

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0035882
 APS ID 1037515
 Authorization ID 1352562

Applicant and Facility Information

Applicant Name	<u>Jones Estates PA LLC</u>	Facility Name	<u>Placid Manor MHP</u>
Applicant Address	<u>2310 S Miami Boulevard Suite 238</u> <u>Durham, NC 27703-4900</u>	Facility Address	<u>268 Candleberry Lane</u> <u>Adamsburg, PA 15061</u>
Applicant Contact	<u>Tracey Repa</u>	Facility Contact	<u>Chris Fodor</u>
Applicant Phone	<u>(414) 788-2786</u>	Facility Phone	<u>724-989-2361</u>
Client ID	<u>354413</u>	Site ID	<u>248188</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Hempfield Township</u>
Connection Status		County	<u>Westmoreland</u>
Date Application Received	<u>March 29, 2021</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>August 17, 2021</u>	If No, Reason	
Purpose of Application	<u>NPDES permit renewal application.</u>		

Summary of Review

The PA Department of Environmental Protection (PADEP/Department) received an NPDES permit renewal application from Jones Estates PA LLC (permittee) on March 29, 2021 for permittee's Placid Manor MHP (facility). The facility a minor STP with an average annual design flow of 0.015 MGD and Hydraulic design capacity of 0.018 MGD. The treated effluent is discharged through Outfall 001 into an UNT to Little Sewickley Creek (TSF) at RMI 1.96 in state watershed 19-D. The existing permit (transferred) will expire on August 31, 2021. The terms and conditions of the existing permit was administratively extended since the renewal application wasn't received at least 180 days prior to expiration date. Renewal NPDES permit applications under Clean Water program are not covered by PADEP's PDG per 021-2100-001.


This fact sheet is developed in accordance with 40 CFR §124.56.

Changes in this renewal: Yearly E.Coli monitoring added.

Sludge use and disposal description and location(s): Liquid sludge is hauled off site by Liquid Assets to Ohio WV under DEP permit number WV0014.

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 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
√		Reza H. Chowdhury, E.I.T. / Project Manager 	August 23, 2021
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	08/24/2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.015
Latitude	40° 18' 16.93"	Longitude	-79° 39' 11.93"
Quad Name	1608	Quad Code	Irwin
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary of Little Sewickley Creek (TSF)	Stream Code	37598
NHD Com ID	69911949	RMI	1.96
Drainage Area	0.066 mi ²	Yield (cfs/mi ²)	0.011
Q ₇₋₁₀ Flow (cfs)	0.000726	Q ₇₋₁₀ Basis	Please see below
Elevation (ft)	1110.11	Slope (ft/ft)	
Watershed No.	19-D	Chapter 93 Class.	TSF
Existing Use	TSF	Existing Use Qualifier	
Exceptions to Use	None	Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final on April 8, 2009	Name	Sewickley Creek Watershed TMDL
Nearest Downstream Public Water Supply Intake	Westmoreland County MA, McKeesport Plant on Youghiogheny River*		
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

* Per previous fact sheet. However, the permit writer for this renewal couldn't verify this PWS.

Changes Since Last Permit Issuance: None

Other Comments:

Streamflow:

The nearest downstream StreamGage is 03083500 on Youghiogheny River at Sutersville, PA at RMI 15.11. Post regulated Q₇₋₁₀, Q₁₋₁₀, and Q₃₀₋₁₀ at this gage are 332 cfs, 262 cfs, and 416 cfs, respectively. The drainage area at this streamgage is 1,715 mi². These values were obtained from the latest USGS streamflow report ⁽¹⁾. The drainage area at the discharge point was calculated to be 0.066 mi² from USGS StreamStats Version 3.0 Flow Statistics Ungaged Site Report on August 18, 2021.

