pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0204935**
Facility Type	**Industrial**	APS ID	**919701**
Major / Minor	**Minor**	Authorization ID	**1365480**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**New Enterprise Stone & Lime Co. Inc.**	Facility Name	**Ebensburg Plant**
Applicant Address	PO Box 77	Facility Address	PO Box 34
	New Enterprise, PA 16664-0077		Roaring Spring, PA 16673-0034
Applicant Contact	Kevin Claycomb	Facility Contact	Jerry Chaplin
Applicant Phone	814-766-2211	Facility Phone	814-766-2211
Client ID	62856	Site ID	263507
SIC Code	3273	Municipality	Cambria Township
SIC Description	Manufacturing - Ready-Mixed Concrete	County	Cambria
Date Application Received	August 4, 2021	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Renewal of Individual NPDES permit

Summary of Review

The Department received an NPDES permit renewal application on August 4, 2021 for the New Enterprise Stone & Lime Co., Inc. (New Enterprise) Ebensburg plant. New Enterprise was initially issued an NPDES permit on January 19, 1996, which was then renewed on September 22, 2016, became effective October 1, 2016 and subsequently expired on September 30, 2021. Although for this second renewal, the application submittals were delayed, this permit is considered administratively extended.

The facility's SIC Code is 3273 for this Ready Mixed Concrete plant. The facility operates as a concrete batch plant for residential, commercial, industrial, and government agency use. The facility also has a Water Quality Management Part II Permit **1198201** for design and operation of the site's four treatment ponds with the use of a chemical additive. This permit was issued on October 25, 1999 and has not been amended or transferred since its issuance.

The facility has one outfall, 001, which discharges from the final treatment pond to an unnamed tributary (UNT) of the South Branch of Blacklick Creek which is designated in Chapter 93 as a Cold Water Fishery (CWF). This stream is in the Kiskiminetas-Conemaugh Watershed. This watershed was listed on the Commonwealth's 2008 Section 303(d) list as impaired under the influence of abandoned mine drainage (AMD). Pursuant to restoring and maintaining this watershed's designated use, the U. S. Environmental Protection Agency (EPA) on January 29, 2010 issued a final Total Maximum Daily Load (TMDL). New Enterprise's permit for its Ebensburg Plant is specifically listed in this TMDL.

This facility operates a series of onsite treatment ponds which receive stormwater runoff from the industrial area of the facility, as well as, the washout water from the ready-mix concrete trucks and central mix bowls. This blend of stormwater and industrial effluent is treated across the site's four ponds for sedimentation, is chemically neutralized before entering the third pond and a portion is later recycled for truck washout. The balance of treated supernatant is discharged from the

Approve	Deny	Signatures	Date
X		John L Duryea, Jr., P.E. / Environmental Engineer	August 3, 2022
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	September 2, 2022

Summary of Review

outfall. The main source of clean water for the site is an onsite well. The well water withdrawal is approximately 18,000 gpd. The well water is used for makeup of the concrete batches, replenishing the washout water and a small portion for dust control of the aggregate piles and roadway as needed.

A satellite image from the renewal application of this facility is shown in Figure 1 below:

