | |
|---|---|---|---|
| Applicant Name | **Hill Properties, LLC** | Facility Name | **Hill Properties LLC SFTF** |
| Applicant Address | 47866 Y And O Road | Facility Address | 300 Alton Hill Drive |
| | East Liverpool, OH 43920-8724 | | Eighty-Four, PA 15330 |
| Applicant Contact | Jared Williams | Facility Contact | Same as Applicant |
| Applicant Phone | (866) 422-8680 | Facility Phone | Same as Applicant |
| Client ID | 261202 | Site ID | 681494 |
| SIC Code | 9999 | Municipality | Somerset Township |
| SIC Description | Public Admin. - Nonclassifiable Establishment | County | Washington |
| Date Application Received | October 20, 2020 | WQM Required | N/A |
| Date Application Accepted | October 22, 2020 | WQM App. No. | |

Project Description: Application for Renewal of NPDES Permit.

## Summary of Review

The permittee has applied for a renewal of NPDES Permit No. PA0253774. NPDES Permit No. PA253774 was previously issued by the PA Department of Environmental Protection (DEP) on September 15, 2015. That permit expired on September 30, 2020.

The renewal application was submitted after the permit expiration date. DEP did not renew the permit as it had expired; instead a new permit is being issued. DEP sent the permittee a Late Application Return Letter that listed instructions for the permittee to follow, including an increased fee appropriate for a new application. The same permit number will be retained to be consistent with the history of the permitting process

The existing treatment process consists of two 1000-gallon septic tanks, a concrete distribution box, two ecoflo STB-650 peat based biofilters in parallel, and a Scalor 3G 6-gpm UV disinfection unit.

The applicant does not use eDMR and current policy does not require eDMR to be used for SFTFs

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

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | Stephanie Conrad / Environmental Engineering Specialist | March 17, 2021 |
| X | | Donald J. Leone, P.E. / Environmental Engineer Manager | March 30, 2021 |

| **Summary of Review** |
| --- |
| 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. |

Discharge and Stream Data – 2 - Receiving Waters and PWS

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 001 | Design Flow (MGD) | 0.0007 |
| Latitude | 40º 10' 1.56" | Longitude | -80º 5' 2.85" |
| Quad Name | | Quad Code | |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | North Branch Pigeon Creek (WWF) | Stream Code | 39679 |
| NHD Com ID | 99409828 | RMI | 5.5 |
| Drainage Area | 1.9 | Yield (cfs/mi$^2$) | 0.0651 |
| $Q_{7-10}$ Flow (cfs) | 0.1237 | $Q_{7-10}$ Basis | Bulletin #12, Pigeon Creek @ Monongahela PA, STA # 03075040 |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 19-C | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Impaired | | |
| Cause(s) of Impairment | HABITAT ALTERATIONS, SILTATION, SILTATION, SILTATION | | |
| Source(s) of Impairment | AGRICULTURE, HIGHWAY/ROAD/BRIDGE RUNOFF (NON-CONSTRUCTION RELATED), RURAL (RESIDENTIAL AREAS), SITE CLEARANCE (LAND DEVELOPMENT OR REDEVELOPMENT) | | |
| TMDL Status | | Name | |

| Background/Ambient Data | | Data Source |
|---|---|---|
| pH (SU) | | |
| Temperature (°F) | | |
| Hardness (mg/L) | | |
| Other: | | |

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | PA-American Water Company located on Monongahela River | | |
| PWS Waters | | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | |

Changes Since Last Permit Issuance: None

Other Comments:

| Compliance History | |
|---|---|
| | |
| **Summary of DMRs:** | |
| **Summary of Inspections:** | |

Other Comments: A compliance check was requested on March 5, 2021 and the results are pending.

## Development of Effluent Limitations

**Outfall No.** 001 **Design Flow (MGD)** 0.0007
**Latitude** 40º 10' 1.56" **Longitude** -80º 5' 2.85"
**Wastewater Description:** Sewage Effluent

### Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

| Pollutant | Limit (mg/l) | SBC | Federal Regulation | State Regulation |
|---|---|---|---|---|
| $CBOD_5$ | 25 | Average Monthly | 133.102(a)(4)(i) | 92a.47(a)(1) |
| | 40 | Average Weekly | 133.102(a)(4)(ii) | 92a.47(a)(2) |
| Total Suspended Solids | 30 | Average Monthly | 133.102(b)(1) | 92a.47(a)(1) |
| | 45 | Average Weekly | 133.102(b)(2) | 92a.47(a)(2) |
| pH | 6.0 – 9.0 S.U. | Min – Max | 133.102(c) | 95.2(1) |
| Fecal Coliform (5/1 – 9/30) | 200 / 100 ml | Geo Mean | - | 92a.47(a)(4) |
| Fecal Coliform (5/1 – 9/30) | 1,000 / 100 ml | IMAX | - | 92a.47(a)(4) |
| Fecal Coliform (10/1 – 4/30) | 2,000 / 100 ml | Geo Mean | - | 92a.47(a)(5) |
| Fecal Coliform (10/1 – 4/30) | 10,000 / 100 ml | IMAX | - | 92a.47(a)(5) |
| Total Residual Chlorine | 0.5 | Average Monthly | - | 92a.48(b)(2) |