$$\begin{aligned}
 Q_{7-10} \text{ runoff rate} &= 332 \text{ cfs}/1715 \text{ mi}^2 = 0.193 \text{ cfs/mi}^2 \\
 Q_{7-10} &= 0.193 \text{ cfs/mi}^2 * 0.066 \text{ mi}^2 = 0.013 \text{ cfs} \\
 Q_{1-10}/Q_{7-10} &= 262 \text{ cfs}/332 \text{ cfs} = 0.79 \\
 Q_{30-10}/Q_{7-10} &= 416 \text{ cfs}/332 \text{ cfs} = 1.25
 \end{aligned}$$

The reason to use StreamGage flow numbers to calculate runoff rate and stream Q₇₋₁₀ instead of StreamStats is that the drainage area at the discharge point and 2nd node are below the minimum required for a regression analysis for the calculations. The fact sheet associated with current permit documented the yield to be 0.043 and associated Q₇₋₁₀ to be 0.0022 cfs, which were obtained from fact sheet back in 1994. The updated numbers will be used in WQM modeling, if needed.

(1) Stuckey, M.H., Roland, M.A., 2011, Selected streamflow statistics for streamgage locations in and near Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2011-1070, 23p, 37p.

Sewickley Creek Watershed TMDL:

Sewickley Creek Watershed TMDL was finalized by EPA on April 8, 2009. The TMDL addressed the impairment caused by Acid Mine Drainage (AMD). Sewickley Creek is affected by pollution from AMD. This pollution has caused high levels of metals in the watershed. There are eight (8) point source dischargers that received Waste Load Allocations in the TMDL and this facility is not one of them. This facility was built in around 1970, predating the TMDL development, and therefore grandfathered. No TMDL parameters will be added in this renewal.

Antidegradation (93.4):

The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. The receiving streams are designated as Trout Stocking (TSF). No High-Quality stream or Exceptional Value water is impacted by this discharge; therefore, no Antidegradation Analysis is performed for the discharge.

Treatment Facility Summary				
Treatment Facility Name: Placid Manor MHP STP				
WQM Permit No.		Issuance Date		
6570425 A-1		09/17/1998		
6570425 T-1		06/06/2001		
6570425 A-2		10/22/2004		
6570425 T-2		10/06/2020		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Chlorine With Dechlorination	0.015
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.018		Not Overloaded		Hauled off-site

Changes Since Last Permit Issuance: The NPDES and WQM permits were transferred on October 2020 from S 2 Properties, Inc. to Jones Estates PA, LLC. No changes were made in the treatment plant.

Treatment Plant Description

Placid Manor MHP STP is a minor, non-municipal wastewater treatment plant with average annual design flow of 0.015 MGD and hydraulic design capacity of 0.018 MGD. The treatment plant was built in 70's. This is an extended aeration treatment plant consisting the following treatment units (per PADEP's inspection on 07/18/2019):

1. One EQ tank
2. One comminutor
3. One manual bar screen
4. One sludge holding tank
5. One aeration tank
6. One clarifier
7. One chlorine contact tank
8. One chlorine tablet feeder
9. One dechlorination tablet feeder

The treated effluent is discharged through Outfall 001 to an UNT to Little Sewickley Creek (at RMI 1.96) which is classified as TSF.

The following chemicals are used for wastewater treatment purpose:

Chemical name	Purpose	Maximum use rate	Units
Chlorine	Disinfection	0.5	Lbs./day
Bionutralizer	Dechlorination	0.5	lbs./day
Lime	pH adjustment	0.5	Lbs./day

Biosolids Management:

Liquid sludge is hauled off site by Liquid Assets to Ohio WV under DEP permit number WV0014.

Summary of Inspection:

02/11/2020: CEI conducted. Failure to provide information or records to determine compliance was constituted a violation. Consequently, an NOV was issued on September 30, 2020. Several recommendations were made including replacement of comminutor, keeping written records on site, registration of on-site lab, records of sample collectors information, keeping a calibration book, maintaining daily logbook, scum clean-up, sludge removal, and to send the lab test results for 2019.