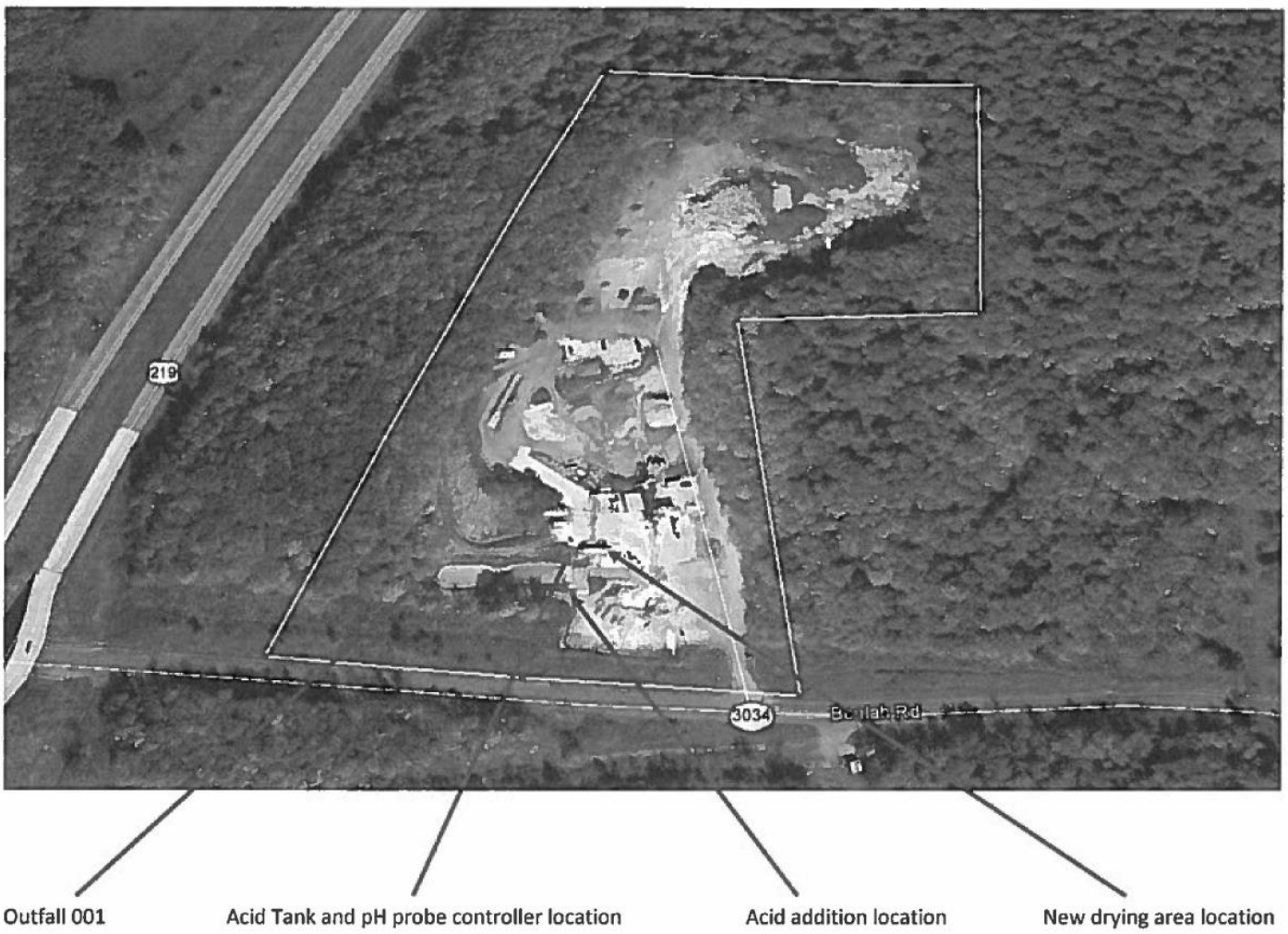

Figure 1: Satellite Image of New Enterprise's Ebensburg Plant from the 2021 Renewal Application

As can be seen in Figure 1 above, the access to this 5.8 acre site is from Beulah Road. Both the property and permit boundaries are irregular with the main concrete mixing plant in the south with the treatment ponds adjacent, being just further south of this production area. The lone outfall is toward the southwest corner.

The permittee has complied with Act 14 notifications. Publication of a draft renewal is recommended.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0078
Latitude	40º 28' 35.4"	Longitude	-78º 46' 12"
Quad Name	Nanty-Glo	Quad Code	1515
Wastewater Description:	Treated concrete batch plant washout water and stormwater		
Receiving Waters	Unnamed Tributary to South Branch Blacklick Creek (CWF)	Stream Code	44647
NHD Com ID	123720850	RMI	0.2000
Drainage Area	0.81 Square Miles	Yield (cfs/mi^2)	0.085345
Q_{7-10} Flow (cfs)	0.06913	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1849	Slope (ft/ft)	0.017
Watershed No.	18-D	Chapter 93 Class.	CWF
Existing Use	**Aquatic Life**	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s) Aquatic Life		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final, Tentative	Name	Kiskiminetas-Conemaugh River Watersheds TMDL, South Branch Blacklick Creek Watershed
Nearest Downstream Public Water Supply Intake	Buffalo Township Water Authority		
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,250
PWS RMI	29.4	Distance from Outfall (mi)	> 90 miles

Changes Since Last Permit Issuance: None

Other Comments: The location of Outfall 001's entry into the receiving stream was modeled based on the Department's NHD locator software tool. Since the USGS StreamStats Model contained warnings on both small drainage area and for higher than modeled area annual precipitation, a Q_{7-10} yield was determined at a qualifying downstream location. The location selected was downstream in the Blacklick Creek watershed. This model-supported yield value was used to calculate the receiving stream's Q_{7-10} flow using the USGS StreamStats calculated drainage area at the point of the discharge's entry.

Treatment Facility Summary				
Treatment Facility Name: New Enterprise Stone & Lime Ebensburg Plant				
WQM Permit No.	**Issuance Date**			
1198201	October 25, 1999			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	N/A	Sedimentation, pH Adjustment	None	0.008
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.02	N/A	N/A	N/A	N/A

Changes Since Last Permit Issuance: No major changes were included in the application.

Other Comments: A hand drawn sketch of the onsite treatment was included in the NPDES renewal application submittal. This sketch of the site's treatment is shown in Figure 2 below with a satellite image of roughly this same area provided as Figure 3.