Comments: The discharge was previously modeled using WQAM63 to evaluate the $CBOD_5$, Ammonia Nitrogen and Dissolved Oxygen parameters. Because there have been no changes to the discharge or the receiving stream, it is unnecessary to remodel those parameters using the current WQM 7.0 model. The attached modeling results show technology based effluent limitations for $CBOD_5$ are appropriate. The modeling results also confirm that Ammonia-Nitrogen and Dissolved Oxygen limitations are not necessary to meet in-stream water quality criterion. Limitations for Total Suspended Solids, pH, and Fecal Coliform are not evaluated using WQAM63. The basis for those proposed technology-based limitations are listed in the table above.

### Additional Considerations:

Ultraviolet (UV) disinfection is used therefore Total Residual Chlorine (TRC) limits are not applicable. Current policy does not require SFTFs to monitor for UV Intensity.

Sewage discharges with design flows < 2,000 gpd are not required to monitor for Ammonia-Nitrogen, Total Nitrogen, and Total Phosphorus in new and reissued permits.

## 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 | Average Monthly | Maximum | Instant. Maximum | | |
| Flow (MGD) | 0.0007 | XXX | XXX | XXX | XXX | XXX | 1/month | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Inst Min | XXX | XXX | 9.0 | 1/month | Grab |
| CBOD5 | XXX | XXX | XXX | 25.0 | XXX | 50.0 | 1/month | Grab |
| TSS | XXX | XXX | XXX | 30 | XXX | 60 | 1/month | Grab |
| Fecal Coliform (No./100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2000 Geo Mean | XXX | 10000 | 1/month | Grab |
| Fecal Coliform (No./100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | 1000 | 1/month | Grab |

Compliance Sampling Location: Outfall 001

Other Comments:

FILE: c:\wqam63\untitled.wqm
Small Flow Discharge to N. Branch Pigeon Creek WP

Default Data

a. Stream Values

| | | |
|---|---|---|
| 1 | Q1-10/Q7-10 ratio | .64 |
| 2 | Q30-10/Q7-10 ratio | 1.36 |
| 3 | Temperature | 25 |
| 4 | pH | 7 |
| 5 | C-BOD5 | 2 |
| 6 | NH3-N | .1 |
| 7 | D.O. Saturation (%) | .85 |
| 8 | D.O. Goal | 5 |
| 9 | Width/Depth ratio | 10 |
| 10 | KC...(Headwaters only!) | 0 |
| 11 | KN | .6 |

b. Discharge Values (30-day avgs.)

| | | |
|---|---|---|
| 12 | C-BOD5 | 25 |
| 13 | NH3-N | 25 |
| 14 | Effluent D.O. | 3 |
| 15 | Effluent Temp | 20 |
| 16 | KC | 1.5 |
| 17 | Balanced Technology(1=y 0=no) | 0 |

FILE: c:\wqam63\untitled.wqm
Small Flow Discharge to N. Branch Pigeon Creek WP

REACH # 1
Headwaters and Tributary data

No. of Reaches : 1

| Rh | Q7-10 (cfs) | T (c) | pH (su) | DO (mg/l) | CBOD5 (mg/l) | NH3-N (mg/l) |
|---|---|---|---|---|---|---|
| HW | 0.1240 | 25 | 7 | 7.12 | 2 | .1 |
| 1 | 0.0000 | | | | | |

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Small Flow Discharge to N. Branch Pigeon Creek WP

Stream Characteristics

| Rh | Q7-10 (cfs) | T (c) | pH (su) | DO (mg/l) | CBOD5 (mg/l) | NH3-N (mg/l) |
|---|---|---|---|---|---|---|
| 1 | .12 | 25 | 7 | 7.12 | 2 | .1 |

Q 1-10/Q 7-10 = .64
Q 30-10/Q 7-10 = 1.36

FILE: c:\wqam63\untitled.wqm
Small Flow Discharge to N. Branch Pigeon Creek WP

DISCHARGE # 1
Discharger Data
Q7-10 Design Conditions

| Rh | FLOW (MGD) | T (c) | pH (su) | DO (mg/l) | CBOD5 (mg/l) | NH3-N (mg/l) | KC (1/days) |
|---|---|---|---|---|---|---|---|
| 1 | 0.0007 | 20 | 7 | 2 | 25 | 25 | 1.5 |

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Small Flow Discharge to N. Branch Pigeon Creek WP