07/18/2019: CEI conducted. Failure to provide information or records to determine compliance was constituted a violation. Consequently, an NOV was issued on October 23, 2019. Several recommendations were made including replacement of comminutor, keeping written records on site, registration of on-site lab, records of sample collector's information, keeping a calibration book, and maintaining daily logbook.

Compliance History

DMR Data for Outfall 001 (from July 1, 2020 to June 30, 2021)

Parameter	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20
Flow (MGD) Average Monthly	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
pH (S.U.) Minimum	6.8	6.9	6.9	6.8	6.8	6.9	6.8	6.8	6.8	7.0	6.8	6.9
pH (S.U.) Maximum	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
DO (mg/L) Minimum	6.0	6.0	6.0	6.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.1
TRC (mg/L) Average Monthly	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
TRC (mg/L) Instantaneous Maximum	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
CBOD5 (mg/L) Average Monthly	3	3	3	3	3	3.05	3	3	3.10	3	7.215	3
CBOD5 (mg/L) Instantaneous Maximum	3	3	3	3	3	3.10	3	3	3.19	3	7.710	3
TSS (mg/L) Average Monthly	4.1	9.50	2.40	1.40	2.30	2.70	3.90	2.70	9.50	3.70	1.60	3.40
TSS (mg/L) Instantaneous Maximum	4.4	14.0	2.80	2.00	3.80	3.40	5.40	4.60	18.0	5.80	2.40	3.60
Fecal Coliform (CFU/100 ml) Geometric Mean	1	1	1.5	1	1.5	1.5	1	1	1	1	2.5	1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	1	1	2.0	1	2.0	2.0	1	1	1	1	4.0	1
Total Nitrogen (mg/L) Daily Maximum							3.548					
Ammonia (mg/L) Average Monthly	3.286	0.726	0.339	0.10	3.153	0.10	0.10	0.10	1.383	0.252	0.183	0.277
Ammonia (mg/L) Instantaneous Maximum	3.560	0.872	0.578	0.10	6.206	0.10	0.10	0.10	2.566	0.285	0.229	0.453
Total Phosphorus (mg/L) Daily Maximum							0.398					

Compliance History

Effluent Violations for Outfall 001, from: August 1, 2020 To: June 30, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Ammonia	06/30/21	Avg Mo	3.286	mg/L	2.6	mg/L

Other Comments: The permittee indicated they initiated an investigation for Ammonia violation in June 30, 2021.

Existing Effluent Limitations and Monitoring Requirements

The table below summarizes effluent limitations and monitoring requirements specified in the existing final NPDES permit that was in effect between September 1, 2016 to August 31, 2021.

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)	0.015	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	5/week	Grab
Dissolved Oxygen	XXX	XXX	6.0	XXX	XXX	XXX	5/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.06	XXX	0.15	5/week	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25	XXX	50	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	5.0	XXX	10.0	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	2.6	XXX	5.2	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>.015</u>
Latitude <u>40° 18' 16.93"</u>	Longitude <u>-79° 39' 11.93"</u>
Wastewater Description: <u>Sewage Effluent</u>	

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: These standards apply, subject to Water Quality Analysis and BPJ where applicable.

Water Quality-Based Limitations

WQM 7.0:

WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate effluent limits for CBOD₅, NH₃-N and DO. The model simulates two basic processes. In the NH₃-N module, the model simulates the mixing and degradation of NH₃-N in the stream and compares calculated instream NH₃-N concentrations to NH₃-N water quality criteria. In the D.O. module, the model simulates the mixing and consumption of D.O. in the stream due to the degradation of CBOD₅ and NH₃N and compares calculated instream D.O. concentrations to D.O. water quality criteria.

