pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0218502**
Facility Type	**Industrial**	APS ID	**1090671**
Major / Minor	**Minor**	Authorization ID	**1443608**

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

Applicant and Facility Information

Applicant Name	**U.S. Army Corps of Engineers Pittsburgh District**	Facility Name	**Left Bank Concrete Batch Plant**
Applicant Address	1000 Liberty Avenue Pittsburgh, PA 15222-4186	Facility Address	13th Street and Rail Road Street Charleroi, PA 15022
Applicant Contact	Stephen Frost	Facility Contact	Stephen Dine
Applicant Phone	412-395-7497	Facility Phone	724-684-7462
Applicant Email	Stephen.Frost@usace.army.mil	Facility Email	Stephen.Dine@usace.army.mil
Client ID	5515	Site ID	535099
SIC Code	3273	Municipality	Charleroi Borough
SIC Description	Manufacturing - Ready-Mixed Concrete	County	Washington
Date Application Received	June 5, 2023	EPA Waived?	Yes
Date Application Accepted	June 13, 2023	If No, Reason	

Purpose of Application: Renewal NPDES permit coverage.

Summary of Review

The Department received a renewal NOI from the U.S. Army Corps of Engineers (USACE) for the Left Bank Concrete Batch Plant on June 5, 2023. The site is a temporary concrete batch plant for construction of the USACE, Charleroi, PA Locks and Dam (L/D) Project.

Over the past two decades, the USACE has been rebuilding Locks and Dam 4 located at River Mile 41.5 on the Monongahela River near the city of Charleroi. In 2005, USACE completed construction of the Left Bank Temporary Concrete Batch Plant and Staging area in support of the project. The batch plant was constructed and is operated for the sole purpose of providing concrete for construction of twin 84-foot by 720-foot chambers to replace the existing lock chambers. Concrete production at the site is expected to be completed by April 2024.

The site has two outfalls and one internal monitoring point. Both outfalls discharge to the Monongahela River, designated in 25 PA Code Chapter 93 as Warm Water Fishes (WWF). Surface runoff from the plant area collects in two sedimentation basins. Discharge from the sedimentation basins, after pH neutralization, is monitored at IMP101. Outfall 001, in addition to receiving treated water from IMP 101, also discharges stormwater runoff from a parking lot/equipment laydown area. Part of the batch plant facility includes a river bulkhead and access ramp, with a steep slope form the access road up to the plant. Prior to USACE ownership of the site, previous operations at the site by other entities included a coal refuse stockpile. In 2008, a groundwater seep containing white precipitate was observed along the slope. From 2008 to 2018, this groundwater was treated by manually adding sodium hydroxide to raise the pH and precipitate metals. In 2018, a passive treatment system was installed to treat the groundwater seep. The treatment system consists of a series of inlets to collect the groundwater and a concrete vault filled with calcium carbonate limestone to passively treat the groundwater. The

Approve	Deny	Signatures	Date
X		Adam Olesnanik, P.E. / Environmental Engineer	November 7, 2023
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	November 28, 2023

Summary of Review

construction of the vault began in November 2018 and was completed in January 2019. The system continues to treat the groundwater to meet the permit requirements. The treated groundwater discharges via Outfall 002.

Settled solids in the two sedimentation basins are removed regularly and disposed of at a local Subtitle D Landfill. The total volume of the removed solids is approximately 3,000 tons per year. Maintenance of the groundwater seep passive pH neutralization system includes removal of aluminum sludge. The sludge has been removed twice. The sludge was placed in sedimentation basin 1A where the solids settled and were removed along with the accumulated sediment. It is anticipated that limestone within the treatment system will require regular replacement when sludge removal is no longer effective.

The site was last inspected on April 27, 2023; Two violations were noted. The Permittee has 6 open violations. Four violations are with the SWRO Safe Drinking Water Program and associated with the Somerfield South Recreation Area. The other two are with the SWRO Clean Water Program and associated with this site. One violation was failure to meet effluent limits set in Part A of the NPDES permit. The other violation was failure to take necessary measures to prevent pollutants from reaching waters of the Commonwealth.

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 (IMP 101)	Design Flow (MGD)	0.77
Latitude	40º 08' 49"	Longitude	-79º 54' 07"
Quad Name	Monongahela	Quad Code	1706

Wastewater Description: Treated storm water runoff from the plant area, aggregate wash water, wash water from plant mixing drum and concrete delivery conveyor cleanup, and truck tire and housekeeping wash water (effluent from IMP 101) and untreated storm water runoff

Receiving Waters	Monongahela River	Stream Code	37185
NHD Com ID	99409788	RMI	41.72
Drainage Area	5210	Yield (cfs/mi^2)	0.106
Q_{7-10} Flow (cfs)	550	Q_{7-10} Basis	USACOE
Elevation (ft)	740	Slope (ft/ft)	0.0001
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	

Assessment Status	Impaired		
Cause(s) of Impairment	PCB, PCB		
Source(s) of Impairment	Source Unknown, Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL

Nearest Downstream Public Water Supply Intake	PA American Water Co. Aldrich Station		
PWS Waters	Monongahela River	Flow at Intake (cfs)	550
PWS RMI	25.55	Distance from Outfall (mi)	16.17

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.0028
Latitude	40º 08' 52"	Longitude	-79º 54' 10"
Quad Name	Monongahela	Quad Code	1706
Wastewater Description:	Coal waste-impacted groundwater seepage and storm water runoff		

Receiving Waters	Monongahela River	Stream Code	37185
NHD Com ID	99409788	RMI	41.64
Drainage Area	5210	Yield (cfs/mi^2)	0.106
Q_{7-10} Flow (cfs)	550	Q_{7-10} Basis	USACOE
Elevation (ft)	740	Slope (ft/ft)	0.0001
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	PCB, PCB		
Source(s) of Impairment	Source Unknown, Source Unknown		
TMDL Status	Final	Name	Monongahela River TMDL

