pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0084085**
Facility Type	**Non-Municipal**	APS ID	**986271**
Major / Minor	**Minor**	Authorization ID	**1291202**

Applicant and Facility Information

Applicant Name	**CV Estates Management LLC**	Facility Name	**Country View Estates MHP**
Applicant Address	PO Box 677	Facility Address	Bloserville Road
	Morgantown, PA 19543		Newville, PA 17241
Applicant Contact	James Perano	Facility Contact	James Perano
Applicant Phone	(610) 286-0490	Facility Phone	(610) 286-0490
Client ID	347766	Site ID	443812
Ch 94 Load Status	Not Overloaded	Municipality	Upper Frankford Township
Connection Status	No Limitations	County	Cumberland
Date Application Received	October 3, 2019	EPA Waived?	Yes
Date Application Accepted	October 9, 2019	If No, Reason	
Purpose of Application	NPDES Renewal.		

Summary of Review

CV Estates Management LLC has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on March 16, 2015 and became effective on April 1, 2015. During the permit term, the permit was amended on April 26, 2019 to reflect a change in ownership from Mr. John Walter to CV Estates Management LLC (owned by Mr. James Perano). The permit expired on March 31, 2020 but the terms and conditions of the permit have been extended since that time.

It is recommended that the 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
		Jinsu Kim / Environmental Engineering Specialist	April 3, 2020
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.05025
Latitude	40° 14’ 00”	Longitude	77° 21’ 16”
Quad Name	Plainfield	Quad Code	1727
Wastewater Description:	Sewage Effluent		

Receiving Waters	Bloser Creek (WWF, MF)	Stream Code	10343
NHD Com ID	56406319	RMI	1.87
Drainage Area	4.84 sq.mi.	Yield (cfs/mi^2)	0.147
Q_{7-10} Flow (cfs)	0.71148	Q_{7-10} Basis	USGS gage 01570000
Elevation (ft)	503	Slope (ft/ft)	
Watershed No.	7-B	Chapter 93 Class.	WWF, MF
Existing Use	None	Existing Use Qualifier	None
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	N/A	Name	N/A

Nearest Downstream Public Water Supply Intake	Carlisle Borough		
PWS Waters	Conodoguinet Creek	Flow at Intake (cfs)	48
PWS RMI	35.95	Distance from Outfall (mi)	15.4

Drainage Area
The discharge is to Bloser Creek at RM 1.87. A drainage area upstream of the point of discharge is estimated to be 4.84 sq. mi. using USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q7-10 of 0.0395 cfs at the point of discharge. However, the estimated drainage area is lower than the minimum value required to properly calculate the Q7-10 which resulted in possible errors in calculations. As a result, DEP determined to correlate a nearby USGS gage station to obtain a low flow yield. This approach has been widely used by DEP and was also used during the last permit renewal. The nearby gage station no. 01570000 on the Conodoguinet Creek is used to calculate a low flow yield of 69.32 cfs / 470 sq.mi = 0.147 cfs/sq.mi. The Q7-10 is then calculated to be 0.147 cfs/sq.mi * 4.84 sq.mi. = 0.71148 cfs.

Bloser Creek
Under 25 Pa Code §93.9o, Bloser Creek is designated as warm water fishes and supports migratory fishes. Bloser Creek is a tributary of Conodoguinet Creek which is also warm water fishes. No special protection water is therefore impacted by this discharge. DEP’s latest integrated water quality report prepared in 2018, the discharge is located within a stream segment listed as attaining use(s).

Public Water Supply Intake
The nearest downstream public water supply intake is Carlisle Borough located on the Conodoguinet Creek approximately 15 miles from the discharge. Given the distance, the discharge is not expected to affect the water supply.

Treatment Facility Summary

Treatment Facility Name: Country View Estates MHP

WQM Permit No.	Issuance Date
2192402	9/16/1992
2192402-T1	10/28/1993
2192402-T2	4/26/2019

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.05025

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.05025	_N/A__	Not Overloaded	Holding Tank	Other WWTP

This facility serves sanitary wastewater generated from about 200 mobile homes (i.e., Country View Estates MHP). The treatment process, according to the application, is as follows:

Communitor → Equalization tanks (2) → Aeration tanks (6) → Clarifiers (2) → Chlorine contact tank with tablet chlorination (sodium hypochlorite) → outfall to Bloser Creek.

Sludge holding tank is provided for sludge handling process. Alum is added for phosphorous removal and soda ash is added for pH adjustment and clarity.