Page 2 of this report showed calculation for low flow (Q₇₋₁₀) of the receiving stream at the discharge point. The calculated Q₇₋₁₀ is 0.013 cfs. The discharge from this facility is 0.015 MGD which equals to 0.0232 cfs. The stream flow: discharge flow ratio is 0.013:0.0232 or 0.56:1. PADEP’s SOP titled “Establishing Effluent Limitations for Individual Sewage Permits” (SOP No. BCW-PMT-033, revised October 1, 2020) stated that if the ratio is less than 3:1, the reviewer should consider PADEP’s dry stream guidance titled “Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers” (391-2000-014). The low ratio qualifies this facility a dry stream discharger. The dry stream guidance stated that if the design stream flow is zero or near zero, WQBELs for most pollutants including toxics and ammonia will be set at or close to the criteria value. This guidance is not applicable to this facility for the following reasons:

1. This facility was constructed in 70’s, predating the publication of the original dry stream guidance in 1997. Therefore, the dry stream guidance isn’t applicable to this facility.
2. The previous SOP indicated that for the renewal applications, if the facility can’t meet the more stringent dry stream limits, those limits should not be applied unless the facility is one of the discharge of the pollutants for which the receiving stream is impaired for. The receiving stream is impaired for AMD parameters which are typically not being discharged from a sewage facility. The facility also doesn’t have the technology to treat to dry stream standards.

The current permit carried over all limits from previous permits and accepted the model output from 1994 fact sheet. A WQM 7.0 model can’t be utilized in dry stream condition unless there is a Point of First Use (POFU) survey conducted to find the first point in the stream where the aquatic life must be protected, at which the model will be utilized. This facility, however, predates the POFU requirements; therefore, the WQM 7.0 model can’t be used to verify the most stringent

limitations. The same goes with the Toxics Management Spreadsheet (for metals) and TRC Spreadsheet (for TRC). Therefore, all existing parameters with their respective limits/monitoring requirement will be carried over in this renewal.

It is noteworthy to indicate that if the facility expands in the future, it should be subjected to the dry stream guidance and all modeling efforts for WQBELs and most stringent limits will be applied.

The existing Total Nitrogen and Total Phosphorus limits will also be carried over in this renewal per BCW-PMT-033.

Additional Considerations

Fecal Coliform:

The recent coliform guidance in 25 Pa. code § 92a.47.(a) requires a technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml for summer months and 2,000/100 ml as geo mean and 10,000/100 ml as IMAX for winter months. These are existing limits that will be carried over.

pH:

The TBEL for pH is above 6.0 and below 9.0 S.U. (40 CFR §133.102(c) and Pa Code 25 § 95.2(1)) which are existing limits and will be carried over.

Total Suspended Solids (TSS):

There is no water quality criterion for TSS. The existing limits of 30 mg/L average monthly and 60 mg/L instantaneous maximum will remain in the permit based on the minimum level of effluent quality attainable by secondary treatment, 25 Pa. Code § 92a.47 and 40CFR 133.102(b). The existing limits will be carried over.

Flow:

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

E. Coli:

PADEP's SOP titled "Establishing Effluent Limitations for Individual Sewage Permits" (SOP: BCW-PMT-033, March 24, 2021) suggests establishing annual E. Coli monitoring for facilities with design flow between 2,000 – 50,000 GPD. Therefore, an annual monitoring will be added in this renewal.

Best Professional Judgement (BPJ):

Monitoring Frequency and Sample Types:

Otherwise specified above, the monitoring frequency and sample type of compliance monitoring for existing parameters are recommended by DEP's SOP and Permit Writers Manual and/or on a case-by-case basis using best professional judgment (BPJ).

Anti-Backsliding

The proposed limits are at least as stringent as are in existing permit, unless otherwise stated; therefore, anti-backsliding is not applicable.

TMDL parameters:

The facility is grandfathered for this TMDL since it predates the TMDL finalization and it is not listed in the WLA section of the TMDL.

Anti-Backsliding

The proposed limits are at least as stringent as the existing permit; therefore, anti-backsliding requirement is not applicable.

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)	0.015	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	5/week	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.06	XXX	0.15	5/week	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	5.0	XXX	10.0	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.6	XXX	5.2	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: At Outfall 001
Other Comments: None