Nearest Downstream Public Water Supply Intake	PA American Water Co. Aldrich Station		
PWS Waters	Monongahela River	Flow at Intake (cfs)	550
PWS RMI	25.55	Distance from Outfall (mi)	16.09

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0.77
Latitude	40º 08' 49"	**Longitude**	-79º 54' 07"

Wastewater Description: Treated storm water runoff from the plant area, aggregate wash water, wash water from plant mixing drum and concrete delivery conveyor cleanup, and truck tire and housekeeping wash water (effluent from IMP 101) and untreated storm water runoff

Technology-Based Limitations

Since the process wastewaters that discharge from Outfall 001 are limited at IMP 101, the Technology-Based limitations and monitoring requirements imposed at Outfall 001 are targeted towards the storm water contributions to Outfall 001. At a minimum, Outfall 001 will be subject to the following:

Total Dissolved Solids Considerations

Outfall 001 is also subject to Chapter 95.10 Effluent Standards for total dissolved solids (TDS). The provisions of Chapter 95.10 were adopted on August 20, 2010 and became effective August 21, 2010. Chapter 95.10 of the Department's regulations establishes the effluent standards applicable to new and expanding discharges of TDS. Under the provisions of this regulation, dischargers that are subject to the requirements of 95.10 must be identified; discharges that are exempt from any treatment requirements under this chapter must be identified; the existing mass loadings of TDS that are exempt from the treatment requirements must be identified and quantified; and discharges of new and expanding mass loadings of TDS must be evaluated.

Integral to the implementation of Chapter 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 discharge, provided that the loading was authorized prior to August 21, 2010 are exempt. Generally, no permit actions are required until an NPDES permit is issued, renewed, or amended. 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 there is 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.

The discharge from Outfall 001 was authorized and existed prior to August 21, 2010. Therefore, the discharge is considered to be an existing, authorized mass loading of TDS and is exempt from any treatment requirements. The average loading contained in the NPDES permit application for Outfall 001 is 1,795 $^{lb}/_{day}$. The TDS discharge is less than 5,000 $^{lb}/_{day}$, so it is not considered expanding mass loadings.

Although no TDS treatment standards are applicable at this time, TDS reporting will be required at Outfall 001 to allow for a mathematical determination of TDS load contributions from storm water that is not included as part of the effluent monitored at IMP 101.

Water Quality Based Effluent Limits

Toxics Management Spread Sheet

The Department of Environmental Protection (DEP) has developed the DEP Toxics Management Spreadsheet ("TMS") to facilitate calculations necessary for completing a reasonable potential (RP) analysis and determining water quality-based effluent limitations for discharges of toxic pollutants. The Toxics Management Spreadsheet is a macro-enabled Excel binary file that combines the functions of the PENTOXSD model and the Toxics Screening Analysis spreadsheet to evaluate the reasonable potential for discharges to cause excursions above water quality standards and to determine WQBELs. The Toxics Management Spread Sheet is a single discharge, mass-balance water quality calculation spread sheet 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, discharge flow rate and the discharge concentrations for parameters in the permit application or in DMRs, which are entered into the spread sheet 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. Discharge concentrations for the parameters are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). The spread sheet then evaluates each parameter 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, the Toxics Management Spread sheet recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Discharges from Outfall 001 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the Toxics Management Spread Sheet. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration in the Toxics Management Spread Sheet. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion is considered to be pollutants of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion]. The Toxics Management Spread Sheet is run with the discharge and receiving stream characteristics shown in Table 1. For IW discharges, the design flow used in modeling is the average flow during production or operation taken from the permit application. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established 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 displayed in the Toxics Management Spread Sheet in Attachment B of this Fact Sheet. The Toxics Management Spread Sheet did not recommend any WQBELs for the discharges from Outfall 001.

Table 1: TMS Inputs for Outfall 001

Parameter	**Value**
River Mile Index	41.7
Discharge Flow (MGD)	0.150
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	5210
$Q_{7\text{-}10}$ (cfs)	550
Low-flow yield (cfs/mi^2)	0.106
Elevation (ft)	740
Slope	0.0001

Total Maximum Daily Loads

The Monongahela River has a TMDL for PCBs and Chlordane. The Monongahela River TMDL is applicable only to wastewaters that discharge directly to the main stem of the Monongahela River. The TMDL applies only to discharges of PCBs and chlordane to the Monongahela River and does not provide wasteload allocations for either. The TMDL goal is for levels of PCB and chlordane in the water column is to be equal to or less than the Commonwealth's water quality

criteria for those pollutants. The production and use of PCB in the United States was banned in July of 1979. In addition, the TMDL acknowledges that there are no longer any known point sources of either pollutant in the watershed and the TMDL is expected to achieve implementation through "natural attenuation". While it is now illegal to manufacture, distribute, or use PCBs in the United states, these synthetic oils were used in the past. However, this site has not been shown to have PCBs in its discharge and has not been known to use PCBs. Neither chlordane nor PCB's are used, generated, or stored at the site; nor is there any evidence to suggest that PCBs and chlordane were ever used, generated, or stored onsite in the past. Based upon these considerations, the Monongahela TMDL is not applicable to site's wastewater discharges.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 2.

Table 2. Current Effluent Limits at Outfall 001

Parameters	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Sample Frequency	Sample Type
Total Dissolved Solids (mg/L)	XXX	XXX	XXX	Report	1/quarter	Grab
Sulfate (mg/L)	XXX	XXX	XXX	Report	1/quarter	Grab

Proposed Effluent Limitations

The proposed effluent limitations for Outfall 001 are displayed in Table 3 below, they are the most stringent values from the above effluent limitation development.