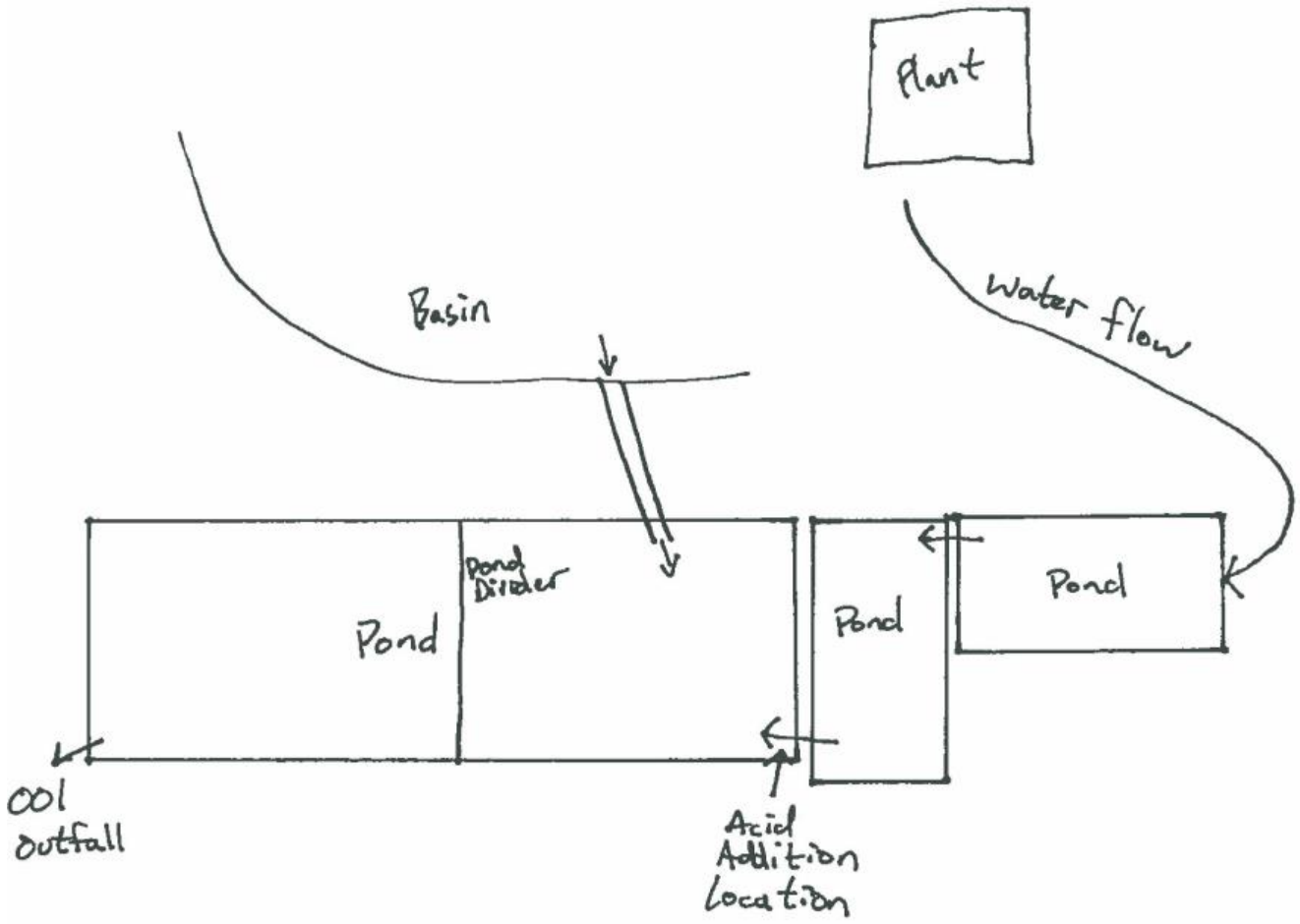

Figure 2: Sketch of the New Enterprise Treatment at their Ebensburg Plant

Figure 3: Satellite Image of the New Enterprise, Ebensburg Plant's Production and Treatment Areas

The treatment process for sedimentation and pH adjustment for excess process and wash water consists of four basins in series. As can be seen in Figures 2 and 3, the process proceeds from right to left in the figures. The first two ponds have concrete bottoms and allow for settling of the suspended solids. The drying area is just north of the first pond. Most settling occurs in this first pond, center-right in Figure 2, where washout wastewater is initially received. The solids are cleaned out of the ponds with a front loader as needed. The third and fourth ponds are plastic lined. Sulfuric acid is pumped to the overflow between the second and third pond for pH adjustment. The pH is controlled using a meter on the recycled water line to automatically control the dosing rate of the sulfuric acid drip. A submersible pump in the fourth pond recirculates the treated water back to the truck washout for discharge into the first pond.

The ponds had previously been equipped with a float switch to turn off the sulfuric acid drip, but this simple control mechanism has since been replaced by an automatic pH controller. In addition to the pH controller, plant personnel routinely check the pH manually using a handheld probe. The average discharge flow rate from Outfall 001 is 0.008 MGD. The maximum flow rate is 0.02 MGD.

Production was described in the renewal application submittal as being 24/7. However, it is typically curtailed during the cold winter months. During the shutdown season, the recycle loop is turned off. Plant personnel will check the fourth pond manually with the pH probe at least weekly and adjust the sulfuric acid dosing as needed. The plant personnel will work to do this around storm events or snow melt. The plant is historically operational mid-March to Thanksgiving each year.

Sulfuric acid is the only chemical used for treatment. Although no other chemical additives have been introduced into the process or for cleaning, Part C will contain language describing the approval for use of chemical additives so that New Enterprise is aware of the approval process if chemical additive(s) are required in the future. Note that both the original 1996 permit and the 2016 renewal contained the contemporary version of this Part C condition.

The treatment system has recently been effectively used to meet the established effluent limitations. This is illustrated with the most recent year of discharge monitoring report results shown in Table 1 and exceedances shown in Table 2 below.

Compliance History

Table 1: DMR Data for Outfall 001 (from May 1, 2021 to April 30, 2022)

Parameter	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21
Flow (MGD) Average Monthly	0.0031	0.0029	0.0015	0.0013	0.0216	0.005	0.0024	0.018	0.0022	0.01282	0.00556	0.004893
Flow (MGD) Daily Maximum	0.0034	0.0033	0.0021	0.0013	0.0216	0.005	0.0043	0.036	0.0038	0.024	0.0081	0.006331
pH (S.U.) Instant. Minimum	7.72	7.26	7.7	6.96	7.74	8.2	6.39	6.46	7.02	7.68	7.45	7.29
pH (S.U.) Instant. Maximum	8.06	8.08	8.5	6.96	7.74	8.2	7.44	8.1	7.65	**9.50**	8.9	8.45
TSS (mg/L) Average Monthly	9.3	2.4	2.8	2.40	12.4	0.8	7.1	1.60	6.6	30.4	16.9	13.6
TSS (mg/L) Instant. Maximum	23.2	3.7	5.2	2.40	12.4	0.8	19.6	2.0	10.8	**50.8**	46.0	23.2
Total Dissolved Solids (mg/L) Average Monthly	129	180	148	196	210	698	1570	621	553	927	1072	833
Total Dissolved Solids (mg/L) Daily Maximum	132	216	186	196	210	698	1720	932	594	954	1580	1290
Oil and Grease (mg/L) Average Monthly	< 5.25	< 5.0	< 4.95	< 5.0	< 5.54	E	< 5.05	< 5.15	E	< 5.0	< 5.0	< 5.0
Oil and Grease (mg/L) Daily Maximum	< 5.25	< 5.0	< 4.95	< 5.0	< 5.54	E	< 5.05	< 5.15	E	< 5.0	< 5.0	< 5.0
Total Aluminum (mg/L) Average Monthly	0.58	GG	0.125	GG	GG	GG	< 0.1	0.719	GG	GG	GG	GG
Total Aluminum (mg/L) Daily Maximum	0.58	GG	0.125	GG	GG	GG	< 0.1	0.719	GG	GG	GG	GG
Total Iron (mg/L) Average Monthly	0.642	GG	< 0.200	GG	GG	GG	< 0.2	0.743	GG	GG	GG	GG
Total Iron (mg/L) Daily Maximum	0.642	GG	< 0.200	GG	GG	GG	< 0.2	0.743	GG	GG	GG	GG
Total Manganese (mg/L) Average Monthly	< 0.0200	GG	< 0.0200	GG	GG	GG	0.0367	0.0399	GG	GG	GG	GG
Total Manganese (mg/L) Daily Maximum	< 0.0200	GG	< 0.0200	GG	GG	GG	0.0367	0.0399	GG	GG	GG	GG

Compliance History

Table 2: Effluent Violations for Outfall 001, from: June 1, 2021 To: April 30, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
pH	07/31/21	IMAX	9.50	S.U.	9.0	S.U.
TSS	07/31/21	IMAX	50.8	mg/L	50.0	mg/L

Summary of Inspections: There has been one inspection of this facility since the beginning of the last permit term on October 1, 2016. This was an onsite compliance evaluation conducted on January 27, 2020. In the period from December 2017 through December 2019, the permittee's electronic Discharge Monitoring Reports (eDMRs) show multiple exceedances (7) of their effluent limitations, mostly for high Total Suspended Solids (TSS). This was cited in the inspection report and a Notice of Violation was issued on September 10, 2020. The permittee's compliance performance improved following this 2020 inspection with only one monthly eDMR showing exceedances since that time. These are detailed in Table 2 above.