REACH # 1
Reach Characteristics

| Rh | D.O. GOAL | KN (/D) | RCH. SL. (FT/FT) | RCH. LEN. (FT.) | DRAIN AREA (MI^2) | W/D |
|---|---|---|---|---|---|---|
| 1 | 5 | .6 | 0.00560 | 4000 | 1.9 | 10 |

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Small Flow Discharge to N. Branch Pigeon Creek WP

REACH # 1
Reach Characteristics

| Rh | KR (/D) | TT (Days) |
|---|---|---|
| 1 | 0 | 0 |

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Small Flow Discharge to N. Branch Pigeon Creek WP

NH3-N Discharge Allocations at Q30-10 (Uniform)

| DIS | Q (mgd) | BASE. CONC. (mg/l) | MULT. CONC. (mg/l) | CRIT. RCH. | PCT. RED. (%) | NH3-N CRIT. (mg/l) |
|---|---|---|---|---|---|---|
| 1 | 0.0007 | 25.00 | 25.00 | 0 | 0 | 1.34 |

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Small Flow Discharge to N. Branch Pigeon Creek WP

NH3-N Discharge Allocations at Q1-10 (Uniform)

| DIS | Q (mgd) | BASE. CONC. (mg/l) | MULT. CONC. (mg/l) | CRIT. RCH. | PCT. RED. (%) | NH3-N CRIT. (mg/l) |
|---|---|---|---|---|---|---|
| 1 | 0.0007 | 50.00 | 50.00 | 0 | 0 | 6.80 |

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Small Flow Discharge to N. Branch Pigeon Creek WP

D.O. Allocations (Uniform)

| DIS # | Q (MGD) | ---NH3-N--- IND. Conc. (mg/l) | CUM. Conc. (mg/l) | ---CBOD5---- IND. Conc. (mg/l) | CUM. Conc. (mg/l) | CRIT. RCH. | PCT. REM. (%) |
|---|---|---|---|---|---|---|---|
| 1 | 0.0007 | 25 | 25 | 25 | 25 | 0 | 0 |

FILE: c:\wqam63\untitled.wqm
Small Flow Discharge to N. Branch Pigeon Creek WP

(Total)Discharge = .0007 MGD

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Temp | = 25 | pH | = 7 | Width | = | 4.66 |
| CBOD-5 | = 2.2 | NH3-N | = .32 | Depth | = | 0.47 |
| D.O. | = 7.08 | D.O. Goal | = 5 | Velocity | = | 0.057 |
| KC' | = 7.90000KN | | = .6 | W/D RATIO | = | 10 |
| KR | = 13.126 (OWENS) | | | | | |

Dis. 1 Rch. 1 Trvl Time: .805

| Tr.Tm. (Days) | CBOD-5 (mg/l) | NH3-N (mg/l) | D.O. (mg/l) |
|---|---|---|---|
| 0.081 | 2.18 | 0.29 | 7.12 |
| 0.161 | 2.16 | 0.27 | 7.12 |
| 0.242 | 2.15 | 0.26 | 7.12 |
| 0.322 | 2.13 | 0.24 | 7.12 |
| 0.403 | 2.11 | 0.22 | 7.12 |
| 0.483 | 2.10 | 0.21 | 7.12 |
| 0.564 | 2.08 | 0.19 | 7.12 |
| 0.644 | 2.06 | 0.18 | 7.12 |
| 0.725 | 2.05 | 0.17 | 7.12 |
| 0.805 | 2.03 | 0.16 | 7.12 |

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Small Flow Discharge to N. Branch Pigeon Creek WP

        DISCHARGE CHARACTERISTICS


 END OF REACH  1

 (TOTAL) FLOW-MGD.....: .001
 TEMPERATURE..........: 20
 pH...................: 7
 DISSOLVED OXYGEN (mg/l)....: 7.1
 C-BOD5 (mg/l)..............: 5.5
 NH3-N (mg/l)...............: 6.5
 KC (1/Day).................: 1.5
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Small Flow Discharge to N. Branch Pigeon Creek WP

                      D.O. Allocations  (Uniform)

DIS     Q         ---NH3-N---        ---CBOD5----CRIT.   PCT.
 #              IND.   CUM.          IND.    CUM.    RCH.   REM.
                Conc.  Conc.         Conc.   Conc.
       (MGD)    (mg/l)(mg/l)         (mg/l)(mg/l)           (%)
---    -----    -----  -----         ----- ------   ---    ---

  1     0.0007  25     25            25    25        0     0
```

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Small Flow Discharge to N. Branch Pigeon Creek WP

Effluent Limitations Display

| DIS # | Q MGD | NH3-N TOX. 1 DAY | 30 DAY | DISS. OXYGEN C-BOD5 30-DAY | NH3-N 30-DAY | EFF. D.O. |
|---|---|---|---|---|---|---|
| 1 | .0007 | 50 | 25 | 25 | 25 | 2 |

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