Table 3. Proposed Effluent Limits at Outfall 001

Parameters	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Sample Frequency	Sample Type
Total Dissolved Solids (mg/L)	XXX	XXX	XXX	Report	1/quarter	Grab
Sulfate (mg/L)	XXX	XXX	XXX	Report	1/quarter	Grab

Development of Effluent Limitations

Outfall No.	101	**Design Flow (MGD)**	0.472
Latitude	40º 08' 50"	**Longitude**	-79º 54' 11"
Wastewater Description:	Treated storm water runoff from the plant area, aggregate wash water, wash water from plant mixing drum and concrete delivery conveyor cleanup, and truck tire and housekeeping wash water		

Technology-Based Limitations

Federal Effluent Limitation Guidelines (ELGs

Effluent monitored at IMP 101 is not subject to any promulgated Federal Effluent Limitations Guidelines (ELGs). Although EPA has not promulgated any ELGs for discharges associated with the concrete production industry, a guidance development document was published by EPA in 1978 titled "Guidance Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Concrete Products Point Source Category" ("Concrete Products Guidance"). The Concrete Products Guidance identifies total suspended solids (TSS), oil and grease, and pH as the primary contaminants in concrete production wastewaters; however, the guidance document does not recommend any effluent limitations for those pollutants and no ELGs were promulgated subsequent to the guidance document's publication. Therefore, numerical effluent limitations for the pollutants of concern identified in the Concrete Products Guidance are developed at IMP 101 based on state regulatory requirements and Best Professional Judgment (BPJ).

Best Professional Judgement (BPJ) Limits

Technology-based effluent limitations for TSS are imposed at IMP 101 based on the TSS limitations of 40 CFR 411.35 Cement Manufacturing Point Source Category, Subpart C – Materials Storage Pile Runoff Subcategory (New Source Performance Standards). Cement manufacturing is a separate industrial category from concrete production, but the runoff characteristics and treatment technologies employed (sedimentation) for wastewaters covered under 40 CFR 411.35 are similar to those at the USACOE's Charleroi Batch Plant. Therefore, an instantaneous maximum TSS limit of 50 mg/L will be imposed at IMP 101 based on the TSS limitations of 40 CFR 411.35.

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1).

Oil and grease is identified by EPA as a pollutant of concern for the concrete production industry per the 1978 Concrete Products Guidance; therefore, oil and grease limits will be imposed at IMP 101 in accordance with the oil and grease effluent standards of 25 Pa. Code § 95.2(2)(ii) that are applicable to oil-bearing wastewaters.

Effluent standards for pH are imposed in accordance with 25 Pa. Code §§ 95.2(1) which is displayed in Table 4 below.

Table 4: Regulatory Effluent Standards and Monitoring Requirements for IMP 101

Parameter	Monthly Average	Daily Maximum	Units
Flow	Monitor and Report		MGD
Oil & Grease	15	30	mg/L
pH	Not less than 6.0 nor greater than 9.0		S.U.

Total Dissolved Solids Considerations

IMP 101 is also subject to Chapter 95.10 Effluent Standards for total dissolved solids (TDS). The provisions of Chapter 95.10 were adopted on August 20, 2010 and became effective August 21, 2010. Chapter 95.10 of the Department's regulations establishes the effluent standards applicable to new and expanding discharges of TDS. Under the provisions of this regulation, dischargers that are subject to the requirements of 95.10 must be identified; discharges that are exempt from any treatment requirements under this chapter must be identified; the existing mass loadings of TDS that are exempt

from the treatment requirements must be identified and quantified; and discharges of new and expanding mass loadings of TDS must be evaluated.

Integral to the implementation of Chapter 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 discharge, provided that the loading was authorized prior to August 21, 2010 are exempt. Generally, no permit actions are required until an NPDES permit is issued, renewed, or amended. 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 there is 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.

The discharge from IMP 101 was authorized and existed prior to August 21, 2010. Therefore, the discharge is considered to be an existing, authorized mass loading of TDS and is exempt from any treatment requirements. The average mass loading contained in the NPDES permit application for IMP 101 is 632 $^{lb}/_{day}$. The TDS discharge is less than 5,000 $^{lb}/_{day}$, so it is not considered expanding mass loadings.

Although no TDS treatment standards are applicable at this time, the reporting requirement for TDS will be maintained at IMP 101 to 1) monitor TDS levels in the process wastewater given that TDS is a pollutant of concern for this industry; and 2) monitor the TDS load contributions to the Monongahela River from process wastewaters.

Water Quality-Based Effluent Limitations (WQBELs)

IMP 101 is an internal compliance point that does not discharge directly to waters of the Commonwealth. Compliance with water quality standards for IMP 101's effluent is evaluated at the final effluent discharge location to the Monongahela River, Outfall 001.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 5.

Table 5. Current Effluent Limits at IMP 101

Parameters	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Sample Frequency	Sample Type
Flow (MGD)	XXX	Report	Report	XXX	2/month	Measured
pH (S.U.)	6.0	XXX	XXX	9.0	2/month	Grab
Total Suspended Solids (mg/L)	XXX	Report	XXX	50	2/month	Grab
Total Dissolved Solids (mg/L)	XXX	XXX	XXX	Report	1/quarter	Grab
Oil and Grease (mg/L)	XXX	15	XXX	30	2/month	Grab
Total Aluminum (mg/L)	XXX	4.0	XXX	8.0	2/month	Grab
Total Iron (mg/L)	XXX	2.0	XXX	4.0	2/month	Grab
Total Manganese (mg/L)	XXX	1.0	XXX	2.0	2/month	Grab

Proposed Effluent Limitations

The proposed effluent limitations for IMP 101 are displayed in Table 6 below, they are the most stringent values from the above effluent limitation development.