Other Comments: New Enterprise has other locations in the Commonwealth. A July 2022 review of open violations revealed five of these, including one in the SW Region, but an inquiry to the Program Manager of the affected area revealed that this issue had been resolved.

A review of the eDMR data since the last permit issuance revealed excursions of the monitored metals – aluminum, iron and manganese. The peak value found for aluminum occurred in July 2018 of 0.793 $^{mg}/_{L.}$ The peak value found for iron occurred in October 2018 of 0.896 $^{mg}/_{L.}$ The peak value found for manganese occurred in July 2020 of 0.944 $^{mg}/_{L.}$

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	.0078
Latitude	40º 28' 26"	**Longitude**	-78º 45' 37"

Wastewater Description: Ready-Mix Concrete Batch Wash Water commingled with Stormwater without ELG

Technology-Based Limitations

Federal involvement in the regulation of discharges of industrial wastes significantly advanced with the enactment of the 1965 amendments to the Federal Water Pollution Control Act (PL 84-660). These amendments required states to initiate water quality standards for interstate waters and gave states additional authority to require control/treatment of wastes from sewage and industrial dischargers.

The primary objective of such technology-based effluent limitations (TBELs) is to decrease the total pollution load to all streams, while dealing equitably with discharges in a given class or category.

TBELs should not be looked upon from the viewpoint of whether they will or will not protect water quality; rather they should be considered as the baseline for decreasing pollution with stricter requirements being imposed as needed to protect the water quality of a receiving stream.

New Enterprise's Ebensburg Plant is not subject to Federal Effluent Limitation Guidelines (ELGs) as the SIC code 3273 is not listed under 40 CFR parts 405 through 471.

Regulatory Effluent Standards and Monitoring Requirements

The pH effluent range for all IW process and non-process discharges pursuant of 25 Pa. Code § 92a.48(a)(2) and 25 Pa. Code § 95.2 is indicated in Table 2 below.

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1); effluent standards for pH are also imposed on industrial wastes by 25 Pa. Code §§ 95.2(1). These limits are displayed in Table 2 below.

Pursuant to 25 Pa. Code § 95.2(4) effluent standards for industrial wastes may not contain more than 7 mg/L of dissolved iron as indicated in Table 3 below.

Pennsylvania regulations at 25 Pa. Code § 92a.48(b) require the imposition of technology-based TRC limits for facilities that use chlorinated sources and that are not already subject to TRC limits based on applicable federal ELGs or a facility-specific Best Professional Judgement (BPJ) evaluation which is displayed in Table 2 below.

The primary source of water for the production of Ready-Mix concrete at New Enterprise's Ebensburg site is reported as their onsite well. However, since a public water source is readily available, the possibility of public supplied water use will also be considered. In this postulated case, Outfall 001 may discharge process water obtained from the Ebensburg Municipal Authority. If so, public supply water may contain chlorine.

Table 3. Regulatory Effluent Standards

Parameter	Monthly Avg.	Daily Max	IMAX
Flow (MGD)	Monitor	Monitor	----
Iron, Dissolved	----	----	7.0 mg/L
pH (S.U.)	6-9 at all times		
TRC	0.5 mg/L	----	1.6 mg/L

Total Dissolved Solids (TDS)

Integral to the implementation of 25 Pa. Code § 95.10 is the principle that existing, authorized mass loadings of TDS are exempt from any treatment requirements under these provisions. Existing mass loadings of TDS up to and including the maximum daily discharge loading for any existing discharges, provided that the loading was authorized prior to August 21, 2010 are exempt. Discharge loadings of TDS authorized by the Department are typically exempt from the treatment requirements of Chapter 95.10 until the net TDS loading is increased, an existing discharge proposes a hydraulic expansion or a change in the waste stream. If there are existing mass or production-based TDS effluent limits, then these are used

as the basis for the existing mass loading. New Enterprise was initially issued an NPDES permit for their Ebensburg plant on January 19, 1996 and production appears to be roughly consistent for an extended period. Therefore, this facility is considered exempt from 25 Pa. Code § 95.10 treatment requirements.

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

Wastewater discharges from New Enterprise's Ebensburg plant are located within the South Branch of the Blacklick Creek Watershed for which the Department had previously developed a TMDL. However, this TMDL was later incorporated into and superseded by the TMDL for the Kiskiminetas-Conemaugh River Watersheds developed by the U.S. Environmental Protection Agency (EPA) which now applies. This TMDL was finalized on January 29, 2010 and establishes waste load allocations for the discharge of aluminum, iron and manganese within the Kiskiminetas-Conemaugh River Watersheds. Section 303(d) of the Clean Water Act and the U.S. EPA's Water Quality Planning and Management Regulations (codified at Title 40 of the *Code of Federal Regulations* Part 130) require states to develop a TMDL for impaired water bodies.

A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding the water quality criteria for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). Stream reaches within the Kiskiminetas-Conemaugh River Watersheds are included in the state's 2008 Section 303(d) list because of various impairments, including metals, pH and sediment. The TMDL includes consideration for each river segment and tributary within the target watershed and its impairment sources. Stream data is then used to calculate minimum pollutant reductions that are necessary to attain water quality criteria levels. Target concentrations published in the TMDL were based on established water quality criteria of 0.750 $^{mg}/_{L}$ total recoverable aluminum, 1.5 $^{mg}/_{L}$ total recoverable iron based on a 30-day average and 1.0 $^{mg}/_{L}$ total recoverable manganese. The reduction needed to meet the minimum water quality standards is then allocated among each known point and non-point pollutant source in the form of a watershed allocation using a stream's assimilative capacity. TMDLs prescribe allocations that minimally achieve water quality criteria (i.e., 100 percent use of a stream's assimilative capacity). Note that based on eDMR data, the established water quality criteria were approached or exceeded in the last permit term for aluminum, iron and manganese. Therefore, effluent limitations will be established as noted below.

Aluminum: The specific water quality criterion for aluminum is expressed as an acute risk with a maximum daily limit in 25 Pa. Code Chapter 93. Discharges of aluminum may only be authorized to the extent that they will not cause or contribute to any violation of the water quality standards. Therefore, the water quality criterion for aluminum (0.75 mg/L) is imposed as a maximum daily effluent limit (MDL). Whenever the most stringent criterion is selected for the MDL, the Department should also impose an average monthly limit (AML) and instantaneous maximum limit (IMAX) if applicable. The imposition of an AML that is more stringent than the MDL is typically not appropriate because the water quality concerns have already been fully addressed by setting the MDL equal to the most stringent applicable criterion. Therefore, where the MDL is set at the value of the most stringent applicable criterion, the AML should be set equal to the MDL. Accordingly, TMDL aluminum limits are proposed for the Outfalls.

Iron: The specific water quality criterion for iron is expressed as a 30-day average of 1.5 mg/L in 25 Pa. Code § 93.7(a). The criterion is based on the protection of aquatic life and is associated with chronic exposure. There are no other criteria for total iron. Since the duration of the total iron criterion coincides with the 30-day duration of the AML, the 30-day average criterion for total iron is set equal to the AML. In addition, because the total iron criterion is associated with chronic exposure, the MDL (representing acute exposure) and the IMAX may be made less stringent according to established procedures described in Section III.C.3.h on Page 13 of the Water Quality Toxics Management Strategy (Doc. # 361-0100-003). These procedures state that a MDL and IMAX may be set at 2 times and 2.5 times the AML, respectively, or there is the option to use multipliers from EPA's Technical Support Document for Water Quality-based Toxics Control, if data are available to support the use of alternative multipliers. Accordingly, TMDL iron limits are proposed for the Outfalls.

Manganese: The specific water quality criterion for manganese is expressed as an acute or maximum daily of 1.0 mg/L in 25 Pa. Code § 93.7(a). The criterion is based on the protection of human health and is associated with chronic exposure associated with a potable water supply (PWS). Since no duration is given in Chapter 93 for the manganese criterion, a duration of 30 days is used based on the water quality criteria duration for Threshold Human Health (THH) criteria given in Section III.C.3.a., Table 3 on Page 9 of DEP's Water Quality Toxics Management Strategy. The 30-day duration for THH criteria coincides with the 30-day duration of an AML, which is why the manganese criterion is set equal to the AML for a "permitting at criteria" scenario. Because the manganese criterion is interpreted as having chronic exposure, the

manganese MDL and IMAX may be made less stringent according to procedures established in Section III.C.2.h. of the Water Quality Toxics Management Strategy (AML multipliers of 2.0 and 2.5 for the MDL and IMAX respectively). Accordingly, TMDL manganese limits are proposed for the Outfalls.

All new or revised NPDES permits discharging into the Kiskiminetas-Conemaugh River Watershed have to be consistent with the TMDL Waste Load Allocation based on 40 CFR 122.44(d)(1)(vii)(B). The Department reviewed the TMDL and this facility has an explicit WLA. These WLA are shown in Table 4 below. The concentration values will be used as the Effluent Limitations to be applied in the New Enterprise permit. Refer to Table 5 below, for a summary of the TMDL effluent concentration limitations specific for this facility.

Table 4: Applicable Portion of the TMDL WLAs

Region	SWS	PERMIT	Metal	Baseline Load (lbs/yr)	Baseline Concentration (mg/L)	Allocated Load (lbs/yr)	Allocated Concentration (mg/L)	% Reduction
4	4505	PA0204935	Aluminum	228	0.75	228	0.75	0
4	4505	PA0204935	Iron	457	1.50	457	1.50	0
4	4505	PA0204935	Manganese	305	1.00	305	1.00	0

Table 5: Summary of the TMDL Criteria and Applicable Effluent Limitations

Parameter	Monthly Average ($^{mg}/_{L}$)	Daily Maximum ($^{mg}/_{L}$)
Aluminum	0.75	0.75
Iron	1.5	3.0
Manganese	1.0	2.0

Toxics Screening Analysis – Procedures for Evaluating Reasonable Potential (RP) and Developing WQBELs

DEP's procedures for evaluating reasonable potential are as follows:

1. For IW discharges, the design flow to use in modeling is the average flow during production or operation and may be taken form the permit application.

2. Perform a RP analysis to identify toxic pollutants of concern using all available and reliable analytical data from DMRs, permit applications, inspections, and other sources using the Toxics Management Spreadsheet (TMS) (refer to Attachment A).

3. For any outfall with an applicable design flow, perform TMS modeling for all pollutants using the maximum reported value from the application form or from DMRs as the input on the TMS Discharge input sheet.

4. Compare the actual WQBEL from the TMS results with the maximum concentration reported on DMRs or the permit application. Use WQN data or another source to establish the existing or background concentration for naturally occurring pollutants, but generally assume zero background concentration for non-naturally occurring pollutants.

    - Establish limits in the draft permit where the maximum reported concentration equals or exceeds 50% of the WQBEL. Use the average monthly and maximum daily limits for the permit as recommended by PENTOXSD. Establish an IMAX limit at 2.5 times the average monthly limit.

    - For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.

    - For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

The information described above including the maximum reported discharge concentrations, the most stringent water quality criteria, the pollutant-of-concern (reasonable potential) determinations, the calculated WQBELs, and the WQBEL/monitoring recommendations are collected on the TMS spreadsheet (see Attachment A).

Water Quality Modeling Program

TMS Version 1.3 is a single discharge, mass-balance water quality modeling program that includes consideration for mixing, first-order decay and other factors to determine recommended WQBELs for toxic substances and several non-toxic substances. Required input data including stream code, river mile index, elevation, drainage area, discharge name, NPDES permit number and discharge flow rate are entered as TMS inputs to establish site-specific discharge conditions. Other data such as low flow yield, reach dimensions and partial mix factors may also be entered to further characterize the conditions of the discharge and receiving water. Pollutants are then selected that may cause, have the reasonable potential to cause, or contribute to excursions above state water quality standards (i.e., a reasonable potential analysis). Discharge concentrations for the selected pollutants are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). TMS evaluates each pollutant by computing a Waste Load Allocation for each applicable criterion, determining a recommended maximum WQBEL and comparing that recommended WQBEL with the input discharge concentration to determine which is more stringent. Based on this evaluation, TMS recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Discharges from Outfall 001 were evaluated based on concentrations reported on the various applications and update submittals provided. TMS was run using the modeled discharge and receiving stream characteristics shown in Table 6. All pollutants with any data supplied were modeled. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease, etc.) were excluded from the modeling.

TMS uses a mass balance approach. Note that the initial bases for this stream flow at Outfall 001 was flagged as outside the statistical parameters for the USGS StreamStats error analysis. Therefore, a revised value was determined using as its bases the model's downstream flow value well downstream on Blacklick Creek which was conforming for all USGS model parameters. The yield from this downstream conforming point (0.085345 cubic feet/sec per square mile) was then used to calculate $Q_{7\text{-}10}$ for the upstream model nodes using the respective drainage areas for those upstream and downstream nodes (0.81 square miles and 0.85 square miles, respectively). The calculated inputs were then used to model the stream and discharge flows and loads in the model. The model inputs for the final run are shown in Attachment A.

Table 6: TMS Inputs

Parameter	**Value**
River Mile Index	0.20
Discharge Flow (MGD)	0.008
Basin/Stream Characteristics	
Parameter	**Value**
Area (mi^2)	0.81
$Q_{7\text{-}10}$ (cfs)	0.06913
Low-flow yield (cfs/mi^2)	0.08535
Elevation (ft.)	1849
Slope	0.017

The WQBELs calculated using TMS (see results in Attachment A) are automatically compared to the maximum reported effluent concentrations from sampling results, as described in the RP analysis section above, to evaluate the need to impose WQBELs or monitoring requirements in the permit. Based on the recommendations of TMS, the WQBELs and monitoring requirements shown in Table 7 are applicable at Outfall 001.

Note that pollutants identified as Potable Water Parameters were not evaluated as the nearest Potable Water Supply intake is more than 90 miles downstream, based on professional judgement, this discharge encounters enough assimilative capacity and stream flow that it is no longer of concern and these pollutants were not evaluated using the water quality models. These include TDS, Chloride, Fluoride and Phenols.

The models calculate Partial Mix Factor for CFC, THH and CRL. Given New Enterprise's Ebensburg Plant's location near the receiving stream's headwaters, no changes to these Partial Mix Factors were implemented.

The TMS model's recommended effluent limits and/or reporting requirements for regulated pollutants are shown in Table 7. Some parameters were reported as not detected (ND). In these cases, the input values were set to the reported testing laboratory MDL. Also included in Table 7 for reference are these target QLs as specified in DEP's most recent *Application for Permit to Discharge Industrial Wastewater*. The target QLs are the means by which DEP is implementing EPA's September 18, 2014 revisions to 40 CFR Parts 122 and 136 requiring applicants and permittees to use "sufficiently sensitive" EPA-approved analytical methods that are capable of detecting and measuring the pollutants at, or below, the applicable water quality criteria or permit limits.

Table 7: Outfall 001 WQBELs (with Governing Criteria and Target QLs)

Parameter	Concentration (µg/L)		Governing WQBEL (µg/L)	Target QL (µg/L)
	Monthly Avg	Maximum Daily		
Aluminum (total)	Monitor	Monitor	3,166	10.0
Manganese (total)	Monitor	Monitor	6,586	2.0

As can be seen in all cases, only monitoring is required as the results did not exceed the most stringent WQBEL value, but the reported results were too high to rule out the possibility that discharges will result in excursions above Pennsylvania's water quality standards.

WQM 7.0 Model

The computer model WQM 7.0 is run to determine wasteload allocations and effluent limitations for $CBOD_5$, NH_3-N and Dissolved Oxygen for single and multiple point source discharge scenarios. In general, WQM 7.0 is run if the maximum BOD_5/$CBOD_5$ concentrations exceeds 30/25 mg/L respectively in the permit application or the DMRs. The permit application reports that BOD_5 was not detected (< 3.0 mg/L) for this outfall, therefore, the WQM 7.0 Model is not required to be run.

Total Residual Chlorine (TRC)

Normally, if public drinking water is used as a source of water for industrial use, the fact that the source water will, at times be chlorinated requires consideration of the possibility that residual chlorine may be entrained in the facility's effluent. However, the site's treatment involves process water being held in a sequence of basins outdoors for extended periods of time. Further, use of onsite well water implies that it is unlikely that the source water will be chlorinated. Therefore, it is very unlikely that chlorinated water will make its way to the onsite discharge point, much less traverse the distance to the receiving stream. Thus, the possibility of discharge of un-volatilized chorine is negligible, as further evidenced by it being undetected in the multiple Outfall 001 samples taken. Therefore, a limit is not imposed.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard or water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit. These prior effluent limits are shown in Table 8 below:

Table 8: Current Outfall 001 Effluent Limitations

Parameter	Mass / Loading ($^{lb}/_{day}$)		Concentration / Quality ($^{mg}/_{L}$)				Units
	Monthly Average	Daily Maximum	Instant Minimum	Monthly Average	Daily Maximum	Instant Max	
Flow	Report	Report	---	---	---	---	MGD
Total Suspended Solids	---	---	---	Report	---	50.0	$^{mg}/_{L}$
Total Dissolved Solids	---	---	---	Report	Report	---	$^{mg}/_{L}$
Oil and Grease	---	---	---	Report	Report	---	$^{mg}/_{L}$
Aluminum, total*	---	---	---	Report	Report	---	$^{mg}/_{L}$
Iron, total	---	---	---	Report	Report	---	$^{mg}/_{L}$
Manganese, total*	---	---	---	Report	Report	---	$^{mg}/_{L}$
pH	---	---	6.0	---	---	9.0	S.U.

Preliminary Effluent Limitations and Monitoring Requirements for Outfall 001

Effluent limits applicable at Outfall 001 are the more stringent of those currently enforced in the prior permit, TBELs, WQBELs, and regulatory effluent standards. In most cases, this is the most stringent effluent limitations from Tables 3, 5, 7 and 8 above. TRC limitations are considered unnecessary as noted in the TRC section above. Finally, the limitation on dissolved iron will be dropped as redundant since the limits on total iron are bounding. The result is shown in Table 9 below.

Table 9: Proposed Effluent Limits and Bases for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	Report	Report	—	—	—	25 Pa. Code § 92a.61(d)(1)
Total Suspended Solids	—	—	—	—	50.0	40 CFR §§ 125.3 & 122.44(l)
Total Dissolved Solids	—	—	Report	Report	—	40 CFR §§ 122.44(l)
Aluminum (total)	—	—	**0.75**	**0.75**	—	TMDL
Iron (total)	—	—	**1.5**	**3.0**	—	TMDL
Manganese, Total	—	—	**1.0**	**2.0**	—	TMDL
Oil & Grease	—	—	Report	Report	—	40 CFR § 122.44(l)
pH (S.U.)	Within the range of 6.0 to 9.0					25 Pa. Code § 95.2

In Table 9 above, new, more stringent effluent limitations have been proposed pursuant to compliance with the U.S. EPA TMDL. To signify this fact, these values have been made **bold** in Table 9 above. Note that over the prior 5-year permit term, these monitored metals have approached these new limits, but only once have exceeded (for aluminum in July 2018). As it is evident that the current treatment system onsite can be operated to maintain discharges within these new limitations, these proposed effluent limitations are proposed to be promulgated as final.

Monitoring requirements for the pollutants of concern are based on the previous permit monitoring requirements for the facility are displayed in Table 10 below. However, the frequency of monitoring for the TMDL limited metals with added, effluent limitations will be set to twice per month to support a more prompt detection and correction of exceedances.

Table 10: Monitoring Requirements for Outfall 001

Parameter	Sample Type	Minimum Sample Frequency
Flow (MGD)	Estimate	1/Week
Total Suspended Solids	Grab	1/Week
Total Dissolved Solids	Grab	1/Week
Aluminum (total)	Grab	2/Month
Iron (total)	Grab	2/Month
Manganese (total)	Grab	2/Month
Oil & Grease	Grab	1/Month
pH (S.U.)	Grab	1/Week

Effluent Limitation Compliance Schedule

Whenever the Department proposes the imposition of WQBELs on existing sources, the NPDES permit may include a schedule of compliance to achieve the WQBELs. Any compliance schedule contained in an NPDES permit must be an "enforceable sequence of actions or operations leading to compliance with the water quality-based effluent limitations ("WQBELs"). In accordance with 40 CFR 122.47(a)(3) and PA Code, Chapter 92a.51, compliance schedules that are longer than one year in duration must set forth interim requirements and dates for their achievement. In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet, that a compliance schedule is "appropriate" and that compliance with the final WQBEL is required "as soon as possible".

In this case, newly promulgated TMDL based WQBELs have been imposed, but based on the permittee's compliance history, are expected to be within the current onsite treatment capability to meet these. Therefore, no compliance schedule is warranted, and the proposed effluent limitations will be imposed as final.

Storm Water Outfalls

The Department's policy for stormwater discharges is to either (1) require that the stormwater is uncontaminated, (2) impose "Monitor and Report", to establish effluent goals and require the permittee to submit a Stormwater Pollution Prevention Plan (SWPPP), or (3) impose effluent limits. In all cases, a storm water special condition is placed in the permit in Part C.

Stormwater effluent data reported in the application are compared to stream criteria, EPA's Multi-Sector General Permit "benchmark values", ELGs and other references while considering site specific conditions such as stream flow and location to determine if actual discharge concentrations of various pollutants in stormwater warrant further controls. If there is insufficient data available, or if pollutant levels are excessive, monitoring for specific pollutants and/or a SWPPP are required in the permit. Otherwise, the storm water outfalls are simply listed as discharge points. In either case, a special condition is added to the permit to include some of the key components of the Department's General Permit (PAG-03) for Discharges of Stormwater Associated with Industrial Activities.

The NPDES renewal application submittals in the first half of 2021 contained sufficient stormwater data to analyze. On balance, the stormwater samples results were in line with untreated stormwater. A portion of the stormwater will be contained, captured in the outdoor treatment basins and will undergo treatment before discharge into the UNT of the South Branch of Blacklick Creek. In the more complete review of the treated industrial discharge, no water quality issues were found after treatment. Note that the site's discharge commingles site effluent with some portion of the site's stormwater before being conveyed in a swale that runs parallel to Beulah Road toward the swale's confluence with UNT 44647. No additional requirements will be imposed at this time.

The NPDES Permit Part C conditions and requirements for stormwater outfalls will be maintained in the permit.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model
☒	Toxics Management Spreadsheet (see Attachment A)
☐	TRC Model Spreadsheet
☐	Temperature Model Spreadsheet
☐	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:

Attachments

Attachment A: Toxics Management Spreadsheet (TMS) Inputs and Results for Outfall 001

ATTACHMENT A:

Toxics Screening Analysis Inputs and Results for Outfall 001, for Discharge UNT 44647 to the South Branch of Blacklick Creek

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

New Enterprise Stone & Lime Co., Inc., NPDES Permit No. PA0204935, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	Report	Report	Report	Report	Report	µg/L	3,166	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	6,586	THH	Discharge Conc > 10% WQBEL (no RP)

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

IPSCO Koppel Tubulars (Tenaris), NPDES Permit No. PA0006335, Outfall 001

Instructions | *Results* | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All | ○ Inputs | ○ Results | ○ Limits

☑ ***Hydrodynamics***

$Q_{7\text{-}10}$

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
963.4	4,730		4,730	0.619	0.0002	25.	2150.	86.	0.088	6.527	3569.947
954	5,880	4.641	5875.359								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
963.4	12100.89		12100.89	0.619	0.0002	37.794	2150.	56.887	0.149	3.857	1920.891
954	14636.074	4.641	14631.43								

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

New Enterprise Stone & Lime Co., Inc., NPDES Permit No. PA0204935, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All | ○ Inputs | ○ Results | ○ Limits

☑ ***Hydrodynamics***

$Q_{7\text{-}10}$

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
0.2	0.07		0.07	0.012	0.017	0.5	10.9	21.8	0.015	0.409	2.538
0.1	0.07		0.073								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
0.2	0.72		0.72	0.012	0.017	1.313	10.9	8.3	0.051	0.12	0.801
0.1	0.75		0.75								

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

New Enterprise Stone & Lime Co., Inc., NPDES Permit No. PA0204935, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 2.538 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	4,939	
Total Antimony	0	0		0	1,100	1,100	7,244	
Total Arsenic	0	0		0	340	340	2,239	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	138,302	
Total Boron	0	0		0	8,100	8,100	53,345	
Total Cadmium	0	0		0	2.014	2.13	14.0	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.763	1,803	11,875	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	107	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	626	
Total Copper	0	0		0	13.439	14.0	92.2	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.581	81.6	538	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	10.8	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.236	469	3,090	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.217	3.78	24.9	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	428	
Total Zinc	0	0		0	117.180	120	789	Chem Translator of 0.978 applied

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

New Enterprise Stone & Lime Co., Inc., NPDES Permit No. PA0204935, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | All | Inputs | Results | Limits

CFC | CCT (min): 2.538 | PMF: 1 | Analysis Hardness (mg/l): 100 | Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	1,449	
Total Arsenic	0	0		0	150	150	988	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	27,002	
Total Boron	0	0		0	1,600	1,600	10,537	
Total Cadmium	0	0		0	0.246	0.27	1.78	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.115	86.2	568	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	68.5	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	125	
Total Copper	0	0		0	8.956	9.33	61.4	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	9,879	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	21.0	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	5.97	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	344	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	32.9	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	85.6	
Total Zinc	0	0		0	118.139	120	789	Chem Translator of 0.986 applied

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

New Enterprise Stone & Lime Co., Inc., NPDES Permit No. PA0204935, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All | ○ Inputs | ○ Results | ○ Limits

☑ *THH* CCT (min): 2.538 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	36.9	
Total Arsenic	0	0		0	10	10.0	65.9	
Total Barium	0	0		0	2,400	2,400	15,806	
Total Boron	0	0		0	3,100	3,100	20,416	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	1,976	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	6,586	
Total Mercury	0	0		0	0.050	0.05	0.33	
Total Nickel	0	0		0	610	610	4,017	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	1.58	
Total Zinc	0	0		0	N/A	N/A	N/A	

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

New Enterprise Stone & Lime Co., Inc., NPDES Permit No. PA0204935, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All | ○ Inputs | ○ Results | ○ Limits

☑ CRL CCT (min): 0.801 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

New Enterprise Stone & Lime Co., Inc., NPDES Permit No. PA0204935, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | All | Inputs | Results | Limits

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	15,806	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	10,537	µg/L	Discharge Conc < TQL
Total Cadmium	1.78	µg/L	Discharge Conc < TQL
Total Chromium (III)	568	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	68.5	µg/L	Discharge Conc < TQL
Total Cobalt	125	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	59.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	1,976	µg/L	Discharge Conc < TQL
Total Iron	9,879	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	21.0	µg/L	Discharge Conc < TQL
Total Mercury	0.33	µg/L	Discharge Conc < TQL
Total Nickel	344	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	32.9	µg/L	Discharge Conc < TQL
Total Silver	16.0	µg/L	Discharge Conc < TQL
Total Thallium	1.58	µg/L	Discharge Conc < TQL
Total Zinc	506	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

New Enterprise Stone & Lime Co., Inc., NPDES Permit No. PA0204935, Outfall 001

Instructions | Discharge | *Stream*

CLEAR FORM | CALCULATE

Receiving Surface Water Name: **UNT 44647 to S. Branch of Blacklick Crk**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	044647	0.2	1849	0.81			Yes
End of Reach 1	044647	0.1	1840	0.84			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.2	0.1	0.06913			10.9	0.5					100	7		
End of Reach 1	0.1	0.1	0.07254			11	0.5								

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.2														
End of Reach 1	0.1														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

CLEAR PROJECT | CLEAR FORM | CALCULATE

Facility: **New Enterprise Stone & Lime Co., Inc.** NPDES Permit No.: **PA0204935** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Concrete Batch treated wash + stormwater**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.008	100	7						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		1270									
	Chloride (PWS)	mg/L		13.1									
	Bromide	mg/L	<	0.2									
	Sulfate (PWS)	mg/L		974									
	Fluoride (PWS)	mg/L	<	1									
Group 2	Total Aluminum	µg/L		793									
	Total Antimony	µg/L	<	0.0002									
	Total Arsenic	µg/L	<	0.002									
	Total Barium	µg/L		0.162									
	Total Beryllium	µg/L	<	0.002									
	Total Boron	µg/L	<	0.05									
	Total Cadmium	µg/L	<	0.0004									
	Total Chromium (III)	µg/L		0.0363									
	Hexavalent Chromium	µg/L	<	0.0025									
	Total Cobalt	µg/L		0.0107									
	Total Copper	µg/L		0.0183									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		0.011									
	Dissolved Iron	µg/L	<	0.04									
	Total Iron	µg/L		896									
	Total Lead	µg/L	<	0.001									
	Total Manganese	µg/L		944									
	Total Mercury	µg/L	<	0.0002									
	Total Nickel	µg/L	<	0.001									
	Total Phenols (Phenolics) (PWS)	µg/L		0.037									
	Total Selenium	µg/L	<	0.02									
	Total Silver	µg/L	<	0.001									
	Total Thallium	µg/L	<	0.0004									
	Total Zinc	µg/L	<	0.02									
	Total Molybdenum	µg/L		0.088									