Compliance History

Summary of DMRs:	A summary of past 12-month DMR data is presented on the next page.
Summary of Inspections:	02/03/2020: Mike Benham, DEP Water Quality Specialist, conducted a routine inspection. No violations were noted at the time of inspection, 02/15/2018: Pat Bowen, former DEP Water Quality Specialist, conducted a routine inspection. No violations were noted at the time of inspection.
Other Comments:	DEP's database revealed that there is no open violation associated with this facility or permittee.

Effluent Data

DMR Data for Outfall 001 (from March 1, 2019 to February 29, 2020)

Parameter	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19
Flow (MGD) Average Monthly	0.0116	0.0118	0.0126	0.0127	0.0113	0.0105	0.0103	0.0109	0.0109	0.0108	0.0107	0.0111
Flow (MGD) Daily Maximum	0.0166	0.017	0.0175	0.0241	0.0148	0.0164	0.0145	0.015	0.024	0.014	0.0158	0.0205
pH (S.U.) Instantaneous Minimum	7.0	7.0	6.9	6.7	6.8	6.8	6.7	6.7	6.8	6.6	6.7	
pH (S.U.) Minimum												6.7
pH (S.U.) Instantaneous Maximum	7.4	7.4	7.4	7.4	7.5	7.2	7.2	7.6	7.2	7.3	7.0	
pH (S.U.) Maximum												7.0
DO (mg/L) Daily Minimum	6.5	7.7	9.0	7.3	7.1	7.0	7.0	6.6	6.8	7.1	8.1	
DO (mg/L) Minimum												7.5
TRC (mg/L) Average Monthly	0.31	0.35	0.27	0.25	0.37	0.35	0.31	0.32	0.35	0.38	0.41	0.41
TRC (mg/L) Instantaneous Maximum	0.44	0.48	0.38	0.44	0.45	0.94	0.43	0.46	0.47	0.56	0.78	0.69
CBOD5 (mg/L) Average Monthly	3.3	< 2.3	< 2	< 3.7	< 2	< 2.1	< 2	< 2	< 2	< 2	< 2.6	3.1
TSS (mg/L) Average Monthly	13	< 5	12	< 6	< 8	< 5	< 5	< 5	< 5	< 5	< 5	< 6
Fecal Coliform (CFU/100 ml) Geometric Mean	< 7	< 3	< 6	< 1	< 2	< 1	2	16	< 4	< 1	1	< 2
Fecal Coliform (No./100 ml) Geometric Mean	< 7	< 3	< 6	< 1	< 2	< 1	2	16	< 4	< 1	1	< 2
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	52	11	32	1	3	< 1	3	52	15	< 1	2	4

Fecal Coliform (No./100 ml) Instantaneous Maximum	52	11	32	1	3	< 1	3	52	15	< 1	2	4
Nitrate-Nitrite (mg/L) Average Monthly	20.2	8.17	19.6	19.2	24.2	24.1	< 19.9	17.8	19.7	21.9	22.7	18
Nitrate-Nitrite (mg/L) Instantaneous Maximum	22.5	9.41	22.6	23.4	25.2	26.5	< 20.4	17.9	20.6	25.6	23.4	18.6
Total Nitrogen (mg/L) Average Monthly	< 21.3	< 12.6	< 20.6	< 20.2	< 25.2	< 25.1	< 20.9	< 18.8	< 20.7	< 22.9	< 23.9	< 19.1
Total Nitrogen (mg/L) Instantaneous Maximum	< 23.5	14.7	23.6	< 24.4	< 26.2	< 27.5	< 21.4	< 18.9	< 21.6	< 26.6	< 24.4	19.8
Ammonia (mg/L) Average Monthly	< 0.1	0.12	< 0.1	< 0.514	< 0.15	0.273	< 0.101	0.357	0.24	< 0.1	0.976	0.237
Ammonia (mg/L) Instantaneous Maximum	< 0.1	0.135	< 0.1	0.927							1.8	0.277
TKN (mg/L) Average Monthly	< 1.1	< 4.4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1.2	< 1.1
TKN (mg/L) Instantaneous Maximum	1.2	7.8	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.3	1.2
Total Phosphorus (mg/L) Average Monthly	0.38	0.22	0.31	0.17	0.53	< 0.1	< 0.11	< 0.1	< 0.1	0.11	< 0.23	0.24