Table 6. Proposed Effluent Limits at IMP 101

Parameters	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Sample Frequency	Sample Type
Flow (MGD)	XXX	Report	Report	XXX	2/month	Measured
pH (S.U.)	6.0	XXX	XXX	9.0	2/month	Grab
Total Suspended Solids (mg/L)	XXX	Report	XXX	50	2/month	Grab
Total Dissolved Solids (mg/L)	XXX	XXX	XXX	Report	1/quarter	Grab
Oil and Grease (mg/L)	XXX	15	XXX	30	2/month	Grab
Total Aluminum (mg/L)	XXX	4.0	XXX	8.0	2/month	Grab
Total Iron (mg/L)	XXX	2.0	XXX	4.0	2/month	Grab
Total Manganese (mg/L)	XXX	1.0	XXX	2.0	2/month	Grab

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0.0028
Latitude 40º 08' 52" **Longitude** -79º 54' 10"
Wastewater Description: Coal waste-impacted groundwater seepage and storm water runoff

Technology-Based Limitations

Federal Effluent Limitation Guidelines (ELGs)

The site is not subject to Federal Effluent Limitation Guidelines (ELGs) as the SIC code is not listed under 40 CFR parts 405 through 471. Therefore, technology-based effluent limitations are developed based on Best Professional Judgment (BPJ).

Best Professional Judgment (BPJ) Limitations

Due to the impact of coal waste on the Outfall 002 discharge, BPJ of technology-based effluent limits will be based on those required for discharges from coal refuse disposal piles as listed in 25 Pa. Code Chapter 90.102(a) – Group A limits (30-day Average and Instantaneous Maximum limits and pH limits only).

Table 7. BPJ limits for Outfall 002.

Parameter	Monthly Average (mg/L)	Instant Maximum (mg/L)	Basis
Total Suspended Solids	35	90	25 Pa. Code § 90.102(a)
Aluminum, Total	5.0	10.0	25 Pa. Code § 90.102(a)
Iron, Total	3.0	7.0	25 Pa. Code § 90.102(a)
Manganese, Total	2.0	5.0	25 Pa. Code § 90.102(a)
pH	between 6.0 to 9.0 standard units		25 Pa. Code § 90.102(a)

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring is required pursuant to 25 Pa. Code § 92a.61(d)(1) which is displayed in Table 8 below.

Effluent standards for pH are imposed in accordance with 25 Pa. Code §§ 95.2(1) which is displayed in Table 8 below.

Table 8: Regulatory Effluent Standards and Monitoring Requirements for Outfall 002

Parameter	Monthly Average	Daily Maximum	Units
Flow	Monitor and Report		MGD
pH	Not less than 6.0 nor greater than 9.0		S.U.

Total Dissolved Solids Considerations

Outfall 002 is also subject to Chapter 95.10 Effluent Standards for total dissolved solids (TDS). The provisions of Chapter 95.10 were adopted on August 20, 2010 and became effective August 21, 2010. Chapter 95.10 of the Department's regulations establishes the effluent standards applicable to new and expanding discharges of TDS. Under the provisions of this regulation, dischargers that are subject to the requirements of 95.10 must be identified; discharges that are exempt from any treatment requirements under this chapter must be identified; the existing mass loadings of TDS that are exempt from the treatment requirements must be identified and quantified; and discharges of new and expanding mass loadings of TDS must be evaluated.

Integral to the implementation of Chapter 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 discharge, provided that the loading was authorized prior to August 21, 2010 are exempt. Generally, no permit actions are required until an NPDES permit is issued, renewed, or amended. 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 there is 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.

The discharge from Outfall 002 was authorized and existed prior to August 21, 2010. Therefore, the discharge is considered to be an existing, authorized mass loading of TDS and is exempt from any treatment requirements. The average mass loading contained in the NPDES permit application for Outfall 001 is 21 $^{lb}/_{day}$. The TDS discharge is less than 5,000 $^{lb}/_{day}$, so it is not considered expanding mass loadings.

Although no TDS treatment standards are applicable at this time, the reporting requirement for TDS will be maintained at Outfall 002 to 1) monitor TDS levels in the process wastewater given that TDS is a pollutant of concern for this industry; and 2) monitor the TDS load contributions to the Monongahela River from process wastewaters.

Water Quality Based Effluent Limits

Toxics Management Spread Sheet

The Department of Environmental Protection (DEP) has developed the DEP Toxics Management Spreadsheet ("TMS") to facilitate calculations necessary for completing a reasonable potential (RP) analysis and determining water quality-based effluent limitations for discharges of toxic pollutants. The Toxics Management Spreadsheet is a macro-enabled Excel binary file that combines the functions of the PENTOXSD model and the Toxics Screening Analysis spreadsheet to evaluate the reasonable potential for discharges to cause excursions above water quality standards and to determine WQBELs. The Toxics Management Spread Sheet is a single discharge, mass-balance water quality calculation spread sheet 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, discharge flow rate and the discharge concentrations for parameters in the permit application or in DMRs, which are entered into the spread sheet 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. Discharge concentrations for the parameters are chosen to represent the "worst case" quality of the discharge (i.e., maximum reported discharge concentrations). The spread sheet then evaluates each parameter 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, the Toxics Management Spread sheet recommends average monthly and maximum daily WQBELs.

Reasonable Potential Analysis and WQBEL Development for Outfall 002

Discharges from Outfall 002 are evaluated based on concentrations reported on the application and on DMRs; data from those sources are entered into the Toxics Management Spread Sheet. The maximum reported value of the parameters from the application form or from previous DMRs is used as the input concentration in the Toxics Management Spread Sheet. All toxic pollutants whose maximum concentrations, as reported in the permit application or on DMRs, are greater than the most stringent applicable water quality criterion is considered to be pollutants of concern. [This includes pollutants reported as "Not Detectable" or as "<MDL" where the method detection limit for the analytical method used by the applicant is greater than the most stringent water quality criterion]. The Toxics Management Spread Sheet is run with the discharge and receiving stream characteristics shown in Table 9. For IW discharges, the design flow used in modeling is the average flow during production or operation taken from the permit application. Pollutants for which water quality standards have not been promulgated (e.g., TSS, oil and grease) are excluded from the analysis. All the parameters are evaluated using the model to determine the water quality-based effluent limits applicable to the discharge and the receiving stream. The spreadsheet then compares the reported discharge concentrations to the calculated water quality-based effluent limitations to determine if a reasonable potential exists to exceed the calculated WQBELs. Effluent limitations are established in the draft permit where a pollutant's maximum reported discharge concentration equals or exceeds 50% of the WQBEL. For non-conservative pollutants, monitoring requirements are established where the maximum reported concentration is between 25% - 50% of the WQBEL. For conservative pollutants, monitoring requirements are established 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 displayed in the Toxics Management Spread Sheet in Attachment C of this Fact Sheet. The Toxics Management Spread Sheet did not recommend any WQBELs for the discharges from Outfall 002.

Table 9: TMS Inputs for Outfall 002

Parameter	**Value**
River Mile Index	41.64
Discharge Flow (MGD)	0.0014
Basin/Stream Characteristics	
Parameter	**Value**
Area in Square Miles	5,210
Q_{7-10} (cfs)	550
Low-flow yield (cfs/mi^2)	0.106
Elevation (ft)	740
Slope	0.0001

Total Maximum Daily Loads

Monongahela River has a TMDL for PCBs and Chlordane. The TMDL outlines a plan to achieve water quality standards in the water body. The Monongahela River TMDL is applicable only to wastewaters that discharge directly to the main stem of the Monongahela River. The TMDL applies only to discharges of PCBs and chlordane to the Monongahela River and does not provide wasteload allocations for either. The TMDL goal is for levels of PCB and chlordane in the water column to be equal to or less than the Commonwealth's water quality criteria. The production and use of PCB in the United States was banned in July of 1979. In addition, the TMDL acknowledges that there are no longer any known point sources of either pollutant in the watershed and the TMDL is expected to achieve implementation through "natural attenuation". While it is now illegal to manufacture, distribute, or use PCBs in the United states, these synthetic oils were used in the past. However, this site has not been shown to have PCBs in its discharge and has not been known to use PCBs. Neither chlordane nor PCB's are used, generated, or stored at the site; nor is there any evidence to suggest that PCBs and chlordane were ever used, generated, or stored onsite in the past. Based upon these considerations, the Monongahela TMDL is not applicable to site's wastewater discharges.

Anti-Backsliding

Previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed below in Table 10.

Table 10. Current Effluent Limits at Outfall 002

Parameters	**Minimum**	**Average Monthly**	**Daily Maximum**	**Instant. Maximum**	**Sample Frequency**	**Sample Type**
Flow (MGD)	XXX	Report	Report	XXX	2/month	Measured
pH (S.U.)	6.0	XXX	XXX	9.0	2/month	Grab
Total Suspended Solids (mg/L)	XXX	35	XXX	90	2/month	Grab
Total Dissolved Solids (mg/L)	XXX	Report	XXX	Report	2/month	Grab
Total Aluminum (mg/L)	XXX	5.0	XXX	10.0	2/month	Grab

Table 10. Current Effluent Limits at Outfall 002

Parameters	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Sample Frequency	Sample Type
Total Iron (mg/L)	XXX	3.0	XXX	7.0	2/month	Grab
Total Manganese (mg/L)	XXX	2.0	XXX	5.0	2/month	Grab
Sulfate (mg/L)	XXX	Report	XXX	Report	2/month	Grab

Proposed Effluent Limitations

The proposed effluent limitations for Outfall 002 are displayed in Table 11 below, they are the most stringent values from the above effluent limitation development.

Table 11. Proposed Effluent Limits at Outfall 002

Parameters	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Sample Frequency	Sample Type
Flow (MGD)	XXX	Report	Report	XXX	2/month	Measured
pH (S.U.)	6.0	XXX	XXX	9.0	2/month	Grab
Total Suspended Solids (mg/L)	XXX	35	XXX	90	2/month	Grab
Total Dissolved Solids (mg/L)	XXX	Report	XXX	Report	2/month	Grab
Total Aluminum (mg/L)	XXX	5.0	XXX	10.0	2/month	Grab
Total Iron (mg/L)	XXX	3.0	XXX	7.0	2/month	Grab
Total Manganese (mg/L)	XXX	2.0	XXX	5.0	2/month	Grab
Sulfate (mg/L)	XXX	Report	XXX	Report	2/month	Grab

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☒	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

ATTACHMENTS

Attachment A: USGS StreamStats Reports
Attachment B: Toxics Management Spreadsheet for Outfall 001
Attachment C: Toxics Management Spreadsheet Outfall 002
Attachment D: Site Plan
Attachment E: Site Flow Diagram

Attachment A:

USGS StreamStats Reports

StreamStats Report

Region ID: PA
Workspace ID: PA20231031172507362000
Clicked Point (Latitude, Longitude): 40.14737, -79.90131
Time: 2023-10-31 13:25:33 -0400

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	5210	square miles
ELEV	Mean Basin Elevation	1842	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [99.9 Percent (5210 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5210	square miles	2.26	1400
ELEV	Mean Basin Elevation	1842	feet	1050	2580

Low-Flow Statistics Disclaimers [99.9 Percent (5210 square miles) Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [99.9 Percent (5210 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	689	ft^3/s
30 Day 2 Year Low Flow	914	ft^3/s
7 Day 10 Year Low Flow	401	ft^3/s
30 Day 10 Year Low Flow	470	ft^3/s
90 Day 10 Year Low Flow	698	ft^3/s

Low-Flow Statistics Citations

Attachment B:

Toxics Management Spreadsheet for Outfall 001

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **USACE Left Bank Batch Plant** NPDES Permit No.: **PA0218502** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Concrete Batch Plant Wastewater**

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
0.15	150	8.2						

					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		4200									
	Chloride (PWS)	mg/L		37									
	Bromide	mg/L		0.24									
	Sulfate (PWS)	mg/L		74									
	Fluoride (PWS)	mg/L		0.13									
Group 2	Total Aluminum	µg/L		1.1									
	Total Antimony	µg/L	<	5.1									
	Total Arsenic	µg/L	<	5.7									
	Total Barium	µg/L		78									
	Total Beryllium	µg/L	<	1.4									
	Total Boron	µg/L		47									
	Total Cadmium	µg/L		0.45									
	Total Chromium (III)	µg/L		3.1									
	Hexavalent Chromium	µg/L	<	6									
	Total Cobalt	µg/L	<	2.1									
	Total Copper	µg/L		6.1									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	8									
	Dissolved Iron	µg/L		2000									
	Total Iron	µg/L		1.5									
	Total Lead	µg/L		3.6									
	Total Manganese	µg/L		82									
	Total Mercury	µg/L	<	0.13									
	Total Nickel	µg/L		3.6									
	Total Phenols (Phenolics) (PWS)	µg/L		250									
	Total Selenium	µg/L	<	4									
	Total Silver	µg/L	<	0.87									
	Total Thallium	µg/L		3.4									
	Total Zinc	µg/L		22									
	Total Molybdenum	µg/L	<	7.1									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

USACE Left Bank Batch Plant, NPDES Permit No. PA0218502, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Monongahela River**

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	037185	41.72	740	5210			Yes
End of Reach 1	037185	40.72	739	5211			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	41.72	0.1	550			700	25					100	7		
End of Reach 1	40.72	0.1				700	25								

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	41.72														
End of Reach 1	40.72														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

USACE Left Bank Batch Plant, NPDES Permit No. PA0218502, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.196 Analysis Hardness (mg/l): 100.11 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	349,333	
Total Antimony	0	0		0	1,100	1,100	512,355	
Total Arsenic	0	0		0	340	340	158,364	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	9,781,317	
Total Boron	0	0		0	8,100	8,100	3,772,794	
Total Cadmium	0	0		0	2.016	2.14	995	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	570.264	1,805	840,557	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	7,589	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	44,249	
Total Copper	0	0		0	13.453	14.0	6,527	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	64.657	81.8	38,080	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	767	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.661	470	218,729	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	3.223	3.79	1,766	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	30,276	
Total Zinc	0	0		0	117.287	120	55,858	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): ###### PMF: 1 Analysis Hardness (mg/l): 100.02 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	521,659	
Total Arsenic	0	0		0	150	150	355,677	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	9,721,833	
Total Boron	0	0		0	1,600	1,600	3,793,886	
Total Cadmium	0	0		0	0.246	0.27	642	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.127	86.2	204,383	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	24,648	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	45,052	
Total Copper	0	0		0	8.957	9.33	22,124	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	3,556,768	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	7,546	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	2,148	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.016	52.2	123,710	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	11,830	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	30,825	
Total Zinc	0	0		0	118.160	120	284,157	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): ###### 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	13,279	
Total Arsenic	0	0		0	10	10.0	23,712	
Total Barium	0	0		0	2,400	2,400	5,690,829	
Total Boron	0	0		0	3,100	3,100	7,350,654	
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	711,354	
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	2,371,179	
Total Mercury	0	0		0	0.050	0.05	119	
Total Nickel	0	0		0	610	610	1,446,419	
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	569	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): ###### 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	

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

No. Samples/Month: 4

Pollutants	*Mass Limits*		*Concentration Limits*				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			

☑ ***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 Aluminum	223,908	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	13,279	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	23,712	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	5,690,829	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	2,418,208	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	638	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	204,383	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	4,864	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	28,362	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	4,184	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	711,354	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	3,556,768	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	7,546	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	2,371,179	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	119	µg/L	Discharge Conc < TQL
Total Nickel	123,710	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	11,830	µg/L	Discharge Conc < TQL
Total Silver	1,132	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	569	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	35,803	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

Attachment C:

Toxics Management Spreadsheet for Outfall 002

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **USACE Left Bank Batch Plant** NPDES Permit No.: **PA0218502** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Concrete Batch Plant Wastewater**

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
0.0014	547	6.9						

					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		2800									
	Chloride (PWS)	mg/L		55									
	Bromide	mg/L	<	0.053									
	Sulfate (PWS)	mg/L		508									
	Fluoride (PWS)	mg/L		0.34									
Group 2	Total Aluminum	µg/L		5000									
	Total Antimony	µg/L	<	5.1									
	Total Arsenic	µg/L	<	5.7									
	Total Barium	µg/L		20									
	Total Beryllium	µg/L	<	1.4									
	Total Boron	µg/L		280									
	Total Cadmium	µg/L		2									
	Total Chromium (III)	µg/L	<	2.6									
	Hexavalent Chromium	µg/L	<	6									
	Total Cobalt	µg/L		24									
	Total Copper	µg/L		6.2									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	8									
	Dissolved Iron	µg/L		270									
	Total Iron	µg/L		2.3									
	Total Lead	µg/L		4.7									
	Total Manganese	µg/L		1.1									
	Total Mercury	µg/L		0.23									
	Total Nickel	µg/L		120									
	Total Phenols (Phenolics) (PWS)	µg/L		110									
	Total Selenium	µg/L		7.8									
	Total Silver	µg/L	<	0.87									
	Total Thallium	µg/L	<	3.2									
	Total Zinc	µg/L		360									
	Total Molybdenum	µg/L	<	7.1									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

USACE Left Bank Batch Plant, NPDES Permit No. PA0218502, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Monongahela River**

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	037185	41.64	740	5210			Yes
End of Reach 1	037185	40.64	739	5211			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	41.64	0.1	550			700	25					100	7		
End of Reach 1	40.64	0.1				700	25								

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	41.64														
End of Reach 1	40.64														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

USACE Left Bank Batch Plant, NPDES Permit No. PA0218502, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.196 Analysis Hardness (mg/l): 100.01 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	37,333,298	
Total Antimony	0	0		0	1,100	1,100	54,755,504	
Total Arsenic	0	0		0	340	340	16,924,428	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	#########	
Total Boron	0	0		0	8,100	8,100	#########	
Total Cadmium	0	0		0	2.014	2.13	106,195	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.805	1,803	89,758,287	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	811,042	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	4,728,884	
Total Copper	0	0		0	13.440	14.0	696,901	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	64.588	81.7	4,064,572	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	81,987	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.271	469	23,356,198	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	3.79	188,409	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	3,235,552	
Total Zinc	0	0		0	117.189	120	5,964,643	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): ###### 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	55,868,721	
Total Arsenic	0	0		0	150	150	38,092,310	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	#########	
Total Boron	0	0		0	1,600	1,600	#########	
Total Cadmium	0	0		0	0.246	0.27	68,725	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.116	86.2	21,885,535	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	2,639,800	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	4,825,026	
Total Copper	0	0		0	8.956	9.33	2,369,100	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	#########	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	807,979	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	230,048	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	13,246,932	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	1,266,989	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	3,301,334	
Total Zinc	0	0		0	118.141	120	30,427,681	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): ###### 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	1,422,113	
Total Arsenic	0	0		0	10	10.0	2,539,487	
Total Barium	0	0		0	2,400	2,400	#########	
Total Boron	0	0		0	3,100	3,100	#########	
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	76,184,620	
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	#########	
Total Mercury	0	0		0	0.050	0.05	12,697	
Total Nickel	0	0		0	610	610	#########	
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	60,948	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): ###### 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	

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

No. Samples/Month: 4

Pollutants	*Mass Limits*		*Concentration Limits*				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			

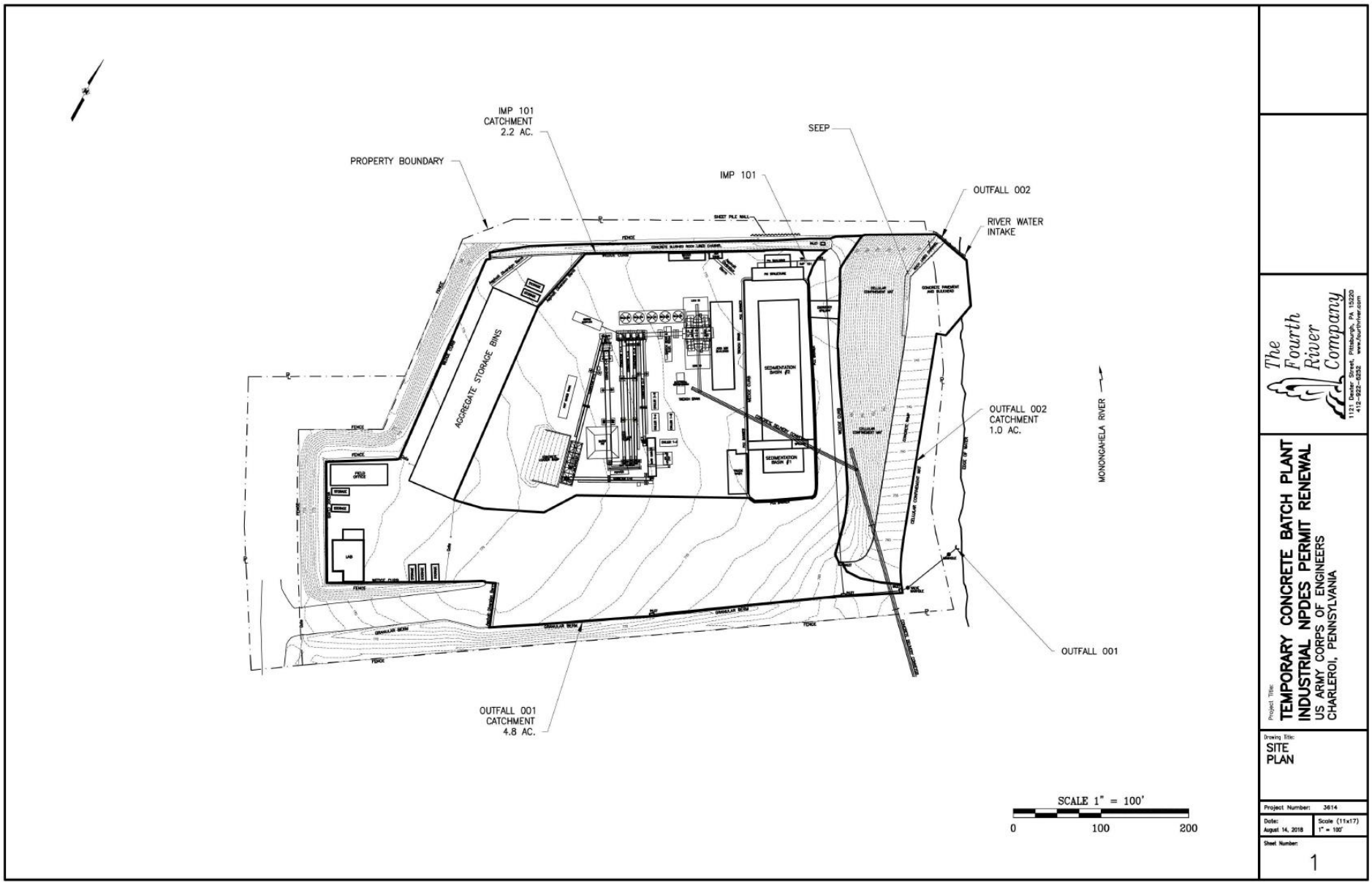
☑ ***Other Pollutants without Limits or Monitoring***

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 Aluminum	23,929,137	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	1,422,113	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	2,539,487	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	#########	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	#########	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	68,067	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	21,885,535	µg/L	Discharge Conc < TQL
Hexavalent Chromium	519,845	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	3,031,024	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	446,686	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	76,184,620	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	#########	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	807,979	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	#########	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	12,697	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	13,246,932	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	1,266,989	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	120,763	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	60,948	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	3,823,095	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

Attachment D:

Site Plan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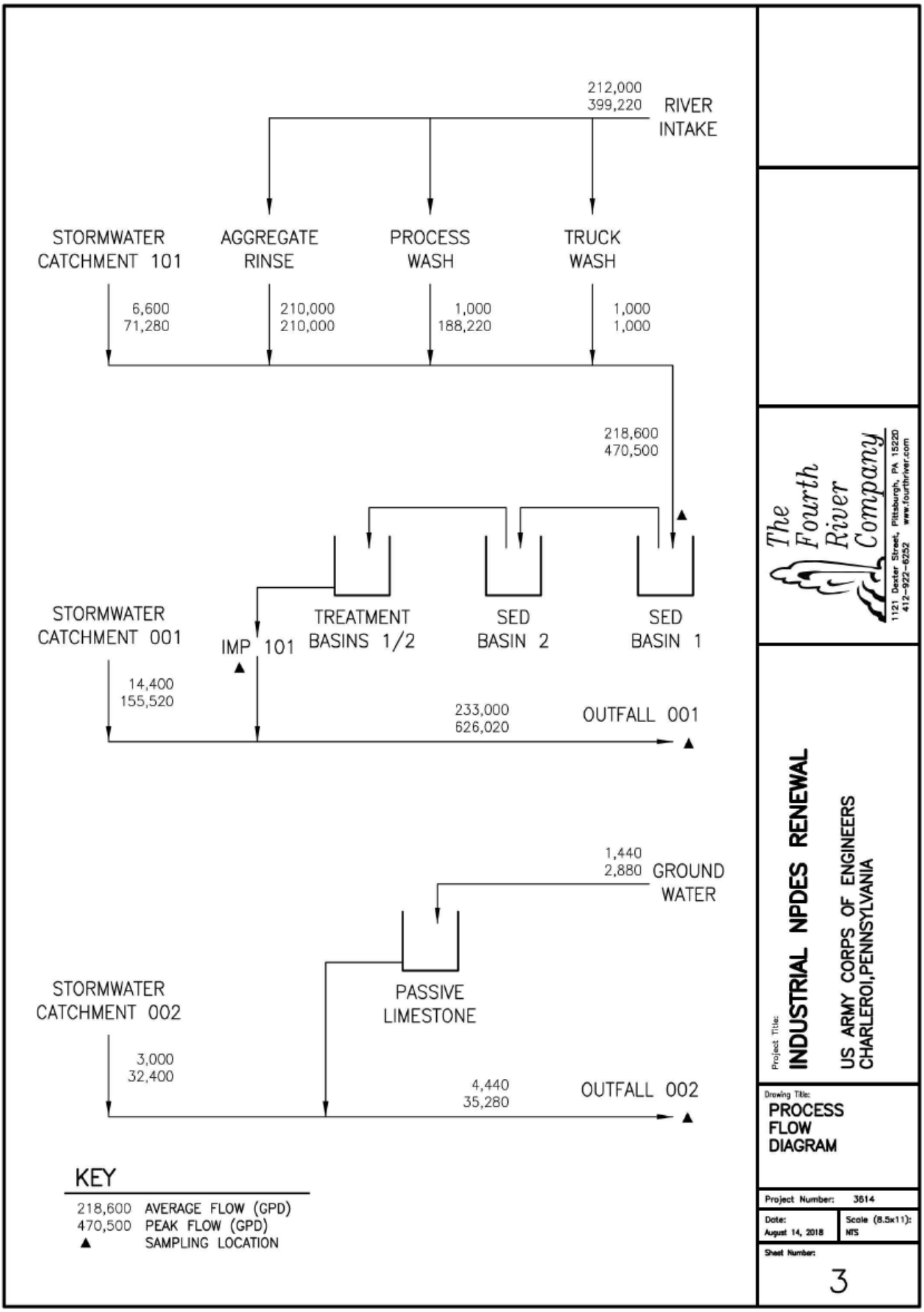
CATCHMENT
2.2 AC.
PROPERTY BOUNDARY
SEEP
IMP 101
OUTFALL 002
RIVER WATER
INTAKE
AGGREGATE STORAGE BINS
SEDIMENTATION
BASIN #2
SEDIMENTATION
BASIN #1
FIELD
OFFICE
LAB
OUTFALL 002
CATCHMENT
1.0 AC.
MONONGAHELA RIVER
OUTFALL 001
OUTFALL 001
CATCHMENT
4.8 AC.
SCALE 1" = 100'
0
100
200
The Fourth River Company
1121 Dexter Street, Pittsburgh, PA 15220
412-922-4232
www.fourthriver.com
Project Title:
TEMPORARY CONCRETE BATCH PLANT
INDUSTRIAL NPDES PERMIT RENEWAL
US ARMY CORPS OF ENGINEERS
CHARLEROI, PENNSYLVANIA
Drawing Title:
SITE
PLAN
Project Number: 3614
Date: August 14, 2018
Scale (11x17) 1" = 100'
Sheet Number:
1

Attachment E:

Site Flow Diagram



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Project Title:
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US ARMY CORPS OF ENGINEERS
CHARLEROI,PENNSYLVANIA

Drawing Title:
PROCESS FLOW DIAGRAM

Project Number: 3614
Date: August 14, 2018
Scale (8.5x11): NTS
Sheet Number: 3