Existing Effluent Limits and Monitoring Requirements

The table below summarizes effluent limitations and monitoring requirements implemented in the existing NPDES permit.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	12	XXX	24	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	Report	XXX	Report	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2.0	2/month	8-Hr Composite
Total Kjeldahl Nitrogen	XXX	XXX	XXX	Report	XXX	Report	2/month	8-Hr Composite
Nitrate-Nitrite as N	XXX	XXX	XXX	Report	XXX	Report	2/month	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	Report	2/month	Calculation

Development of Effluent Limitations and Monitoring Requirements

Outfall No. 001 **Design Flow (MGD)** .05025
Latitude 40º 14' 0.24" **Longitude** -77º 21' 15.09"
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)

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen
WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's technical guidance no. 391-2000-007 describes the technical methods contained in the model for conducting wasteload allocation analyses and for determining recommended limits for point source discharges. The model is utilized for this permit renewal and the output shows that existing limits are still appropriate for these parameters. No change is therefore recommended.

Total Residual Chlorine
Since chlorine is used for disinfection, DEP's water quality analysis for Total Residual Chlorine (TRC) was utilized to determine if existing TRC limits are still appropriate. The water quality model, TRC_CALC does not recommend the WQBEL for TRC; therefore, an existing average monthly BAT limit will remain unchanged in the permit. IMAX limit of 1.6 mg/L is obtained from the model.

Toxics
DEP's minor sewage facility permit application does not require sampling of toxic pollutants for facilities less than 0.1 MGD. No toxic pollutants have therefore been taken into consideration as pollutants of concern at this time.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen
A minimum of 5.0 mg/L for DO is an existing effluent limit and is a current state water quality criterion found in 25 Pa. Code § 93.7(a). This effluent limit will remain unchanged for the upcoming permit renewal to ensure the protection of water quality standards. This approach is also consistent with DEP's SOP no. BPNPSM-PMT-033. This requirement has also been assigned to other facilities throughout the state.

Total Phosphorus
The facility will also continue to control Total Phosphorus effluent levels by average monthly and instantaneous maximum (IMAX) limits of 1.0 mg/L and 2.0 mg/L, respectively. This was previously developed based on the previous regional biologist's determination that phosphorus loadings from this facility need to be controlled during the growing season for any newer facilities on the Conodoguinet Creek watershed.

Previously, the model recommended an average monthly NH3-N limit of 12 mg/L for the dry period, resulted in no permit requirement for the wet period since the winter limit will be greater than the typical assumed influent concentration of 25 mg/L (i.e., 12 x 3 = 36). However, for this permit renewal, monitoring is still recommended for the wet period to be consistent with DEP's SOP.

Additional Considerations

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

Chesapeake Bay TMDL & TN/TP SOP Monitoring Requirement
The discharge is located within the Chesapeake Bay watershed and is considered under the Supplement to Phase III Watershed Implementation Plan (WIP) a Phase 5 facility designed to treat between 0.002 MGD and 0.2 MGD. The facility has been monitored for nutrients on a semi-monthly basis. The results are as follows:

Nutrient DMR Data (May 2018 – February 2020; 22 data)				
	Nitrate-Nitrite	TKN	TN	TP
Maximum	41.80	4.40	42.80	0.53
Average	25.69	1.26	26.92	0.23
Minimum	8.17	1.00	12.60	0.10
Median	24.15	1.00	25.15	0.23

While the WIP does not recommend further monitoring for these nutrients when the monitoring was performed at least for 2 years, the SOP recommends that a routine monitoring for Total Phosphorous and Total Nitrogen regardless for any sewage facilities. It is important to collect ample datasets for DEP to understand impacts of all point source discharges to the Chesapeake Bay watershed. It is therefore recommended to maintain existing nutrient monitoring requirements.

Monitoring Frequency and Sample Type
Unless stated otherwise in this fact sheet, all existing monitoring frequencies and sample types will remain unchanged in the permit and are consistent with recommended requirements specified in DEP's technical guidance no. 362-0400-001.

Class A Wild Trout Fishery
A Class A Wild Trout Fishery is not impacted by this discharge.

Anti-Degradation Requirements
Unless stated otherwise in this fact sheet, all permit requirements proposed in this fact sheet are at least as stringent as permit requirements specified in the existing permit renewal in accordance with 40 CFR §122.44(l)(1).

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)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	12	XXX	24	2/month	8-Hr Composite
TKN	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2	2/month	8-Hr Composite

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Toxics Screening Analysis Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other: