SECTION 9
APPENDIX

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Conneaut WWTP
No Feasible Alternatives (NFA) Analysis

PREPARED FOR
City of Conneaut, Ohio

December 2019

190331

CITY OF CONNEAUT, OHIO

CONNEAUT WASTEWATER TREATMENT PLANT
NO FEASIBLE ALTERNATIVES ANALYSIS

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LIST OF ACRONYMS

ADF	Average Daily Flow
$CBOD_5$	5-Day Carbonaceous Biochemical Oxygen Demand
CEPT	Chemically-Enhanced Primary Treatment
DMR	Daily Monitoring Report
DO	Dissolved Oxygen
E. coli	Escherichia coli (a type of bacteria found in human intestinal tracts)
MGD	Million Gallons per Day
NFA	No Feasible Alternative
NPDES	National Pollutant Discharge Elimination System
Ohio EPA	Ohio Environmental Protection Agency
O&M	Operation and Maintenance
TSS	Total Suspended Solids
WWTP	Wastewater Treatment Plant

CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION

As part of the City of Conneaut's National Pollutant Discharge Elimination System (NPDES) permit effective December 1, 2017, the City is required to complete a study of feasible alternatives to bypassing wet weather influent flows around any portion of the Wastewater Treatment Plant (WWTP). This No Feasible Alternatives (NFA) analysis will evaluate the technical alternatives that are required by the NPDES permit.

The Conneaut WWTP is located at 1206 Broad Street Extension in Conneaut (Figure 1-1), discharging to Conneaut Creek near its mouth at Lake Erie. The existing WWTP is a treatment system utilizing primary clarification, fine-bubble aeration and traditional final settling clarifiers followed by chlorine disinfection. New preliminary treatment improvements have been implemented beginning in 2017 that include the installation of a new headworks facility consisting of screening, grit classification, washing/compaction, as well as influent and bypass metering.

Provided by the Ohio EPA, the City's 2017 NPDES permit included various methodologies to control the WWTP bypass flows, the feasibility of which should be evaluated by this report. These guidelines are the requirements that provided structure to this report, and are discussed in detail in Section 3.3.

1.2 SCOPE OF STUDY

This analysis included development of several models of the City's WWTP to calculate how different flow, loading, storage, and capacity conditions might impact the performance of the plant. Both BioWIN and GPS-X softwares were used to support the modeling effort. A peak design week was developed for the analysis which included a 10 year 2-hour rain event. For each alternative, modeling was conducted to determine if the performance of the existing and new treatment processes would meet the 7-day limit. This is illustrated more fully in subsequent chapters.

Using the modeling software in conjunction with an evaluation of the WWTP capacity and other conditions, the study will analyze alternatives to control WWTP bypasses with construction of facilities as follows:

- I/I reduction.
- Addition of further storage for flow equalization.
- Chemical enhancement of primary clarification in the existing equalization basin.
- Enhancement of secondary treatment through additional capacity.
- Construction of a high-rate treatment facility to treat bypass flows.

Figure 1.1 – WWTP Aerial Photo

1.3 STRUCTURE OF THIS REPORT

Following the Executive Summary presented in Chapter 2, this report will discuss the existing conditions of the WWTP, as well as the development of alternatives to address untreated bypasses in Chapter 3.

Chapter 4 will discuss the feasibility of removing bypass flow through collection system I/I reduction, and prior investigations into this topic. Chapters 5, 6, 7, and 8 examines the development of alternatives for elimination of bypasses through modifications of and additions to the existing WWTP. Included in these analyses are conceptual layouts, discussion of the proposed processes, opinions of probable project capital costs, and a discussion on operation and maintenance.

Outlined in Chapter 9 will be descriptions of various plant improvements common to multiple alternatives that have been identified by this analysis and feedback from plant personnel. Chapter 10 will combine the information presented by all alternatives to control untreated bypasses. It will present a summary of the opinion of probable project cost for each of the alternatives, and provide a recommendation for implementation.

CHAPTER 2
EXECUTIVE SUMMARY

2.1 SUMMARY

The City of Conneaut is required to perform a No Feasible Alternative (NFA) analysis per the City's NPDES permit effective December 1, 2017. The purpose of this study is to develop and examine feasible alternatives to control WWTP wet weather bypasses for a design year rainfall. The design average daily flow (ADF) for the WWTP is 3 MGD. Design peak daily flow (PDF) through the WWTP is 7.3 MGD.

Multiple approaches, such as I/I reduction, equalization, increased treatment capacity, and various methods of enhanced bypass flow treatment are developed in Chapters 4 through 8 of this report. Some of these alternatives were determined to be feasible for further consideration, while others were not.

In addition, the plan will also seek to integrate the proposed improvements with other needed and beneficial improvements such as replacement of WWTP equipment that is ineffective or at the end of its useful life. The City may choose to set aside additional funding to support any or all of these improvements. These plant improvements are included in several of the presented Alternatives, and are discussed in detail in Chapter 9.

2.1.1 Alternative 1 – Rehabilitation to Reduce I/I

The City of Conneaut experiences I/I in its collection systems. This Alternative evaluates the feasibility of using the collection system rehabilitation to reduce the City's I/I issues. It discusses past investigations into the subject, and ultimately concludes that I/I removal is an ineffective method of managing the plant's bypass flows.

2.1.2 Alternative 2 – Additional Flow Equalization

This Alternative assesses the feasibility of managing the WWTP's wet-weather bypasses through the addition of further flow equalization at the WWTP. This Alternative was determined to be an impractical option when compared to other alternatives due to a high cost and site restrictions.

2.1.3 Alternative 3 – Chemically Enhanced Primary Clarification

This Alternative proposes the conversion of the existing equalization basin into a chemically-enhanced clarifier to handle rapid treatment of wet-weather flows. Modeling was performed to predict plant performance after the proposed changes. This alternative lacks the ability to meet 7-day cBOD permit limits, and does not provide increased dry-weather effluent quality, unlike Alternative 4.

2.1.4 Alternative 4 – Enhanced Secondary Treatment

This Alternative approaches the management of bypass flows by expanding the secondary treatment capacity of the plant. A third final clarifier would be constructed to match the existing two, allowing for treatment of bypass flows as well as improving dry-weather secondary effluent quality.

2.1.5 Alternative 5 – High Rate Treatment of Bypass Flows

This final Alternative analyzes the feasibility of constructing a designated high-rate treatment process, in the form of a ballasted flocculation and clarification system. Although treatment provided by this Alternative is comparable to that of Alternative 3, it was ultimately removed from consideration for the same reasons as Alternative 2.

2.2 FINDINGS

Table 2-1 provides a summary of total project costs for the Alternatives evaluated. Costs presented are planning level costs in 2019 dollars.

Table 2-1
Estimated Construction Costs

Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
N/A	$5,169,000	N/A	$4,622,000	$7,993,000

2.3 RECOMMENDATION

When comparing each approach to addressing the wet-weather flows in Conneaut, Alternative 4 provides some distinct advantages.

- Improved performance under dry-weather flow and wet-weather flow conditions
- More stable biological operation
- Increased plant secondary capacity
- Addition of a final clarifier is more environmentally-friendly option, free of additional chemical discharge.

We therefore propose Alternative 4, including the installation of a UV disinfection system and new RAS pumps in each final clarifier.

2.4 RECOMMENDED PLAN

A preliminary project schedule is displayed in Table 2-2.

Table 2-2
Preliminary Project Schedule

Milestone	Duration	Date
Nominate to DEFA		Aug-2020
Submit PTI		10/6/2020
	120	
Obtain PTI Approval/Advertise for Bids		2/3/2021
	60	
Receive Bids		4/4/2021
	60	
Recive Loan Approval		6/3/2021
	30	
Execute Contract & Notice to Proceed		7/3/2021
	365	
Substantial Completion		7/3/2022
	60	
Final Completion		9/1/2022
Float	90	
Expiration Date		11/30/2022

CHAPTER 3
BYPASS CONTROL ALTERNATIVES

3.1 INTRODUCTION

USEPA defines a bypass as "the intentional diversion of waste streams from any portion of a treatment (or pretreatment) facility".[1] Intermediate treatment is defined as "technology-based requirements for direct discharging municipal sewage treatment facilities. (The intermediate treatment) Standard is based on a combination of physical and biological processes typical for the treatment of pollutants in municipal sewage. Standards are expressed as a minimum level of effluent quality in terms of BOD 5, suspended solids (SS), and pH (except as provided for special considerations and treatment equivalent to intermediate treatment)". [2] A Technology-Based Effluent Limit is defined as "a permit limit for a pollutant that is based on the capability of a treatment method to reduce the pollutant to a certain concentration". [3]

According to Federal Law, a bypass is prohibited unless unavoidable to prevent loss of life, personal injury, or severe personal property damage, or if there were no feasible alternatives to the bypass. The definition goes on to state that feasible alternatives to a bypass include the use of expanded intermediate treatment facilities and retention of untreated wastes. The following chapters will evaluate both the use and optimization of the existing WWTP, as well as the construction of additional facilities in accordance with this definition.

Bypasses of excess wet weather flow can be eliminated through a variety of means, discussed in the remaining sections of this report. For a better understanding of the function of Conneaut's treatment process, the current WWTP flow schematic is provided in Figure 3-1.

1, 2, 3 https://ofmpub.epa.gov/sor_internet/registry/termreg/searchandretrieve/home.do

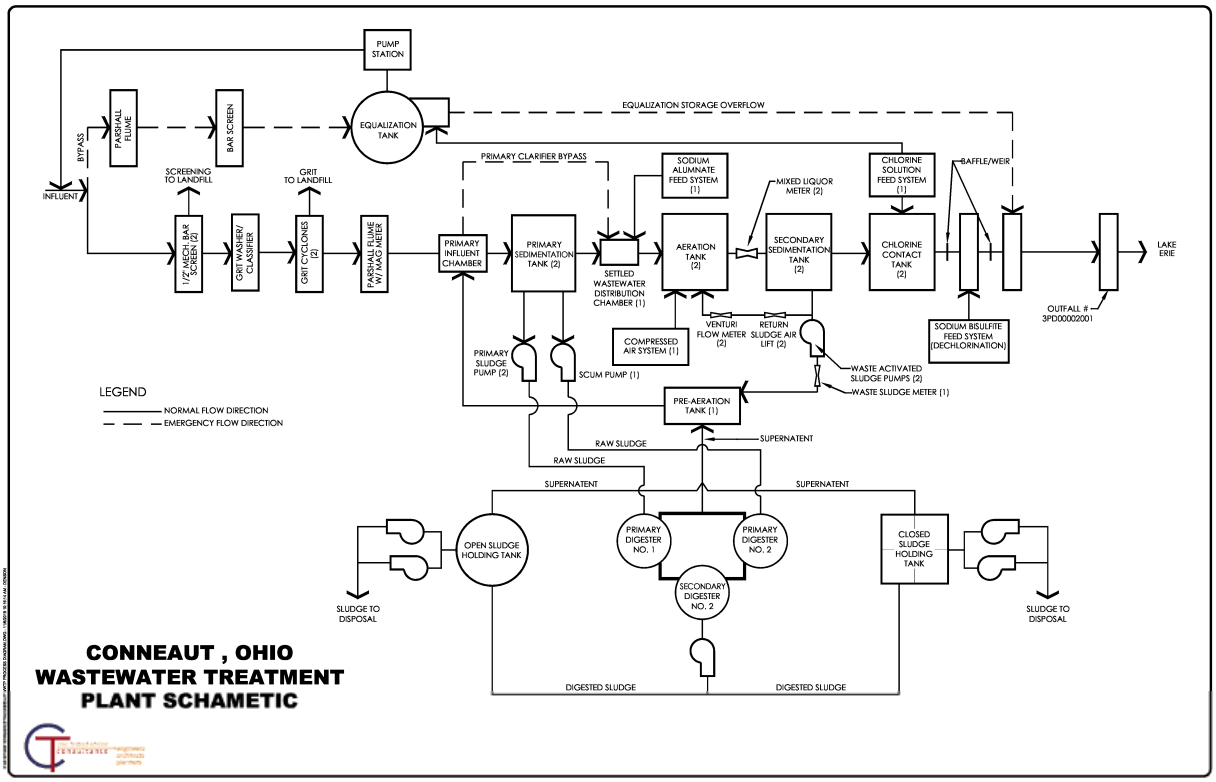

Figure 3-1 - WWTP Schematic

3.2 DESIGN FLOWS AND POLLUTANT LOADINGS

The City of Conneaut's last five years of influent wastewater characteristics were examined to develop the conditions used for the analysis of alternatives. During the original design of the Conneaut WWTP, the plant was based on influent TSS and $CBOD_5$ concentrations of 160 mg/L and 150 mg/L, respectively. These original design values are displayed in Figure 3-2, along with the plant loadings for the past five years' Daily Monitoring Reports (DMRs). It is evident that today's average loadings reside below these values, speaking to the dilute nature of the influent flow. Present-day flow rate ranges are also typically below the original design value of 3 MGD, as well.

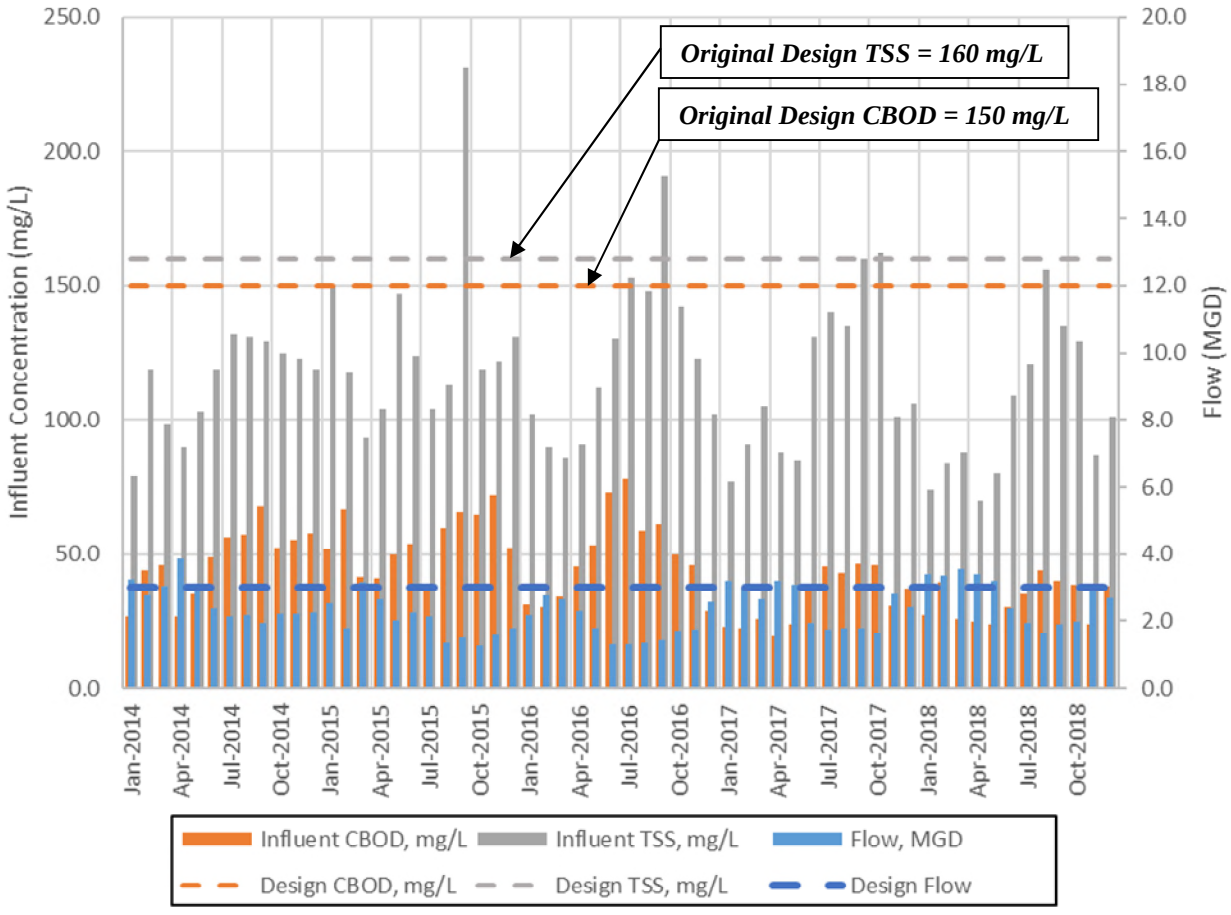

Figure 3-2 – 2014-2018 Influent Pollutant Concentrations

To determine appropriate values for design influent wastewater characteristics for use in this analysis, the concentrations from numerous past storm periods were studied. Influent concentrations that were recorded during and after large wet-weather events were analyzed, and from this, appropriate values for use in this analysis were determined. A summary of these characteristics are listed in Table 3-1.

In addition to determination of pollutant concentrations, a statistical analysis was performed to determine the WWTP flow resulting from a peak 10-year, 2-hour storm. The details of this analysis can be viewed in Appendix B. This analysis produced a value of 10 MGD for this peak event, and this value was used for evaluation of alternatives in this report.

Table 3-1
Wet-Weather Design Influent Wastewater Characteristics

Parameter	Concentrations
Design Flow	3 MGD
Flow – Peak 10-year, 2-hour	10 MGD
$CBOD_5$	45 mg/l
TSS	95 mg/l
TKN	40
Phosphorus	8

3.3 EVALUATION APPROACH

Included in the 2017 NPDES permit, the Ohio EPA directed the city to proceed in the evaluation of the following methods of reducing bypass flow:

- Inflow and Infiltration (I/I) reduction within the collection system.
- Additional wastewater storage and flow equalization.
- Providing additional secondary treatment capacity; including an analysis of constructing additional secondary capacity as well as an analysis of process changes to enhance secondary treatment capacity.
- Methods that will enhance the treatment of any bypassed flow.

This instruction from Ohio EPA was used to inform each of the Alternatives presented within this report. Each Alternative was evaluated based on these criteria, as well as a review of the proposed components, hydraulics, site layout, and any O&M changes presented.

3.3.1 Existing NPDES Permit Limits

The existing NPDES Permit is available in Appendix A. The NPDES Permit limits are summarized as follows in Table 3-2.

Table 3-2
NPDES Permit Limits

	Concentrations		Mass Loadings	
Pollutant	**30-Day Limit**	**7-Day Limit**	**30-Day Limit**	**7-Day Limit**
$CBOD_5$	15 mg/l	20 mg/l	170 kg/day	227 kg/day
TSS	20 mg/l	30 mg/l	227 kg/day	341 kg/day
Phosphorus	1.0 mg/l	1.5 mg/l	11.4 kg/day	17.0 kg/day
E. coli	126 #/100 ml	284 #/100 ml	-	-
pH (max)	9.0	-	-	-
pH (min)	6.5	-	-	-

CHAPTER 4
ALTERNATIVE 1 – REHABILITATION TO REDUCE I/I

4.1 INTRODUCTION

The City of Conneaut continues to experience high sewage flows during wet weather, primarily due to Inflow and Infiltration (I/I) into pipe and manhole defects. One way to reduce this high I/I is through the rehabilitation of the sanitary sewer system, both on the private and public side of the system.

Inflow is typically due to direct connections to the sanitary sewer such as illicit storm water connections or roof drains connected to foundation drain tile systems. Infiltration is generally due to storm water that filtrates through the ground or high ground water that seeps into the sewer system through cracks and seams in the sanitary sewers, manholes, customer lateral connections and foundation drain tiles. This chapter examines the feasibility of removing I/I sources through a variety of methods.

4.2 FEASIBILITY

In September of 2017, a Feasibility Analysis was performed outlining the extensive I/I in Conneaut's system, and the cost-effectiveness of transporting and treating the extra flow versus the cost of rehabilitating the sewer system. It identified a target Pilot Study Area, and analyzed the I/I in the existing system while attempting to evaluate its impact on the sewer and WWTP capacity. A brief synopsis of the main points of the report are laid out below.

To perform rehabilitation of the sanitary sewer system, first, the sources of I/I would need to be located on both public and private property. Public utilities typically include all sewers, pump stations, etc. Within the private owner utilities can be private sewer systems (mobile home parks), connection laterals, foundation drains, downspouts, and sump pumps. Many of these route rainfalls to the sanitary sewer system due to historical development policies, before wet weather impacts became an issue. It is up to the private owner to maintain these items and/or to prevent them from routing rainfall runoff to the sanitary sewer. Cost and inconvenience play a major role in getting private owners to actively participate in an I/I removal program. Without being able to achieve private property removal, it's uncommon for an I/I removal program to have a very successful removal rate. It was estimated in the Analysis that in the study area, 70% of the current I/I is coming from private property, making addressing the problem an even greater challenge for the City.

Removal of downspout connections is typically the most cost-effective way of removing I/I on private property. However, the private property downspouts in Conneaut are already disconnected. The analysis was conservative in that this method of I/I removal was the most cost-effective, so if it was not feasible, then no other method would be. It was concluded that within the designated Pilot Study Area, it would still be more cost-effective to transport and treat the additional flow than to try and rehabilitate the sanitary sewer system, as shown in the table referenced from the report, displayed as Figure 4-1.

Cost Effectiveness Calculations Buffalo Street and Broad Street Pilot Study Area		
Values from Flow Monitoring Data		
Design Storm I/I Volume (gallons)	142,735	(48,744 + 93,991)
Number of Buildings (each)	148	(84+64)
Remaining I/I after Rehabilitation (gallons)	122,800	142,735*(1-70%*20%)
Alternative	**Cost**	**Calculation**
Transport and Treat Alternative		
1. Relief Sewers	$ 0.00	Not needed
2. Detention Basin	$ 570,940.00	142,735*$4.00
3. Present Worth of Treatment	$ 570.00	142,735*$0.004
Total	**$ 571,510.00**	
Rehabilitation Alternative		
1. I/I Source Investigations	$ 44,400.00	148 * $300.00
2. Downspout Disconnect	$ 148,000.00	148 *20% * $5,000.00
3. Reduced Detention Basin	$ 491,200.00	122,800*$4.00
4. PW of Treatment Remaining I/I	$ 500.00	122,800 * $0.004
Total	**$ 684,100.00**	
Cost-Effectiveness Ratio	**0.84**	571,510 / 684,100

Figure 4-1 – Cost Effectiveness Calculations

If the resultant Cost-Effectiveness Ratio were to be greater than 1.00, it would indicate that rehabilitation would be less costly than transporting and treating the I/I. With a Cost-Effectiveness Ration of 0.84, the analysis shows that downspout disconnection is not a cost-effective method of rehabilitation. The rehabilitation of other sources would be even less cost-effective, as they will remove less I/I for a higher price per gallon of removal.

CHAPTER 5
ALTERNATIVE 2 – ADDITIONAL FLOW EQUALIZATION

5.1 INTRODUCTION

Addressing the City of Conneaut's I/I rates and subsequent high wet-weather flows could also be achieved through the addition of flow equalization at the WWTP. The flows from the collection system would be temporarily stored in detention basins, and once the storm passes, the flow would be passed through the WWTP for treatment. Flow equalization was also addressed in the September 2017 Feasibility Analysis, and determined to be infeasible when compared to the other options of upgrading/enhancing the existing WWTP facilities. The feasibility of this equalization addition is discussed in the following section 5.2.

5.2 FEASIBILITY

Currently at the Conneaut WWTP, there exists a 290,000-gallon equalization basin with the structural characteristics of a primary clarifier. As heavy wet weather flows come into the plant, additional storage is available here to limit flow rates through the treatment system. However, when a large enough storm occurs, this basin reaches capacity and effluent from the basin must be bypassed to disinfection.

Through statistical analysis of plant flows and rainfall, a 10-year, 2-hour storm was created, and determined to produce 10 MGD of flow at the WWTP. Using the hydrograph formed from this analysis, along with bypass data from a recent severe storm event, it was calculated that an additional 583,000-gallon basin would be necessary to provide adequate storage for these storm flows.

Based on research of recently completed projects, a nominal cost of $4.00 per gallon of storage can be applied to estimate the construction cost of an equalization basin of this size. A detailed cost estimate is compiled in table 5-1.

Table 5-1

Item	Estimated Cost (2019)	
Mobilization	$	20,000
Construction Layout Staking	$	3,000
Preconstruction Video	$	2,000
SWPP Plan	$	25,000
600,000 Gallon EQ Basin	$	2,400,000
Yard Piping	$	120,000
Asphalt Pavement	$	25,000
Seeding and Mulching	$	10,000
UV Disinfection	$	1,300,000
Electrical and I&C	$	590,000
SUBTOTAL	$	4,495,000
Contingency (15%):	$	674,250
Total EOPCC	**$**	**5,169,000**
Class 3 AACE Estimate Low = -10%	$	4,650,000
Class 3 AACE Estimate High = +30%	$	6,720,000

In addition to the cost of constructing such a large basin, it poses a geographic challenge on the property of the WWTP. The site is fairly restrictive in its open space, and finding a location for a 583,000-gallon storage basin would pose a large problem to the City, and potentially impact public use of the lakefront and marina areas.

CHAPTER 6
ALTERNATIVE 3 – CHEMICALLY ENHANCED PRIMARY CLARIFICATION

6.1 INTRODUCTION

An additional way to handle the excessive flows experienced by the Conneaut WWTP during wet-weather events is to transport the flows through the collection system and treat them directly at the WWTP. This alternative specifically examines the impact of converting the existing equalization basin into a chemically-enhanced primary clarifier (CEPT) to handle treatment of flows during wet-weather events. This would involve the construction of a flocculating clarifier mechanism in the existing tank, addition of chemical coagulants to the flow, and the new clarifier being used to rapidly treat the excess flows coming into the plant. It is acknowledged that permitting of this option may be challenging, since CEPT does not have a biological component, and this is typically not considered secondary treatment.

6.2 COMPONENT EVALUATION

For analysis of this alternative, a peak wet-weather flow of 10 MGD, equivalent to a 10-year, 2-hour storm was utilized. Flow through the main train of the WWTP would be limited to design maximum of 7 MGD, and the new high-rate chemically enhanced clarifier would receive the additional 3 MGD as a peak flow.

6.2.1 Overview

The existing 290,000-gallon tank that is used for flow equalization will be converted into a chemically-enhanced primary clarifier with coagulant addition when flows exceed the maximum capacity of the WWTP. As it stands, the tank—acting as an equalization basin—does not have enough volume to adequately store the peak wet-weather flows that the plant experiences. Conversion of this tank into a chemically-enhanced high-rate-treatment clarifier would allow for enhanced primary treatment of the influent 'bypass' flow, before it is then disinfected and discharged.

6.2.2 Modeling and Analysis

To properly measure the impact of this conversion on the effluent concentrations of Total Suspended Solids (TSS) and Carbonaceous Biochemical Oxygen Demand (CBOD), computer models of the treatment processes were created.

The flow characteristics developed in Chapter 3 and 10 MGD peak wet-weather flow created by the statistical analysis were used to produce the daily flows used for the models. The developed 10-year, 2-hour event was used for a peak-flow event, and the design flow of 3 MGD was used as a dry-weather base flow for simulation. Analysis of the existing plant was performed first, with the results shown in Table 6-1.

Table 6-1			
Predicted Model Performance - Max. 7-Day Performance of Existing WWTP			
Day	**Peak Flow**	**Effluent TSS**	**Effluent cBOD**
	MGD	mg/l	mg/l
1	3	12	8
2	3	12	8
3	7	36	19
4	7	36	19
5	6	31	15
6	4	15	16
7	3	12	8
Week Total	33		
7-day Average (7 composite samples)		**22**	**13**
7-day Permit Limit		30	20

The model indicates that the plant will have days during which the daily TSS result is above the permitted 7-day average. Review of the actual DMR data demonstrates that this is not in fact the case. The Conneaut WWTP is able to operate at 7 MGD and meet TSS and BOD limits. The fact that the model is over predicting is conservative, and thus appropriate for use in considering future treatment processes. After establishing the effluent characteristics of the modeled main treatment train during a wet-weather event, a model was created for the proposed chemically-enhanced clarifier. The results of a peak wet-weather event pushing 3 MGD through the clarifier are illustrated in Table 6-2.

Table 6-2 Predicted Model Performance - Max. 7-Day Performance of Chemically-Enhanced Clarifier (EQ Basin)			
Day	Peak Flow	Effluent TSS	Effluent cBOD
	MGD	mg/l	mg/l
1	0	0	0
2	0	0	0
3	3	15	41
4	3	15	41
5	0	0	0
6	0	0	0
7	0	0	0
Week Total	6		
7-day Average (7 composite samples)		**6**	**41**
7-day Permit Limit		30	20

Once the results for the two models were computed, it is evident that the level of treatment received through the chemically-enhanced clarifier is not adequate to meet the required cBOD NPDES permit limits. For this reason and because of the permitting challenged discussed earlier, CEPT alternative was not carried forward to the costing stage.

6.2.3 Process/Equipment Modification

This improvement alternative would involve modification of the existing equalization basin to create a chemically-enhanced flocculating primary clarifier. This would include the modification or addition of the following components:

- Rapid sludge collection mechanism
- Flocculation well and flocculating mechanisms
- Alum feed system and storage tank
- Polymer feed system and storage tank
- Chemical storage and feed equipment building

Illustrated in Figure 6-1 is an example of a typical flocculating clarifier system that could be potentially considered for installation through this Alternative. This Alternative would also include the installation of a new UV disinfection system. See Chapter 9 for further details.

Figure 6-1 – Typical Flocculating Clarifier

6.3 SITE LAYOUT

A site plan of this alternative is provided in Figure 6-2. The site layout of the WWTP will not change; the tank that is now considered the equalization basin will simply be converted into a high-rate primary clarifier. The high-rate clarifier would only be activated when storm events caused flows to climb higher than the existing plant is able to handle.

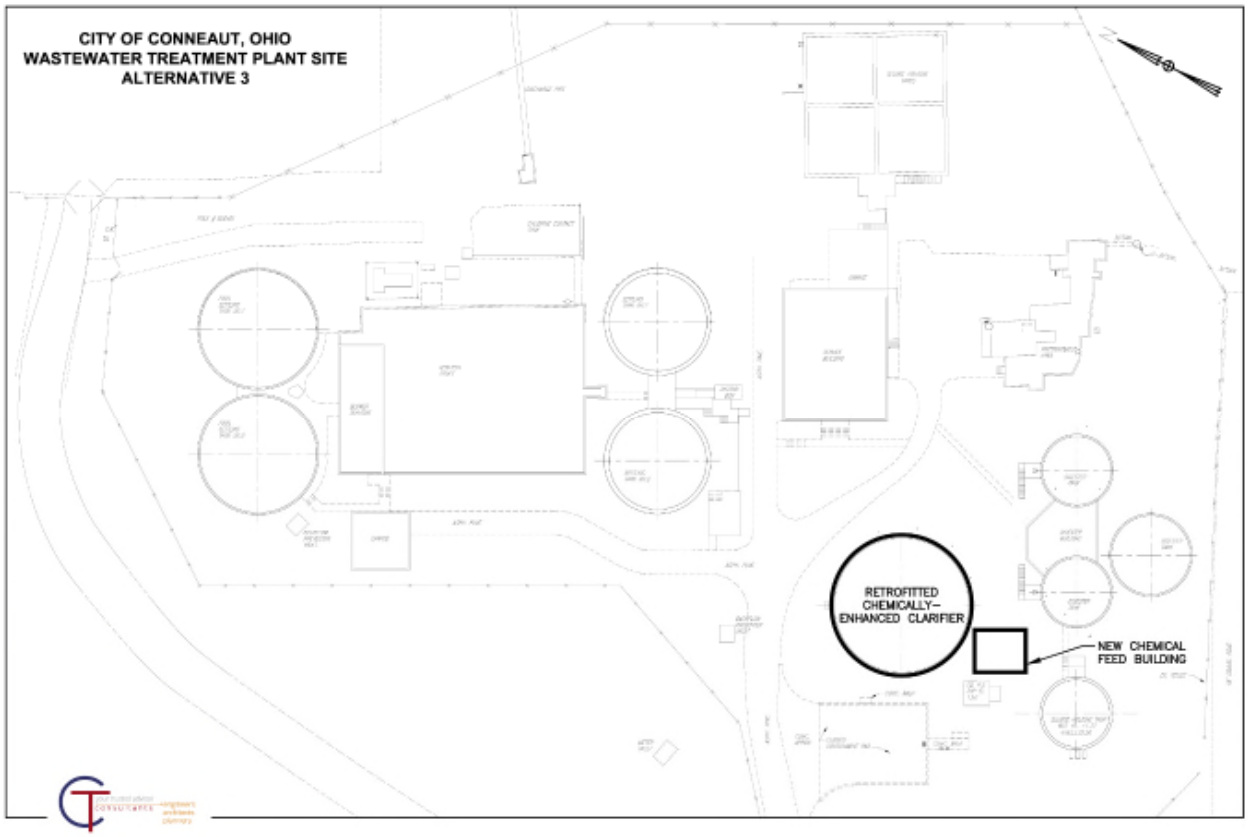

Figure 6-2 – Alternative 3 – Site Plan

6.4 PROCESS DESIGN

For this alternative, the basic process flow of the WWTP will not change. The new chemically-enhanced primary clarifier will function in place of the equalization basin during wet-weather flows.

6.5 O&M CHARACTERISTICS

O&M costs and characteristics would have a significant change with the introduction of this Alternative. Plant staff would gain several additional responsibilities whenever the City experiences a storm event. These new tasks and concerns for the plant personnel would include:

- Start-up and shut-down of chemical feed equipment with each storm.
- Cleaning of collector mechanism after each storm.
- Additional sludge handling responsibilities, including the processing and storage of polymer-laden sludge produced by the clarifier, separate from the plant's typical sludge.
- Due to the stop/start nature of the clarifier, the mechanisms would be cyclically submerged and exposed to air, causing the components to rust more rapidly than those in a constantly-submerged clarifier.

6.6 FEASIBILITY

Due to this Alternative's lack of ability to meet the NPDES permit limits and its operational intensity, it has been dropped from further consideration.

CHAPTER 7
ALTERNATIVE 4 – ENHANCED SECONDARY TREATMENT

7.1 INTRODUCTION

This alternative approaches the management of bypass flows by expanding the secondary treatment capacity of the plant in order to allow for the treatment of wet-weather flows. As noted in Chapter 3, the plant is currently near hydraulic capacity, but under-capacity in terms of both BOD and TSS. Thus, in order to optimize the existing infrastructure, the improvements should take advantage of the existing BOD and TSS capacity, and increase the hydraulic capacity of the facility. To achieve that goal, this alternative proposes the addition of a third final clarifier to expand the plant's capacity to treat higher flows, as well as improve dry-weather effluent quality.

7.2 COMPONENT EVALUATION

For analysis of this alternative, a peak wet-weather flow of 10 MGD equivalent to a 10-year, 2-hour storm was utilized. The headworks is capable of treating this entire flow. A portion of the flow would bypass the primary clarifiers directly to aeration. As in all alternatives, disinfection will be upgraded to UV and sized appropriately.

7.2.1 Overview

The existing WWTP process would remain the same, with the addition with a third final clarifier. Adding a third final clarifier is an incremental approach to expanding the final clarification unit process, as the addition of aeration tankage is not a necessary measure. The plant influent cBOD concentrations are so low that additional aeration is not an area of concern for the WWTP process. Evidence of this is displayed in Figure 7-1, comparing Conneaut's last five years' influent organic loading to the 40 lb BOD_5/day/1000 ft^3 limit set by Ten States Standards.

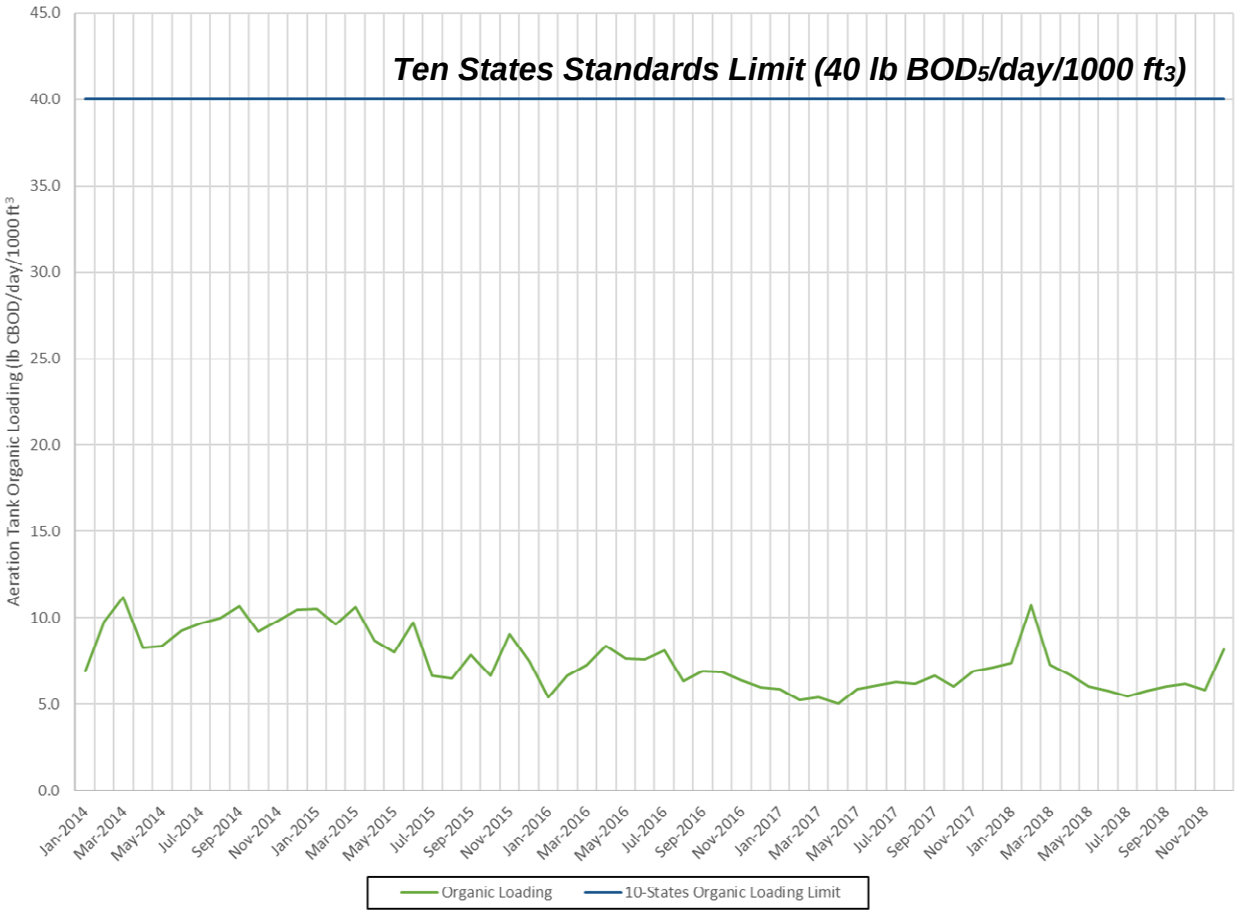

Figure 7-1 – Plant Organic Loading

7.2.2 Modeling and Analysis

To understand the impact of adding a third final clarifier, a detailed computer model was created for the WWTP. Modeling scenarios were performed with both two and three final clarifiers to analyze the TSS and CBOD concentrations of the plant effluent.

The flow characteristics developed in Chapter 3 and 10 MGD peak wet-weather flow created by the statistical analysis were used to produce the daily flows used for the models. The plant design flow of 3 MGD was used as a dry-weather base flow for the simulations.

For the first simulation, the existing plant was modeled with two final clarifiers to predict the average effluent pollutant concentrations for a 7-day design period containing a peak wet-weather event. The results of this model are displayed in Table 7-1.

Table 7-1

Predicted Model Performance - Max 7-Day Performance with Two Final Clarifiers

Day	Peak Flow	Effluent TSS	Effluent cBOD
	MGD	mg/L	mg/L
1	3	12	8
2	3	12	8
3	10	55	40
4	10	55	40
5	6	23	24
6	4	15	16
7	3	12	8
Week Total	39		
7-day Average (7 composite samples)		**26**	**21**
7-day Permit Limit		30	20

The predicted performance of the existing plant is not acceptable, as would be expected from the high loadings. The addition of a third final clarifier results in loadings at 10 MGD which are slightly lower than the current loading of 7 MGD in two clarifiers. The results of the model simulation including the new third final clarifier are shown in Table 7-2.

Table 7-2
Predicted Model Performance - Max 7-Day Performance with Three Final Clarifiers

Day	Peak Flow	Effluent TSS	Effluent cBOD
	MGD	mg/L	mg/L
1	3	10	8
2	3	10	8
3	10	36	20
4	10	36	20
5	6	21	18
6	4	14	11
7	3	10	8
Week Total	39		
7-day Average (7 composite samples)		**20**	**13**
7-day Permit Limit		30	20

The addition of a third clarifier not only brings the average 7-day pollutant loadings within their NPDES 7-day permit limit, but also brings the dry-weather effluent concentrations down to near tertiary treatment level concentrations.

In practice, the plant is successfully processing 7 MGD through two clarifiers, with a Surface Overflow Rate (SOR) of 1,500 gal/day/ft^2. With the construction of a third clarifier and increase in flow to 10 MGD, the SOR will be 1,400 gal/day/ft^2, so it is reasonable to expect the new three (3) clarifier configuration to perform at similar levels.

7.2.3 Process/Equipment Modification

This alternative would include the construction of a third final clarifier. This would include the modification or addition of the following components:

- New influent pipe
- New effluent pipe
- Clarifier tank and mechanisms
- Return sludge pumps and piping
- Waste sludge pump and piping

The new clarifier will be constructed to match the technology and mechanism type of the existing two clarifiers.

In addition to the installation of a new return sludge pump in the new tank, new RAS pumps would also be retrofitted into the two existing final clarifiers. Also to be constructed with this alternative would be a new UV disinfection system, retrofitted into the existing chlorine contact tanks. More information on the RAS pump and UV system installation can be referenced in Chapter 9.

7.3 SITE LAYOUT

A site plan of this alternative is provided in Figure 7-1. The site layout of the WWTP would be minimally changed, with the addition of a third final clarifier to the north side of the two existing clarifiers, and site piping required to route flow to and from the new clarifier. The plant was originally designed with provisions for the addition of a third clarifier, so the necessary space and infrastructure exists. The WWTP site currently has a large wind turbine in the proposed location of the new clarifier. The turbine was struck by lightning and rendered inoperable several years ago, and would be removed as a part of the clarifier construction.

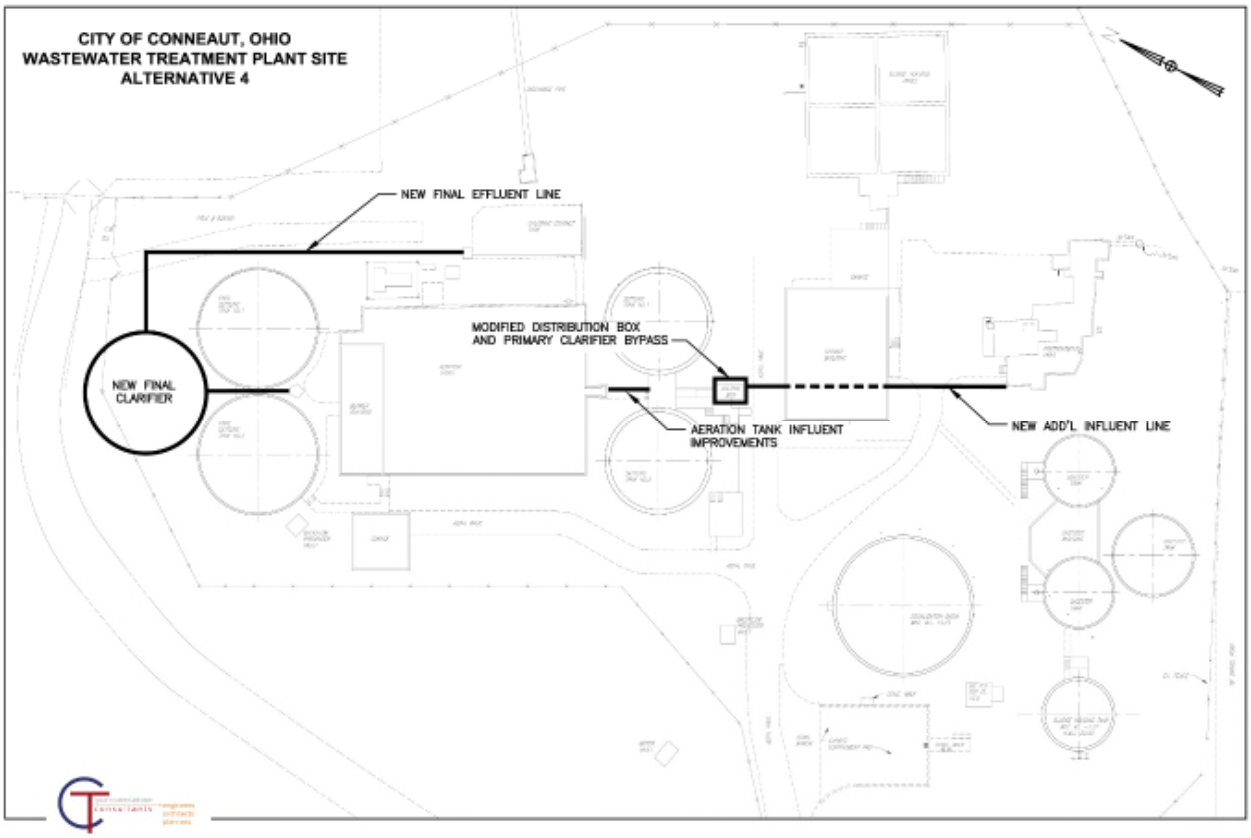

Figure 7-2 – Alternative 4 – Site Plan

7.4 PROCESS DESIGN

The process flow of the WWTP would be minimally adjusted with this alternative, simply with the addition of a third final clarifier. The path of the flow would not be changed, but the secondary treatment flow would be split between three clarifiers instead of the existing two, and the disinfection process would be switched to a UV system.

7.5 PROJECT COST

Table 7-3		
Item	**Estimated Cost (2019)**	
Mobilization	$	20,000
Construction Layout Staking	$	3,000
Preconstruction Video	$	2,000
SWPP Plan	$	25,000
Site Dewatering	$	1,000
Temporary Earth Retention System - TERS	$	225,000
Demo Windmill	$	100,000
Demo Windmill Foundation	$	100,000
Concrete	$	422,400
Metering Pit Manhole	$	4,400
RAS/Blower Building Expansion	$	37,500
RAS/Blower Building Modifications	$	25,000
Stairs	$	18,750
Aluminum Access Doors "Type KD"	$	8,000
Excavation	$	60,000
Spoil Hauling	$	30,000
Compaction and Backfill	$	40,000
Granular Bedding	$	4,000
Asphalt Replacement	$	15,000
Seeding and Mulching	$	10,000
Process Piping and Valves	$	165,180
Primaries to Aeration Improvements	$	50,000
Primary Clarifier Distribution Box Modification	$	75,000
Influent Pipe to New Clarifier - 18"	$	48,000
Effluent Pipe from New Clarifier - 18"	$	90,000
Instrumentation - 6 air flow meters	$	10,000
6 Electric BF valves	$	60,000
55' dia. Final Clarifier Drive, Infl. well, and Collection Mechanism	$	300,000
Effluent Troughs, Scum Baffles, Weirs	$	30,000
Density Current Baffles	$	30,000
Energy Dissipating Well	$	15,000
UV Disinfection System	$	1,300,000
Monorail, Hoist and Trolley	$	25,000
RAS Pumps, Piping and valves	$	150,000
Electrical I&C	$	520,000
SUBTOTAL	$	4,019,230
Contingency (15%):	$	602,885
Total EOPCC	**$**	**4,622,000**

Class 3 AACE Estimate Low = -10%	$	4,160,000
Class 3 AACE Estimate High = +30%	$	6,010,000

7.6 O&M CHARACTERISTICS

Operation and maintenance changes with the addition of a third final clarifier would be minimal, as operators would already be familiar with the process of maintaining the clarifiers. Minor training would be necessary to familiarize plant staff with the new UV disinfection system.

CHAPTER 8
ALTERNATIVE 5 – HIGH RATE TREATMENT OF BYPASS FLOWS

8.1 INTRODUCTION

Direct high-rate treatment of bypass flows can be achieved through a variety of methods, one of them being chemical addition as addressed in Alternative 3. An alternate method of utilizing the process of high-rate treatment is through the installation of a ballasted flocculation and clarification system. This method of treatment maximizes settling area within a confined space, and allows for rapid treatment of wastewater flows. This approach can be enhanced to achieve some biological treatment utilizing a biological contact tank before clarification in order to get cBOD removal as well as capturing suspended solids. This Alternative will discuss the feasibility of installing a ballasted flocculation and biological contact system.

8.2 COMPONENT EVALUATION

For analysis of this alternative, a peak wet-weather flow of 10 MGD, equivalent to a 10-year, 2-hour storm was utilized. Similar to Alternative 3, flow through the main train of the WWTP would be limited to design maximum of 7 MGD, and the new high-rate ballasted flocculation system would receive the additional 3 MGD as a peak flow.

8.2.1 Overview

In this alternative, the treatment process of the existing plant would remain the same under typical dry-weather flow conditions. The proposed changes would come through the construction of a new high-rate treatment (HRT) facility that would handle the bypass flows during wet-weather events. Once treated, the HRT's effluent flow would be disinfected and discharged.

8.2.2 Modeling and Analysis

In order to accurately determine the impact of constructing and using an HRT facility, models of the existing plant and the HRT were created. Before assembling a model for the new HRT, a model was created to observe the performance of the existing plant when experiencing the peak design flow of 7 MGD during a wet-weather event. The existing plant performance is displayed in Table 8-1.

Table 8-1
Predicted Model Performance - Max. 7-Day Performance of Existing WWTP

Day	Peak Flow	Effluent TSS	Effluent cBOD
	MGD	mg/l	mg/l
1	3	12	8
2	3	12	8
3	7	36	19
4	7	36	19
5	6	31	15
6	4	15	16
7	3	12	8
Week Total	33		
7-day Average (7 composite samples)		**22**	**13**
7-day Permit Limit		30	20

During the 10 MGD event, the HRT facility would experience a peak of 3 MGD. A model was compiled to illustrate the performance of the HRT. The results of this scenario is shown in Table 8-2. The HRT facility is able to bring concentrations down to the NPDES 7-Day permit limits, but the effluent CBOD levels are marginal.

Table 8-2

Predicted Model Performance - Max. 7-Day Performance of HRT

Day	Peak Flow	Effluent TSS	Effluent cBOD
	MGD	mg/l	mg/l
1	0	0	0
2	0	0	0
3	3	15	20
4	3	15	20
5	0	0	0
6	0	0	0
7	0	0	0
Week Total	6		
7-day Average (7 composite samples)		**6**	**20**
7-day Permit Limit		30	20

8.2.3 Process/Equipment Modification

This alternative would not impact the process of the main plant, but would require the construction of a completely new HRT facility on the grounds of the WWTP. Ballasted flocculation clarification treatment requires two-dimensional screening, grit removal, chemical treatment, flocculation, maturation, clarification, a sand feed, cleaning, recirculation, disinfection, and flow metering. The biological contact process would require new 30-minute aerated contact period roughly 65,000 gallons along with blowers, sludge transfer pumping from the aerobic sludge holding tank to seed the bioreactor during rain events, the necessary site piping interconnects and new building space for the referenced equipment.

In addition to the construction of an HRT facility, this Alternative would also include the installation of a UV disinfection system. See Chapter 9 for further details.

8.3 FEASIBILITY

A challenge that this Alternative presents is the increased operational intensity required to run a new HRT facility. This would introduce a new, unique process requiring additional operator training, and is a start/stop process that would demand more time of its operators. The HRT would provide significant treatment to the bypass flows, but proper operation requires sophisticated flow control management, metering, gate operation, chemical feed control and activated sludge inventory management.

Based on research of recently constructed HRT systems with biological, a nominal cost of $1.50 per gallon of flow can be applied to estimate the construction cost of such a facility. At a design flow rate of 3 MGD, a construction cost of $4.5 million may be anticipated for the construction of the HRT facility, and an additional $1.3 million would be expected for the installation of a new UV disinfection system. A detailed cost estimate is shown in Table 8-3.

Table 8-3		
Item	**Estimated Cost (2019)**	
Mobilization	$	20,000
Construction Layout Staking	$	3,000
Preconstruction Video	$	2,000
SWPP Plan	$	25,000
High-Rate Biological Treatment Facility	$	4,500,000
Yard Piping	$	150,000
Asphalt Pavement	$	30,000
Seeding and Mulching	$	10,000
UV Disinfection	$	1,300,000
Electrical and I&C	$	910,000
SUBTOTAL	$	6,950,000
Contingency (15%):	$	1,042,500
Total EOPCC	**$**	**7,993,000**
Class 3 AACE Estimate Low = -10%	$	7,190,000
Class 3 AACE Estimate High = +30%	$	10,390,000

CHAPTER 9
IMPROVEMENTS COMMON TO MULTIPLE ALTERNATIVES

9.1 INTRODUCTION

Through observation of the existing treatment facilities and detailed discussion with WWTP personnel, deficiencies in the current treatment system have been identified. The plant improvements presented in this chapter would be of benefit to the function of the WWTP as well as the efficiency of its components and staff.

9.2 IMPROVEMENT DISCUSSION

A number of these improvements could be completed in tandem with any presented alternative to further enhance the treatment process. The following components of the treatment process were identified to be in need of replacement and/or modification:

9.2.1 UV Disinfection

The current disinfection system at the WWTP features a chlorine contact tank, using a chlorine gas solution. Plant personnel would like to eliminate the use of this hazardous gas in their disinfection process, and transition into a safer means of disinfection.

The existing chlorine contact tanks will easily accommodate the installation of a two-bank, in-series module UV system and bypass channel. The selection of the type of UV disinfection system will be further evaluated in a detailed design phase of the project.

9.2.2 Return Activated Sludge (RAS) Pumps

The RAS pumps in the two existing final clarifiers have been identified as a source of concern by WWTP personnel. They currently use air-lift pumps, which are effective in moving the sludge, but are very inefficient and difficult to control the optimal return flow rate.

To improve upon the inefficiency and operability of the existing pumps, they could be replaced with new, much more effective propeller pumps, and improve the sludge transfer efficiency. The retrofit would involve the installation of submersible propeller pumps into the existing RAS pit. The new propeller pumps would be more easily removed and simpler to maintain than the existing air-lift pumping system.

Flow meters and variable-speed drives would be provided with the new return sludge pumps. This would provide a conventional flow-paced return sludge process to maintain the optimal food-to-microorganism ratio.

9.2.3 Other Improvements

During the course of the study, plant personnel identified certain repair items and other improvements that could be completed to enhance the performance of the plant. These improvements included the installation of a non-potable-water (NPW) system to wash headworks equipment, installation of a new sludge press pump, electronic air valves to optimize dissolved oxygen (DO) levels, and various structural tank repairs. Further consideration will be given to incorporating some or all of these improvements into the project resulting from this NFA analysis.

CHAPTER 10
ANALYSIS AND RECOMMENDATIONS

10.1 FINAL ANALYSIS

While all considered Alternatives have their benefits, we believe that Alternative 4 presents the best case for addressing the wet-weather flows in Conneaut. Not only is it the most cost-effective option, but it stands out from other Alternatives by providing improved plant performance under both wet-weather and dry-weather flow conditions. In addition, this Alternative provides increased plant secondary treatment capacity, more stable biological operation, and is the more environmentally-friendly option, free of additional chemical discharge.

10.2 RECOMMENDATION

Based on this analysis, we believe that Alternative 4 is the most effective method through which the City can eliminate the necessity of wet-weather bypass at the treatment plant. This includes the installation of a new final clarifier, new RAS pumps for all three clarifiers, and the implementation of a UV disinfection system.

10.3 RECOMMENDED PLAN

A preliminary project schedule is displayed in Table 10-1.

Table 10-1		
Preliminary Project Schedule		
Milestone	**Duration**	**Date**
Nominate to DEFA		Aug-2020
Submit PTI		10/6/2020
	120	
Obtain PTI Approval/Advertise for Bids		2/3/2021
	60	
Receive Bids		4/4/2021
	60	
Recive Loan Approval		6/3/2021
	30	
Execute Contract & Notice to Proceed		7/3/2021
	365	
Substantial Completion		7/3/2022
	60	
Final Completion		9/1/2022
Float	90	
Expiration Date		11/30/2022

Appendix A

2017 NPDES Permit 3PD00002

Application No. OH0024767

Issue Date: October 25, 2017

Effective Date: December 1, 2017

Expiration Date: November 30, 2022

Ohio Environmental Protection Agency
Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., hereinafter referred to as the "Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

City of Conneaut

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the City of Conneaut Wastewater Treatment Plant located at 1206 Broad Street Extension, Conneaut, Ohio, Ashtabula County and discharging to Conneaut Creek (Lake Erie lacustuary area) at River Mile 0.3 in accordance with the conditions specified in Parts I, II, III, IV, V, and VI of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

_____
Craig W. Butler
Director

Total Pages: 79

Part I, A. - INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the end of the 53rd month, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 3PD00002001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Interim

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Day	Maximum Indicating Thermometer	All
00300 - Dissolved Oxygen - mg/l	-	-	-	-	-	-	-	1/Day	Multiple Grab	All
00530 - Total Suspended Solids - mg/l	-	-	30	20	-	341	227	3/Week	24hr Composite	All
00552 - Oil and Grease, Hexane Extr Method - mg/l	10	-	-	-	-	-	-	1/Month	Grab	All
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	-	-	-	-	-	3/Week	24hr Composite	All
00625 - Nitrogen Kjeldahl, Total - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00630 - Nitrite Plus Nitrate, Total - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00665 - Phosphorus, Total (P) - mg/l	-	-	1.5	1.0	-	17.0	11.4	1/Week	24hr Composite	All
00671 - Orthophosphate, Dissolved (as P) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00978 - Arsenic, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
00981 - Selenium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01074 - Nickel, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01079 - Silver, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01094 - Zinc, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01113 - Cadmium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01114 - Lead, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01118 - Chromium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
01119 - Copper, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
01129 - Molybdenum, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01220 - Chromium, Dissolved Hexavalent - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
31648 - E. coli - #/100 ml	-	-	284	126	-	-	-	3/Week	Grab	Summer
39100 - Bis(2-ethylhexyl) Phthalate - ug/l	-	-	-	-	-	-	-	1/Quarter	Composite	Quarterly
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	Continuous	All
50060 - Chlorine, Total Residual - mg/l	0.038	-	-	-	-	-	-	1/Day	Multiple Grab	Summer
50060 - Chlorine, Total Residual - mg/l	0.038	-	-	-	-	-	-	When Disch.	Multiple Grab	Winter
50092 - Mercury, Total (Low Level) - ng/l	1700	-	-	3.6	0.0192	-	0.000041	1/Month	Grab	All
51173 - Cyanide, Free (Low-Level) - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
61425 - Acute Toxicity, Ceriodaphnia dubia - TUa	-	-	-	-	-	-	-	1/Year	24hr Composite	June
61426 - Chronic Toxicity, Ceriodaphnia dubia - TUc	-	-	-	-	-	-	-	1/Year	24hr Composite	June
61427 - Acute Toxicity, Pimephales promelas - TUa	-	-	-	-	-	-	-	2/Year	24hr Composite	June and Aug
61428 - Chronic Toxicity, Pimephales promelas - TUc	-	-	-	-	-	-	-	2/Year	24hr Composite	June and Aug
61941 - pH, Maximum - S.U.	9.0	-	-	-	-	-	-	1/Day	Multiple Grab	All
61942 - pH, Minimum - S.U.	-	6.5	-	-	-	-	-	1/Day	Multiple Grab	All
70300 - Residue, Total Filterable - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
80082 - CBOD 5 day - mg/l	-	-	20	15	-	227	170	3/Week	24hr Composite	All

Notes for Station Number 3PD00002001:

* Effluent loadings based on average design flow of 3.0 MGD.

a. Total residual chlorine - See Part II, Item J.
b. Free cyanide - See Part II, Item Q.
c. Mercury - See Part II, Items R, V, W,and X.
d. Bis(2-ethylhexyl) phthalate - See Part II, Item S.

d. Bis(2-ethylhexyl) phthalate - See Part II, Item S.
e. Dissolved orthophosphate - See Part II, Item T.
f. Phosphorus - See Part I, C. 3.
g. Whole effluent toxicity - See Part II, Item Y and Part 1, C.4.
h. Total residual chlorine, winter months - "When discharging" means monitoring and reporting are required on days when the facility is chlorinating.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning 54 months after the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from the following outfall: 3PD00002001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Day	Maximum Indicating Thermometer	All
00300 - Dissolved Oxygen - mg/l	-	-	-	-	-	-	-	1/Day	Multiple Grab	All
00530 - Total Suspended Solids - mg/l	-	-	30	20	-	341	227	3/Week	24hr Composite	All
00552 - Oil and Grease, Hexane Extr Method - mg/l	10	-	-	-	-	-	-	1/Month	Grab	All
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	-	-	-	-	-	3/Week	24hr Composite	All
00625 - Nitrogen Kjeldahl, Total - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00630 - Nitrite Plus Nitrate, Total - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00665 - Phosphorus, Total (P) - mg/l	-	-	1.5	1.0	-	17.0	11.4	1/Week	24hr Composite	All
00671 - Orthophosphate, Dissolved (as P) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00978 - Arsenic, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
00981 - Selenium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01074 - Nickel, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01079 - Silver, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01094 - Zinc, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01113 - Cadmium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01114 - Lead, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01118 - Chromium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
01119 - Copper, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
01129 - Molybdenum, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01220 - Chromium, Dissolved Hexavalent - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
31648 - E. coli - #/100 ml	-	-	284	126	-	-	-	3/Week	Grab	Summer
39100 - Bis(2-ethylhexyl) Phthalate - ug/l	-	-	-	-	-	-	-	1/Quarter	Composite	Quarterly
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	Continuous	All
50060 - Chlorine, Total Residual - mg/l	0.038	-	-	-	-	-	-	When Disch.	Multiple Grab	Winter
50060 - Chlorine, Total Residual - mg/l	0.038	-	-	-	-	-	-	1/Day	Multiple Grab	Summer
50092 - Mercury, Total (Low Level) - ng/l	1700	-	-	3.6	0.0192	-	0.000041	1/Month	Grab	All
51173 - Cyanide, Free (Low-Level) - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
61425 - Acute Toxicity, Ceriodaphnia dubia - TUa	-	-	-	-	-	-	-	1/Year	24hr Composite	June
61426 - Chronic Toxicity, Ceriodaphnia dubia - TUc	-	-	-	-	-	-	-	1/Year	24hr Composite	June
61427 - Acute Toxicity, Pimephales promelas - TUa	1.0	-	-	-	-	-	-	2/Year	24hr Composite	June and Aug
61428 - Chronic Toxicity, Pimephales promelas - TUc	-	-	-	11.0	-	-	-	2/Year	24hr Composite	June and Aug
61941 - pH, Maximum - S.U.	9.0	-	-	-	-	-	-	1/Day	Multiple Grab	All
61942 - pH, Minimum - S.U.	-	6.5	-	-	-	-	-	1/Day	Multiple Grab	All
70300 - Residue, Total Filterable - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
80082 - CBOD 5 day - mg/l	-	-	20	15	-	227	170	3/Week	24hr Composite	All

Notes for Station Number 3PD00002001:

* Effluent loadings based on average design flow of 3.0 MGD.

a. Total residual chlorine - See Part II, Item J.
b. Free cyanide - See Part II, Item Q.
c. Mercury - See Part II, Items R, V, W,and X.
d. Bis(2-ethylhexyl) phthalate - See Part II, Item S.

d. Bis(2-ethylhexyl) phthalate - See Part II, Item S.
e. Dissolved orthophosphate - See Part II, Item T.
f. Phosphorus - See Part I, C. 3.
g. Whole effluent toxicity - See Part II, Item Y and Part 1, C.4.
h. Total residual chlorine, winter months - "When discharging" means monitoring and reporting are required on days when the facility is chlorinating.

Part I, B. - SSO MONITORING EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. SSO Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor at Station Number 3PD00002300, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - SSO Monitoring - 300 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
74062 - Overflow Occurrence - No./Month	-	-	-	-	-	-	-	1/Month	Total	All

Notes for Station Number 3PD00002300:

a. A sanitary sewer overflow is an overflow, spill, release, or diversion of wastewater from a sanitary sewer system. Although the above table indicates that the Measuring Frequency for Overflow Occurrence is 1/Month, the intent of that provision is to specify a reporting frequency for Overflow Occurrence, not a monitoring frequency. The monitoring requirement under this permit is that these overflows shall be monitored on each day when they discharge. Only sanitary sewer overflows that enter waters of the state, either directly or through a storm sewer or other conveyance, must be reported under this monitoring station.

b. For the purpose of counting occurrences, each location on the sanitary sewer system where there is an overflow, spill, release, or diversion of wastewater on a given day that enters waters of the state is counted as one occurrence. For example, if on a given day overflows occur from a manhole at one location and from a damaged pipe at another location and they both enter waters of the state, record two occurrences for that day. If overflows from both locations continue on the following day, record two occurrences for the following day. At the end of the month, total the daily occurrences and report this number on Day 1 of the DMR. If there are no overflows during the entire month, report "zero" (0).

c. All sanitary sewer overflows are prohibited.

d. See Part II, Items D and E.

Part I, B. - SLUDGE MONITORING REQUIREMENTS

2. Sludge Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the treatment works' final sludge at Station Number 3PD00002581, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sludge sampling.

Table - Sludge Monitoring - 581 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00611 - Ammonia (NH3) In Sludge - mg/kg	-	-	-	-	-	-	-	1/Year	Composite	December
00627 - Nitrogen Kjeldahl, Total In Sludge - mg/kg	-	-	-	-	-	-	-	1/Year	Composite	December
00668 - Phosphorus, Total In Sludge - mg/kg	-	-	-	-	-	-	-	1/Year	Composite	December
00938 - Potassium In Sludge - mg/kg	-	-	-	-	-	-	-	1/Year	Composite	December
01003 - Arsenic, Total In Sludge - mg/kg	75	-	-	-	-	-	-	1/Year	Composite	December
01028 - Cadmium, Total In Sludge - mg/kg	85	-	-	-	-	-	-	1/Year	Composite	December
01043 - Copper, Total In Sludge - mg/kg	4300	-	-	-	-	-	-	1/Year	Composite	December
01052 - Lead, Total In Sludge - mg/kg	840	-	-	-	-	-	-	1/Year	Composite	December
01068 - Nickel, Total In Sludge - mg/kg	420	-	-	-	-	-	-	1/Year	Composite	December
01093 - Zinc, Total In Sludge - mg/kg	7500	-	-	-	-	-	-	1/Year	Composite	December
01148 - Selenium, Total In Sludge - mg/kg	100	-	-	-	-	-	-	1/Year	Composite	December
51129 - Sludge Fee Weight - dry tons	-	-	-	-	-	-	-	1/Year	Total	December
51131 - Fecal Coliform in Sludge - CFU/gram	2000000	-	-	-	-	-	-	1/Year	Multiple Grab	December
70316 - Sludge Weight - Dry Tons	-	-	-	-	-	-	-	1/Year	Total	December
71921 - Mercury, Total In Sludge - mg/kg	57	-	-	-	-	-	-	1/Year	Composite	December
78465 - Molybdenum In Sludge - mg/kg	75	-	-	-	-	-	-	1/Year	Composite	December

Notes for Station Number 3PD00002581:

a. Monitoring is required when sewage sludge is removed from the permittee's facility for application to the land The monitoring data shall be

a. Monitoring is required when sewage sludge is removed from the permittee's facility for application to the land. The monitoring data shall be reported on the December Discharge Monitoring Report (DMR). The monitoring data can be collected at any time during the reporting period.

b. Metal analysis must be completed during each reporting period whether or not sewage sludge is removed from the facility and applied to the land. Alternatively, the number of composite samples collected and reported prior to the next land application event shall be increased to account for the reporting period(s) in which land application did not occur. If all accumulated sewage sludge has been removed and hauled to a landfill, incinerated or transferred to another NPDES permit holder, then the metal analysis is not required.

c. If no sewage sludge is removed from the facility during the reporting period, enter the results for the metal analysis on the DMR and enter "0" for sludge weight and sludge fee weight.

d. If no sewage sludge is removed from the facility during the reporting period and no metal analysis is completed during the reporting period, select the "No Discharge" check box on the data entry form and PIN the eDMR.

e. If metal analysis has not been completed previously during each reporting period: when sewage sludge is removed from the facility all metal analysis results shall be reported on the applicable DMR by entering the separate results on different days within the DMR. For example, if no sewage sludge has been removed from the facility for a full calendar year, and quarterly monitoring is required by the permit, then five (four from the previous year and one for the current monitoring period) separate composite samples of the sewage sludge are required to be collected and analyzed for metals prior to removal from the facility. The first sample result may be entered on the first day of the DMR, the second result on the second day of the DMR, and so on. A note may then be added to indicate the actual day(s) when the samples were collected.

f. It is recommended that composite samples of the sewage sludge be collected and analyzed close enough to the time of land application to be reflective of the sludge's current quality, but not so close that the results of the analysis are not available prior to land applying the sludge.

g. The permittee shall maintain the appropriate records on site to verify that the requirements of Pathogen Reduction and Vector Attraction Reduction have been met.

h. Units of mg/kg are on a dry weight basis.

i. Sludge weight is a calculated total for the year. To convert from gallons of liquid sewage sludge to dry tons of sewage sludge: dry tons= gallons x 8.34 (lbs/gallon) x 0.0005 (tons/lb) x decimal fraction total solids.

j. Sludge fee weight means sludge weight, in dry U.S. tons, excluding any admixtures such as liming material or bulking agents.

k. To sample for fecal coliform, the treatment plant should collect and analyze a grab sample every other day over a two week period for a total of seven grab samples when practical. Each of the grab samples shall be analyzed independently to determine the MPN/g (or CFU/g when applicable) of fecal coliform in the individual sample. The geometric mean of those seven results shall be reported on the DMR. Each fecal coliform sample must be delivered to the analytical lab within six hours after the sample has been collected, in accordance with the requirements for Part 9221 E. or part 9222 D., "Standard Methods for the Examination of Water and Wastewater". This process must be completed prior to sewage sludge being removed from the treatment facility.

l. See Part II, Items M, N, O and P.

Part I, B. - SLUDGE MONITORING REQUIREMENTS

3. Sludge Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the treatment works' final sludge at Station Number 3PD00002586, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sludge sampling.

Table - Sludge Monitoring - 586 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
51129 - Sludge Fee Weight - dry tons	-	-	-	-	-	-	-	1/Year	Total	December

Notes for Station Number 3PD00002586:

a. Monitoring is required when sewage sludge is removed from the permittee's facility for disposal in a solid waste landfill. The total Sludge Fee Weight of sewage sludge disposed of in a solid waste landfill for the entire year shall be reported on the December Discharge Monitoring Report (DMR).

b. If no sewage sludge is removed from the Permittee's facility for disposal in a solid waste landfill during the year, select the "No Discharge" check box on the data entry form and PIN the eDMR.

c. Sludge fee weight means sludge weight, in dry U.S. tons, excluding any admixtures such as liming material or bulking agents.

d. See Part II, Items M, N, O and P.

Part I, B. - SLUDGE MONITORING REQUIREMENTS

4. Sludge Monitoring. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee shall monitor the treatment works' final sludge at Station Number 3PD00002588, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sludge sampling.

Table - Sludge Monitoring - 588 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
70316 - Sludge Weight - Dry Tons	-	-	-	-	-	-	-	1/Year	Total	December

Notes for Station Number 3PD00002588:

a. Monitoring is required when sewage sludge is removed from the permittee's facility for transfer to another NPDES permit holder. The total sludge weight or sludge volume transferred to another NPDES permit holder for the entire year shall be reported on the December Discharge Monitoring Report (DMR).

b. If no sewage sludge is removed from the Permittee's facility for transfer to another NPDES permit holder during the year, select the "No Discharge" check box on the data entry form and PIN the eDMR.

c. Sludge weight is a calculated total for the year. To convert from gallons of liquid sewage sludge to dry tons of sewage sludge: dry tons = gallons x 8.34 (lbs/gallon) x 0.0005 (tons/lb) x decimal fraction total solids.

d. See Part II, Items M, N, O and P.

Part I, B. - INFLUENT MONITORING REQUIREMENTS

5. Influent Monitoring. During the period beginning on the effectove date of this permit and lasting until the expiration date, the permittee shall monitor the treatment works' influent wastewater at Station Number 3PD00002601, and report to the Ohio EPA in accordance with the following table. Samples of influent used for determination of net values or percent removal must be taken the same day as those samples of effluent used for that determination. See Part II, OTHER REQUIREMENTS, for location of influent sampling.

Table - Influent Monitoring - 601 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00530 - Total Suspended Solids - mg/l	-	-	-	-	-	-	-	3/Week	24hr Composite	All
00978 - Arsenic, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
00981 - Selenium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01074 - Nickel, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01079 - Silver, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01094 - Zinc, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01113 - Cadmium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01114 - Lead, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01118 - Chromium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Quarter	24hr Composite	Quarterly
01119 - Copper, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
01129 - Molybdenum, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Year	24hr Composite	June
01220 - Chromium, Dissolved Hexavalent - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
50092 - Mercury, Total (Low Level) - ng/l	-	-	-	-	-	-	-	1/Month	Grab	All
51173 - Cyanide, Free (Low-Level) - ug/l	-	-	-	-	-	-	-	1/Quarter	Grab	Quarterly
61941 - pH, Maximum - S.U.	-	-	-	-	-	-	-	1/Day	Multiple Grab	All
61942 - pH, Minimum - S.U.	-	-	-	-	-	-	-	1/Day	Multiple Grab	All
80082 - CBOD 5 day - mg/l	-	-	-	-	-	-	-	3/Week	24hr Composite	All

Notes for Station Number 3PD00002601:

Notes for Station Number 3PD00002601:

a. Sampling for the respective parameters at stations 3PD00002001 and 3PD00002601 shall occur the same day.

Part I, B. - BYPASS MONITORING LIMITATIONS AND MONITORING REQUIREMENTS

6. Bypass Monitoring. During the period beginning on the effective date and lasting until expiration date, the permittee shall monitor the treatment plant's bypass when discharging, at Station Number 3PD00002602, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Bypass Monitoring - 602 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00051 - Bypass Occurrence - No./Day	-	-	-	-	-	-	-	When Disch.	Total	All
00052 - Bypass Total Hours Per Day - Hrs/Day	-	-	-	-	-	-	-	When Disch.	Total	All
00530 - Total Suspended Solids - mg/l	-	-	-	-	-	-	-	When Disch.	Grab	All
51428 - Bypass Volume - MGAL	-	-	-	-	-	-	-	When Disch.	24hr Total	All
80082 - CBOD 5 day - mg/l	-	-	-	-	-	-	-	When Disch.	Grab	All

Notes for Station Number 3PD00002602:

a. Data for 24 hour total flow, bypass occurrence, and bypass duration may be estimated if a measuring device is not available.

b. A Discharge Monitoring Report (DMR) for this station must be submitted every month.

c. Monitoring and sampling shall be conducted and reported on each day that there is a discharge through this station.

d. If there are no discharges during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

e. Bypass Occurrence: If a discharge from this station occurs intermittently during a day, starting and stopping several times, report "1" for that day. If a discharge from this station occurs on more than one day but is the result of a continuing precipitation event, it should be counted as one occurrence: Report "1" on the first day of the discharge.

f. Discharge through this station is prohibited. The Director may take enforcement action for violations of this prohibition unless the three conditions specified at 40 CFR 122.41(m) and in Part III, Item 11.C.1 of this permit are met.

g. See Part 1, C.1.

Part I, B. - BYPASS MONITORING LIMITATIONS AND MONITORING REQUIREMENTS

7. Bypass Monitoring. During the period beginning on the effective date and lasting until expiration date, the permittee shall monitor the treatment plant's internal bypass when discharging, at Station Number 3PD00002603, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Bypass Monitoring - 603 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00051 - Bypass Occurrence - No./Day	-	-	-	-	-	-	-	When Disch.	Total	All
00052 - Bypass Total Hours Per Day - Hrs/Day	-	-	-	-	-	-	-	When Disch.	Total	All
51428 - Bypass Volume - MGAL	-	-	-	-	-	-	-	When Disch.	24hr Total	All

Notes for Station Number 3PD00002603:

a. This station is limited to wastewater flows that are diverted around Primary Sedimentation and redirected to the Biological Treatment Process.

b. Data for 24 hour total flow, bypass occurrence, and bypass duration may be estimated if a measuring device is not available.

c. A Discharge Monitoring Report (DMR) for this station must be submitted every month.

d. Monitoring and sampling shall be conducted and reported on each day that there is a discharge through this station.

e. If there are no discharges during the entire month, select the "No Discharge" check box on the data entry form and PIN the eDMR.

f. Bypass Occurrence: If a discharge from this station occurs intermittently during a day, starting and stopping several times, report "1" for that day. If a discharge from this station occurs on more than one day but is the result of a continuing precipitation event, it should be counted as one occurrence: Report "1" on the first day of the discharge.

Part I, B. - UPSTREAM MONITORING REQUIREMENTS

8. Upstream Monitoring. During the period beginning on the effective date and lasting until expiration date, the permittee shall monitor the receiving stream, upstream of the point of discharge at Station Number 3PD00002801, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Upstream Monitoring - 801 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Month	Grab	All
00300 - Dissolved Oxygen - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00400 - pH - S.U.	-	-	-	-	-	-	-	1/Month	Grab	All
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00625 - Nitrogen Kjeldahl, Total - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00630 - Nitrite Plus Nitrate, Total - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
31648 - E. coli - #/100 ml	-	-	-	-	-	-	-	1/Month	Grab	Summer
61432 - 48-Hr. Acute Toxicity Ceriodaphnia dubia - % Affected	-	-	-	-	-	-	-	1/Year	Grab	June
61435 - 96-Hr. Acute Toxicity Pimephales promela - % Affected	-	-	-	-	-	-	-	2/Year	Grab	June and Aug
61438 - 7-Day Chronic Toxicity Ceriodaphnia dubia - % Affected	-	-	-	-	-	-	-	1/Year	Grab	June
61441 - 7-Day Chronic Toxicity Pimephales promelas - % Affected	-	-	-	-	-	-	-	2/Year	Grab	June and Aug

Notes for Station Number 3PD00002801:

a. Sampling for the respective parameters at stations 3PD00002001 and 3PD00002801 shall occur the same day.

Part I, B. - DOWNSTREAM-NEARFIELD MONITORING REQUIREMENTS

9. Downstream-Nearfield Monitoring. During the period beginning on the effective date and lasting until expiration date, the permittee shall monitor the receiving stream, downstream of the point of discharge, at Station Number 3PD00002901, and report to the Ohio EPA in accordance with the following table. See Part II, OTHER REQUIREMENTS, for location of sampling.

Table - Downstream-Nearfield Monitoring - 901 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Month	Grab	All
00300 - Dissolved Oxygen - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00400 - pH - S.U.	-	-	-	-	-	-	-	1/Month	Grab	All
00610 - Nitrogen, Ammonia (NH3) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00625 - Nitrogen Kjeldahl, Total - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00630 - Nitrite Plus Nitrate, Total - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
00900 - Hardness, Total (CaCO3) - mg/l	-	-	-	-	-	-	-	1/Month	Grab	All
31648 - E. coli - #/100 ml	-	-	-	-	-	-	-	1/Month	Grab	Summer

Notes for Station Number 3PD00002901:

a. Sampling for the respective parameters at stations 3PD00002001 and 3PD00002901 shall occur the same day.

Part I, C - Schedule of Compliance

1. Bypassing: No Feasible Alternatives Analysis (NFA) and Schedule

The facility includes an Equalization Basin overflow which re-routes a portion of wastewater flow when the influent flow rate exceeds the plant's rated capacity. Bypassed flows do not receive the following required level of treatment: Secondary Treatment. Excessive influent flow rates are caused by infiltration and inflow (I/I) which results in one or more of the following: collection system overflows, poor treatment plant performance, and plant bypasses. Collection system overflows and treatment plant oveflows or bypasses are not authorized by this permit.

a. As soon as practicable but not later than 12 Months from the effective date of this NPDES permit, the permittee shall initiate a comprehensive analysis of all feasible alternatives necessary to eliminate the bypass at the treatment plant and any overflows in the collection system. (Event Code 8599)

This analysis shall address and evaluate the following:

i. I/I reduction within the collection system;

ii. Additional wastewater storage and flow equalization;

iii. Providing additional secondary treatment capacity which includes an analysis of constructing additional secondary capacity as well as an analysis of process changes to enhance secondary treatment capacity;

iv. The analysis shall also evaluate methods that will enhance the treatment of any bypassed flow;

v. Costs associated with the respective alternatives;

vi. A proposed schedule for implementation of recommended improvements (if required) in the collection system and/or the treatment plant.

b. Not later than 24 Months from the effective date of this NPDES permit, the permittee shall submit the NFA report to the Ohio EPA Northeast District Office. Ohio EPA will review the report and provide any necessary comments to the permittee. The permittee shall respond to any deficiencies in the analysis as noted by Ohio EPA within 30 days of receiving Ohio EPA comments. (Event Code 15099)

c. Within 30 days of notification of review and acceptance by Ohio EPA, the permittee shall initiate implementation of the recommendations of the report.

d. The permittee shall submit annual status reports towards implementation of the recommendations in accordance with the following schedule:

i. Not later than 36 Months after the effective date of the permit; and (Event Code 95999)

ii. Not later than 48 Months after the effective date of the permit. (Event Code 95999)

e. Unless extended in writing by Ohio EPA, all work necessary to comply with the implementation schedule of the selected NFA alternative(s) shall be fully completed by the expiration date of this permit.

2. Municipal Pretreatment Schedule

a. The permittee shall evaluate the adequacy of local industrial user limitations to prevent the introduction of pollutants into the POTW which will interfere with the operation of the POTW, pass through the POTW in amounts that exceed water quality standard-based limits, be incompatible with the POTW, or limit wastewater or sludge use options. Technical justification for revising local industrial user limitations to attain compliance with final table limits, along with a pretreatment program modification request, or technical justification for retaining existing local industrial user limitations shall be submitted to Ohio EPA, Central Office Pretreatment Unit and to Ohio EPA, Northeast District Office, as soon as possible, but no later than six months from the effective date of this permit. (Event Code 52599)

Technical justification is required for arsenic, cadmium, total chromium, dissolved hexavalent chromium, copper, free cyanide, lead, mercury, molybdenum, nickel, selenium, silver, and zinc unless screening of wastewater and sludge indicate these pollutants are not present in significant amounts. Technical justification is also required for any other pollutants where a local limit may be necessary to protect against pass through, interference or sludge disposal.

To demonstrate technical justification for new local industrial user limits or justification for retaining existing limits, a local limits technical justification report shall be submitted to Ohio EPA. The report shall be consistent with the guidance, procedures and methodologies found in Ohio EPA's and USEPA's local limits guidance documents available at http://epa.ohio.gov/dsw/pretreatment/guidance.aspx.

The report shall include the following:

i. Identification of and justification for pollutants of concern for which local limits will be developed.
ii. Treatment plant flow and industrial flows to which local limits will be applied. If the POTW is accepting any hauled waste include for each type of hauled waste (e.g. landfill leachate, septage), at least 5 data points detailing the dates and volumes of discharge and sampling results for all the pollutants of concern.

iii. Domestic/background concentrations. To determine domestic/background concentrations, the permittee shall, at a minimum, sample at three different locations for five consecutive days or two different locations for seven consecutive days. These locations shall, to the extent possible, convey only domestic wastewater.

iv. Treatment plant removal efficiencies. Whenever possible, site specific removal efficiencies shall be determined using actual plant data with analytical detection levels that are sensitive enough to provide values above the reporting level (RL) or practical quantification limit (PQL).

v. A comparison of maximum allowable headworks loadings based on all applicable criteria. Criteria may include sludge disposal, NPDES permit limits, waste load allocation values, and interference with biological processes such as activated sludge, sludge digestion, nitrification, etc. Calculation tables can be found on the Ohio EPA website at http://www.epa.ohio.gov/dsw/pretreatment/guidance.aspx.

vi. If revised industrial user discharge limits are proposed, the method of allocating available pollutant loads to industrial users.

vii. If narrative or best management practices (BMPs) are proposed as local limits, information on how they will be implemented. When appropriate, industrial user discharge limits may include narrative local limits requiring industrial users to develop and implement BMPs. These narrative local limits may be used either alone or as a supplement to numeric limits.

viii. Supporting data, assumptions, and methodologies used in establishing the information in item a.i. through a.vii above.

ix. The stamp and signature of a licensed Ohio professional engineer.

b. Revisions. The permittee shall submit a revised local limit technical justification report within 90 days of receiving notification from Ohio EPA of deficiencies in the submitted report.

c. If revisions to local industrial user limitations including best management practices are determined to be necessary, the permittee shall incorporate revised local industrial user limitations in all industrial user control documents, as applicable, no later than 4 months after the date of Ohio EPA's approval.

d. Sampling Methods

i. Mercury: If the permittee uses EPA Method 245.1 or 245.2 to sample domestic background locations and mercury concentrations are below detection, the permittee shall use EPA method 1631 or 245.7 to quantify domestic background contributions of mercury.

ii. Free Cyanide: The permittee shall use ASTM D7237 or OIA-1677-09 flow injection followed by gas diffusion amperometry to quantify domestic background contributions of free cyanide.

3. Evaluation for Reducing Discharge of Phosphorus

The permittee shall prepare and submit to Ohio EPA Northeast District Office for acceptance a Phosphorus Discharge Optimization Evaluation plan. The plan shall include an evaluation of collected effluent data, possible source reduction measures, operational improvements, and minor facility modifications that will optimize reductions in phosphorus discharges from the WWTP. The plan shall include a proposed schedule for implementing discharge optimization measures identified through the evaluation process.

The plan shall be completed and submitted to Ohio EPA no later than 12 Months from the effective date of this permit. Upon acceptance of the plan by Ohio EPA, the permittee shall implement the measures, improvements, and modifications in accordance with the plan and schedule specified in the plan. A complete Permit-to-Install (PTI) application and approvable detail plans must be submitted to the Ohio EPA Northeast District Office where appropriate. (Event Code 21599)

The permittee shall fill out and submit the Evaluation for Reducing Discharge of Phosphorus Form found at the Internet site http://www.epa.state.oh.us/dsw/permits/npdesform.aspx which reports on the overall progress towards reducing the final effluent concentration of nutrients attached with the submittal of the future permit renewal application.

4. Whole Effluent Toxicity for Pimephales promelas

a. Within 42 Months of the effective date of this permit, the permittee shall submit a report to Ohio EPA Northeast Office. This report shall contain summarized results of the toxicity testing for the previous 36 months. (Event Code 2299)

b. If acute and chronic toxicity results are reported below 1.0 TUa and 11.0 TUc, respectively, through the previous 36 months of monitoring, the permittee may submit a request to Ohio EPA Northeast District Office for a permit modification. The permit modification may allow for removal of the effluent limitations and reduced toxicity monitoring to an annual basis. Unless modified, the final effluent limitations of 1.0 TUa and 11.0 TUc become effective 54 months from the effective date of this permit.

c. If acute or chronic toxicity results are reported greater than or equal to 1.0 TUa or 11.0 TUc, respectively, Ohio EPA will determine if a Toxicity Reduction Evaluation (TRE) will be required of the permittee. A decision to require a TRE will be based upon best professional judgment and the following decision criteria:

i. acute or chronic PEQ values for toxicity in outfall 3PD00002001 effluent determined using the provisions of 40 CFR Part 132, Appendix F, Procedure 6 are greater than 1.0 TUa or the chronic wasteload allocation of 11.0 TUc;

ii. a review of the test procedures for adequacy; and

iii. evaluation of the normality of process and treatment plant operations at the time of sampling.

The permittee shall receive written notification from Ohio EPA if a TRE is required.

Part II, Other Requirements

A. Operator Certification Requirements

1. Classification

a. In accordance with Ohio Administrative Code 3745-7-04, the sewage treatment facility at this facility shall be classified as a Class III facility.

b. All sewerage (collection) systems that are tributary to this treatment works are Class II sewerage systems in accordance with paragraph (B)(1)(a) of rule 3745-7-04 of the Ohio Administrative Code.

2. Operator of Record

a. The permittee shall designate one or more operator of record to oversee the technical operation of the treatment works and sewerage (collection) system in accordance with paragraph (A)(2) of rule 3745-7-02 of the Ohio Administrative Code.

b. Each operator of record shall have a valid certification of a class equal to or greater than the classification of the treatment works as defined in Part II, Item A.1 of this NPDES permit.

c. Within three days of a change in an operator of record, the permittee shall notify the Director of the Ohio EPA of any such change on a form acceptable to Ohio EPA. The appropriate form can be found at the following website:

http://www.epa.ohio.gov/portals/28/Documents/opcert
/Operator_of_Record_Notification_Form.pdf

d. Within 60 days of the effective date of this permit, the permittee shall notify the Director of Ohio EPA of the operators of record on a form acceptable to Ohio EPA.

e. The operator of record for a class II, III, or IV treatment works or class II sewerage system may be replaced by a backup operator with a certificate one classification lower than the treatment works or sewerage system for a period of up to thirty consecutive days. The use of this provision does not require notification to the agency.

f. Upon proper justification, such as military leave or long term illness, the director may authorize the replacement of the operator of record for a class II, III, or IV treatment works or class II sewerage system by a backup operator with a certificate one classification lower than the facility for a period of greater than thirty consecutive days. Such requests shall be made in writing to the appropriate district office.

3. Minimum Staffing Requirements

a. The permittee shall ensure that the treatment works operator of record is physically present at the facility in accordance with the minimum staffing requirements per paragraph (C)(1) of rule 3745-7-04 of the Ohio Administrative Code or the requirements from an approved 3745-7-04(C) minimum staffing hour reduction plan.

b. Sewerage (collection) system Operators of Record are not required to meet minimum staffing requirements in paragraph (C)(1) of rule 3745-7-04 of the Ohio Administrative Code.

c. If Ohio EPA approves a reduction in minimum staffing requirements based upon a facility operating plan, any change in the criteria under which the operating plan was approved (such as enforcement status, history of noncompliance, or provisions included in the plan) will require that the treatment works immediately return to the minimum staffing requirements included in paragraph (C)(1) of rule 3745-7-04 of the Ohio Administrative Code.

B. Description of the location of the required sampling stations are as follows:

Sampling Station	Description of Location
3PD00002001	Final effluent (Lat: 41N 58 ' 08 "; Long: 80 W 32 ' 57 ")
3PD00002300	System wide sanitary sewer overflow occurences
3PD00002581	Sludge prior to land application
3PD00002586	Sludge prior to landfilling
3PD00002588	Sludge hauled to another NPDES permit holder
3PD00002601	Plant Influent
3PD00002602	Equalization Basin overflow prior to Outfall 3PD00002001
3PD00002603	Bypass around Primary Sedimentation to Secondary Treatment
3PD00002801	Conneaut Creek downstream of Outfall 3PD00002001
3PD00002901	Conneaut Creek upstream of Outfall 3PD00002001

C. All parameters, except flow, need not be monitored on days when the plant is not normally staffed (Saturdays, Sundays, and Holidays). On those days, report "AN" on the monthly report form.

D. Sanitary Sewer Overflow Reporting

A sanitary sewer overflow is an overflow, spill, release, or diversion of wastewater from a sanitary sewer system. SSOs do not include wet weather discharges from combined sewer overflows specifically listed in Part II of this NPDES permit (if any). All SSOs are prohibited.

1. Reporting for SSOs That Imminently and Substantially Endanger Human Health

a) Immediate Notification

You must notify Ohio EPA (1-800-282-9378) and the appropriate Board of Health (i.e., city or county) within 24 hours of learning of any SSO from your sewers or from your maintenance contract areas that may imminently and substantially endanger human health. The telephone report must identify the location, estimated volume and receiving water, if any, of the overflow. An SSO that may imminently and substantially endanger human health includes dry weather overflows, major line breaks, overflow events that result in fish kills or other significant harm, overflows that expose the general public to contact with raw sewage, and overflow events that occur in sensitive waters and high exposure areas such as protection areas for public drinking water intakes and waters where primary contact recreation occurs.

b) Follow-Up Written Report

Within 5 days of the time you become aware of any SSO that may imminently and substantially endanger human health, you must provide the appropriate Ohio EPA district office a written report that includes:

(i) the estimated date and time when the overflow began and stopped or will be stopped (if known);
(ii) the location of the SSO including an identification number or designation if one exists
(iii) the receiving water (if there is one);
(iv) an estimate of the volume of the SSO (if known);
(v) a description of the sewer system component from which the release occurred (e.g., manhole, constructed overflow pipe, crack in pipe);
(vi) the cause or suspected cause of the overflow;
(vii) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps; and
(viii) steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps.

An acceptable 5-day follow-up written report can be filled-in or downloaded from the Ohio EPA Division of Surface Water Permits Program Technical Assistance Web page at http://www.epa.ohio.gov/dsw/permits/technical_assistance.aspx.

2. Reporting for All SSOs, Including Those That Imminently and Substantially Endanger Human Health

a) Discharge Monitoring Reports (DMR)

Sanitary sewer overflows that enter waters of the state, either directly or through a storm sewer or other conveyance, shall be reported on your Discharge Monitoring Reports (DMR). You must report the system-wide number of occurrences for SSOs that enter waters of the state in accordance with the requirements for station number 300. A monitoring table for this station is included in Part I, B of this NPDES permit. For the purpose of counting occurrences, each location on the sanitary sewer system where there is an overflow, spill, release, or diversion of wastewater on a given day is counted as one occurrence. For example, if on a given day overflows occur from a manhole at one location and from a damaged pipe at another location and they both enter waters of the state, you should record two occurrences for that day. If overflows from both locations continue on the following day, you should record two occurrences for the following day. At the end of the month, total the daily occurrences from all locations on your system and report this number using reporting code 74062 (Overflow Occurrence, No./Month) on the 4500 form for station number 300.

b) Annual Report

You must prepare an annual report of all SSOs in your collection system, including those that do not enter waters of the state. The annual report must be in an acceptable format (see below) and must include:

(i) A table that lists an identification number, a location description, and the receiving water (if any) for each existing SSO. If an SSO previously included in the list has been eliminated, this shall be noted. Assign each SSO location a unique identification by numbering them consecutively, beginning with 301.

(ii) A table that lists the date that an overflow occurred, the unique ID of the overflow, the name of affected receiving waters (if any), and the estimated volume of the overflow (in millions of gallons). The annual report may summarize information regarding overflows of less than approximately 1,000 gallons.

(iii) A table that summarizes the occurrence of water in basements (WIBs) by total number and by sewershed. The report shall include a narrative analysis of WIB patterns by location, frequency and cause. Only WIBs caused by a problem in the publicly-owned collection system must be included.

Not later than March 31 of each year, you must submit one copy of the annual report for the previous calendar year to the appropriate Ohio EPA district office and one copy to: Ohio EPA; Division of Surface Water; NPDES Permit Unit; P.O. Box 1049; Columbus, OH, 43216-1049. You also must provide adequate notice to the public of the availability of the report. Adequate public notice would include: notices posted at the community administration building, the public library and the post office; a public notice in the newspaper; or a notice sent out with all sewer bills.

An acceptable annual SSO report can be filled-in or downloaded from the Ohio EPA Division of Surface Water Permits Program Technical Assistance Web page at http://www.epa.ohio.gov/dsw/permits/technical_assistance.aspx.

E. The permittee shall maintain in good working order and operate as efficiently as possible the "treatment works" and "sewerage system" as defined in ORC 6111.01 to achieve compliance with the terms and conditions of this permit and to prevent discharges to the waters of the state, surface of the ground, basements, homes, buildings, etc.

F. Composite samples shall be comprised of a series of grab samples collected over a 24-hour period and proportionate in volume to the sewage flow rate at the time of sampling. Such samples shall be collected at such times and locations, and in such a fashion, as to be representative of the facility's overall performance.

G. Grab samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's performance.

H. Multiple grab samples shall be comprised of at least three grab samples collected at intervals of at least three hours during the period that the plant is staffed on each day for sampling. Samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's overall performance. The critical value shall be reported.

I. The treatment works must obtain at least 85 percent removal of carbonaceous biochemical oxygen demand (five-day) and suspended solids (see Part III, Item 1).

J. Limits Below Quantification

The parameters below have had effluent limitations established that are below the Ohio EPA Quantification Level (OEPA QL) for the approved analytical procedure promulgated at 40 CFR 136. OEPA QLs may be expressed as Practical Quantification Levels (PQL) or Minimum Levels (ML). Compliance with an effluent limit that is below the OEPA QL is determined in accordance with ORC Section 6111.13 and OAC Rule 3745-33-07(C). For maximum effluent limits, any value reported below the OEPA QL shall be considered in compliance with the effluent limit. For average effluent limits, compliance shall be determined by taking the arithmetic mean of values reported for a specified averaging period, using zero (0) for any value reported at a concentration less than the OEPA QL, and comparing that mean to the appropriate average effluent limit. An arithmetic mean that is less than or equal to the average effluent limit shall be considered in compliance with that limit.

The permittee must utilize the lowest available detection method currently approved under 40 CFR Part 136 for monitoring these parameters.

REPORTING:

All analytical results, even those below the OEPA QL (listed below), shall be reported.

Analytical results are to be reported as follows:

1. Results above the QL: Report the analytical result for the parameter of concern.

2. Results above the MDL, but below the QL: Report the analytical result, even though it is below the QL.

3. Results below the MDL: Analytical results below the method detection limit shall be reported as "below detection" using the reporting code "AA".

The following table of quantification levels will be used to determine compliance with NPDES permit limits:

Parameter	PQL	ML
Chlorine, Total Residual	0.050 mg/l	--

This permit may be modified, or, alternatively, revoked and reissued, to include more stringent effluent limits or conditions if information generated as a result of the conditions of this permit indicate the presence of these pollutants in the discharge at levels above the water quality based effluent limit (WQBEL).

K. POTWs that accept hazardous wastes by truck, rail, or dedicated pipeline are considered to be hazardous waste treatment, storage, and disposal facilities (TSDFs) and are subject to regulation under the Resource Conservation and Recovery Act (RCRA). Under the "permit-by-rule" regulation found at 40 CFR 270.60(c), a POTW must
1) comply with all conditions of its NPDES permit,
2) obtain a RCRA ID number and comply with certain manifest and reporting requirements under RCRA,
3) satisfy corrective action requirements, and
4) meet all federal, state, and local pretreatment requirements.

L. Water quality based permit limitations in this permit may be revised based on updated wasteload allocations or use designation rules. This permit may be modified, or revoked and reissued, to include new water quality based effluent limits or other conditions that are necessary to comply with a revised wasteload allocation, or an approved total maximum daily loads (TMDL) report as required under Section 303 (d) of the Clean Water Act.

M. All disposal, use, storage, or treatment of sewage sludge by the Permittee shall comply with Chapter 6111. of the Ohio Revised Code, Chapter 3745-40 of the Ohio Administrative Code and any further requirements specified in this NPDES permit, and any other actions of the Director that pertain to the disposal, use, storage, or treatment of sewage sludge by the Permittee.

N. Sewage sludge composite samples shall consist of a minimum of six grab samples collected at such times and locations, and in such fashion, as to be representative of the facility's sewage sludge.

O. No later than March 1 of each calendar year, the Permittee shall submit a report summarizing the sewage sludge disposal, use, storage, or treatment activities of the Permittee during the previous calendar year. The report shall be submitted through the Ohio EPA eBusiness Center, Division of Surface Water NPDES Permit Applications service.

P. Each day when sewage sludge is removed from the wastewater treatment plant for use or disposal, a representative sample of sewage sludge shall be collected and analyzed for percent total solids. This value of percent total solids shall be used to calculate the total Sewage Sludge Weight (Discharge Monitoring Report code 70316) and/or total Sewage Sludge Fee Weight (Discharge Monitoring Report code 51129) removed from the treatment plant on that day. The results of the daily monitoring, and the weight calculations, shall be maintained on site for a minimum of five years. The test methodology used shall be from Part 2540 G of Standard Methods for the Examination of Water and Wastewater American Public Health Association, American Water Works Association, and Water Environment Federation, using the edition which is current on the issuance date of the permit. To convert from gallons of liquid sewage sludge to dry tons of sewage sludge: dry tons = gallons x 8.34 (lbs/gallon) x 0.0005 (tons/lb) x decimal fraction total solids.

Q. Cyanide Low Level Method

This permit no longer authorizes the use of method 4500 CN-I from Standard Methods for free cyanide testing. Currently there are two approved methods for free cyanide listed in 40 CFR 136 that have a quantification level lower than any water quality-based effluent limits: ASTM D7237-10 and OIA-1677-09. The permittee shall begin using one of these approved methods as soon as possible. If you must use method 4500 CN-I during the transition to an approved method, report the results on your DMR and enter "Method 4500 CN-I:" in the remarks section.

R. Monitoring for Low Level Mercury

The permittee shall use EPA Method 1631 promulgated under 40 CFR 136 to comply with the influent and effluent mercury monitoring requirements of this permit.

S. Sampling for Bis(2-ethylhexyl) phthalate

Composite samples for Bis(2-ethylhexyl) phthalate shall be comprised of at least three grab samples proportionate in volume to the sewage flow rate at the time of sampling and collected at intervals of at least 30 minutes, but not more than 2 hours, during an 8 hour period that the plant is staffed for sampling. The samples shall be collected in glass to eliminate the potential for contamination from plastic containers; and they shall be collected at such times and locations, and in such fashion, as to be representative of the facility's overall performance.

T. Monitoring for Dissolved Orthophosphate (as P)

Beginning no later than three months from the effective date of this permit, the permittee shall begin monitoring for dissolved orthophosphate by grab sample. The permittee shall filter the grab sample within 15 minutes of collection using a 0.45-micron filter. The filtered sample must be analyzed within 48 hours. Samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's overall performance.

U. Pretreatment Program Requirements

The permittee's pretreatment program initially approved on December 31, 1987 and all subsequent modifications approved before the effective date of this permit, shall be an enforceable term and condition of this permit.

To ensure that the approved program is implemented in accordance with 40 CFR 403, Chapter 3745-3 of Ohio Administrative Code and Chapter 6111 of the Ohio Revised Code, the permittee shall comply with the following conditions:

1. Legal Authority

The permittee shall adopt and maintain legal authority which enables it to fully implement and enforce all aspects of its approved pretreatment program including the identification and characterization of industrial sources, issuance of control documents, compliance monitoring and reporting, and enforcement.

The permittee shall establish agreements with all contributing jurisdictions, as necessary, to enable the permittee to fulfill its requirements with respect to industrial users discharging to its system.

2. Funding

The permittee shall have sufficient resources and qualified personnel to fully implement all aspects of its approved pretreatment program.

3. Industrial User Inventory

The permittee shall identify all industrial users subject to pretreatment standards and requirements and characterize the nature and volume of pollutants in their wastewater. Dischargers determined to be Significant Industrial Users according to OAC 3745-3-01(FF) must be notified of applicable pretreatment standards and requirements within 30 days of making such a determination. This inventory shall be updated at a frequency to ensure proper identification and characterization of industrial users.

4. Slug Load Control Plans for Significant Industrial Users

The permittee shall evaluate the need for a plan, device or structure to control a potential slug discharge at least once during the term of each significant industrial user's control mechanism. Existing significant industrial users shall be evaluated within one year of the effective date of this permit if the users have never been evaluated. New industrial users identified as significant industrial users shall be evaluated within one year of being identified as a significant industrial user.

5. Local Limits

The permittee shall develop and enforce technically based local limits to prevent the introduction of pollutants into the POTW which will interfere with the operation of the POTW, pass through the treatment works, be incompatible with the treatment works, or limit wastewater or sludge use options.

The permittee shall use the following waste load allocation values when evaluating local limits for the following pollutants for which a final effluent limit has not been established:

Arsenic	680 ug/l
Cadmium	11ug/l
Chromium, hexavalent	31 ug/l
Chromium, total	1100 ug/l
Copper	34 ug/l
Free Cyanide	44 ug/l
Lead	91 ug/l
Molybdenum	110,000 ug/l
Nickel	672 ug/l
Selenium	55 ug/l
Silver	4.5 ug/l
Zinc	280 ug/l

For the purpose of periodically reevaluating local limits, the permittee shall implement and maintain a sampling program to characterize pollutant contribution to the POTW from industrial and residential sources and to determine pollutant removal efficiencies through the POTW. The permittee shall continue to review and develop local limits as necessary.

6. Control Mechanisms

The permittee shall issue control mechanisms to all industries determined to be Significant Industrial Users as define in OAC 3745-3-01(FF). Control mechanisms must meet at least the minimum requirements of OAC-3745-3-03(C)(1)(c).

7. Industrial Compliance Monitoring

The permittee shall sample and inspect industrial users in accordance with the approved program or approved modifications, including inspection and sampling of all significant industrial users at least annually. Sample collection, preservation and analysis must be performed in accordance with procedures in 40 CFR 136 and with sufficient care to produce evidence admissible in judicial enforcement proceedings.

The permittee shall also require, receive, and review self-monitoring and other industrial user reports when necessary to determine compliance with pretreatment standards and requirements. If the permittee performs sampling and analysis in lieu of an industrial user¿s self-monitoring, the permittee shall perform repeat sampling and analysis within 30 days of becoming aware of a permit violation, unless the permittee notifies the user of the violation and requires the user to perform the repeat analysis and reporting.

8. POTW Priority Pollutant Monitoring

The permittee shall annually monitor priority pollutants, as defined by U.S. EPA, in the POTW's influent, effluent and sludge. Sample collection, preservation, and analysis shall be performed using U.S. EPA approved methods.

a. A sample of the influent and the effluent shall be collected when industrial discharges are occurring at normal to maximum levels. Sampling of the influent shall be done prior to any recycle streams and sampling of the effluent shall be after disinfection. Both samples shall be collected on the same day or, alternately, the effluent sample may be collected following the influent sample by approximately the retention time of the POTW.

Sampling of sludge shall be representative of sludge removed to final disposal. A minimum of one grab sample shall be taken during actual sludge removal and disposal unless the POTW uses more than one disposal option. If multiple disposal options are used, the POTW shall collect a composite of grab samples from all disposal practices which are proportional to the annual flows to each type of disposal.

b. A reasonable attempt shall be made to identify and quantify additional constituents (excluding priority pollutants and unsubstituted aliphatic compounds) at each sample location. Identification of additional peaks more than ten times higher than the adjacent background noise on the total ion plots (reconstructed gas chromatograms) shall be attempted through the use of U.S. EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be based on an order of magnitude estimate compared with an internal standard.

The results of these samples must be submitted on Ohio EPA Form 4221 with the permittee's annual pretreatment report. Samples may be collected at any time during the 12 months preceding the due date of the annual report and may be used to fulfill other NPDES monitoring requirements where applicable.

9. Enforcement

The permittee shall investigate all instances of noncompliance with pretreatment standards and requirements and take timely, appropriate, and effective enforcement action to resolve the noncompliance in accordance with the permittee's approved enforcement response plan.

On or prior to February 15th of each year, the permittee shall publish, in a newspaper of general circulation that provides meaningful public notice within the jurisdiction served by the permittee, a list of industrial users which, during the previous 12 months, have been in Significant Noncompliance [OAC 3745-3-03(C)(2)(h)] with applicable pretreatment standards or requirements.

10. Reporting

All reports required under this section shall be submitted to the following address in duplicate:

Ohio Environmental Protection Agency
Division of Surface Water
Pretreatment Unit
P.O. Box 1049
Columbus, OH 43216-1049

a. Quarterly Industrial User Violation Report

On or prior to the 15th day of March, June, September, and December, the permittee shall report the industrial users that are in violation of applicable pretreatment standards during the previous quarter. The report shall be prepared in accordance with guidance provided by Ohio EPA and shall include a description of all industrial user violations and corrective actions taken to resolve the violations.

b. Annual Pretreatment Report

On or prior to March 15th of each year, the permittee shall submit an annual report on the effectiveness of the pretreatment program. The report shall be prepared in accordance with guidance provided by Ohio EPA and shall include, but not be limited to: a discussion of program effectiveness; and industrial user inventory; a description of the permittee's monitoring program; a description of any pass through or interference incidents; a copy of the annual publication of industries in Significant Noncompliance; and, priority pollutant monitoring results.

11. Record Keeping

All records of pretreatment activities including, but not limited to, industrial inventory data, monitoring results, enforcement actions, and reports submitted by industrial users must be maintained for a minimum of three (3) years. This period of retention shall be extended during the course of any unresolved litigation. Records must be made available to Ohio EPA and U.S. EPA upon request.

12. Program Modifications

Any proposed modifications of the approved pretreatment program must be submitted to Ohio EPA for review, on forms available from Ohio EPA and consistent with guidance provided by Ohio EPA. If the modification is deemed to be substantial, prior approval must be obtained before implementation; otherwise, the modification is considered to be effective 45 days after the date of application. Substantial program modifications include, among other things, changes to the POTW's legal authority, industrial user control mechanisms, local limits, confidentiality procedures, or monitoring frequencies.

V. General Mercury Variance Renewal

The permittee is granted a renewal of the general mercury variance under the provisions of Rule 3745-33-07(D)(8) of the Ohio Administrative Code. The permittee has demonstrated that the facility is currently unable to comply with the monthly average water quality based effluent limit of 1.3 ng/l without construction of expensive end-of-pipe controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act. The permittee is currently able to achieve an annual average mercury concentration of 12 ng/l. For general mercury variance purposes, the annual average mercury effluent concentration is defined as the average of the most recent 12 months of effluent data.

One of the conditions of the general mercury variance is that the permittee make reasonable progress towards attaining the water quality based effluent limits for mercury (1.b, below). To accomplish this, the permittee is required to continue implementing a pollutant minimization program (PMP) for mercury. The elements of a PMP include: a control strategy to locate, identify and, where cost-effective, reduce levels of mercury that contribute to discharge levels; periodic monitoring of sources and the treatment system; and annual reporting of results.

The plan of study that was part of the permittee's 2008 application for coverage under the general mercury variance included items associated with developing a control strategy and initial implementation of a PMP. By implementing the plan of study and meeting other conditions of its NPDES permit, the permittee has been taking actions consistent with a PMP for mercury. Condition 1.d below, requires the permittee to continue implementing a PMP for mercury.

1. As conditions of this variance, the permittee shall meet the following requirements:

a. The permittee shall comply with the effluent limitations for mercury at outfall 3PD00002001 given in Part I, A. of this permit.

b. The permittee shall make reasonable progress towards attaining the monthly average water quality-based effluent limit for mercury by complying with the general mercury variance conditions included in this NPDES permit.

c. The permittee shall use EPA Method 1631 to comply with the influent and effluent mercury monitoring requirements of this permit.

d. The permittee shall continue implementing a PMP for mercury consistent with the permittee's mercury variance application and any other relevant information submitted by the permittee.

e. The permittee shall assess the impact of the mercury variance on public health, safety, and welfare by, as a minimum, monitoring for mercury in the facility's influent and effluent as required by this NPDES permit.

f. The permittee shall maintain an annual average mercury effluent concentration equal to or less than 12 ng/l.

g. On or prior to March 1of each year, the permittee shall submit two copies of an annual PMP report to Ohio EPA, Division of Surface Water, Pretreatment Unit, P.O. Box 1049, Columbus, OH, 43216-1049. The annual PMP report shall include:

i. All minimization program monitoring results for the year;

ii. A list of potential sources of mercury;

iii. A summary of all actions taken to meet the effluent limits for mercury; and

iv. Any updates of the control strategy, including actions planned to reduce the levels of mercury in the treatment plant's final effluent.

h. Upon completion of the actions identified in the plan of study as required in Part II, Item V.1.d. of this permit or upon submittal of the permittee's NPDES permit renewal application, whichever comes first, the permittee shall submit to Ohio EPA's Northeast District Office a certification stating that all permit conditions imposed to implement the plan of study and the PMP have been satisfied and whether compliance with the monthly average water quality based effluent limit for mercury has been achieved and can be maintained. This certification shall be accompanied by the following:

i. All available mercury influent and effluent data for the most recent 12 month period.

ii. Data documenting all known significant sources of mercury and the steps that have been taken to reduce or eliminate those sources; and

iii. A determination of the lowest mercury concentration that currently available data indicate can be reliably achieved through implementation of the PMP.

2. Exceedance of the annual average limit of 12 ng/l.

a. If at any time after the effective date of this permit, the permittee¿s annual average mercury effluent concentration exceeds 12 ng/l, the permittee shall:

i. Notify Ohio EPA's Northeast District Office not later than 30 days from the date of the exceedance.

ii. Submit an individual variance application, if a variance is desired, not later than 6 months from the date of the exceedance; or

iii. Request a permit modification not later than 6 months from the date of the exceedance for a compliance schedule to attain compliance with the water quality-based effluent limits for mercury.

b. If the permittee complies with either 2.a.ii or 2.a.iii, above, the general mercury variance conditions included in this NPDES permit will remain in effect until the date that the Director acts on the individual variance application or the date that the permit modification becomes effective.

c. If the permittee does not comply with either 2.a.ii or 2.a.iii, above, a monthly water-quality based effluent limit for mercury of 1.3 ng/l shall apply at outfall 3PD00002001 beginning 6 months from the date of the exceedance.

3. The requirements of Part II, Item V.2 shall not apply if the permittee demonstrates to the satisfaction of the Director that the mercury concentration in the permittee's effluent exceeds 12 ng/l due primarily to the presence of mercury in the permittee's intake water.

W. Permit Reopener for Mercury Variance Revisions

Ohio EPA may reopen and modify this permit at any time based upon Ohio EPA water quality standard revisions to the mercury variance granted in Part II, Item V of this permit.

X. Renewal of Mercury Variance

For renewal of the mercury variance authorized in this permit, the permittee shall include the following information with the submittal of the subsequent NPDES permit renewal application:

1. the certification described under Part II, Item V.1.h., and all information required under Part II, Item V.1.h.i. through Part II, Item V.1.h.iii;

2. a status report on the progress being made implementing the pollutant minimization program (PMP). This information may be included in the annual PMP report required under Part II, Item V.1.g;

3. a listing of the strategies and/or programs in the PMP which will be continued under the next renewal of this permit; and

4. a statement requesting the renewal of the mercury variance.

Y. Biomonitoring Program Requirements

The Permittee shall continue implementation of the effluent biomonitoring program to determine the toxicity of the effluent from outfall 3PD00002001. Bioassay sampling shall coincide with required sampling for other NPDES parameters, e.g. nutrients and metals.

General Requirements

All toxicity testing conducted as required by this permit shall be done in accordance with "Reporting and Testing Guidance for Biomonitoring Required by the Ohio Environmental Protection Agency" (hereinafter, the "biomonitoring guidance"), Ohio EPA, July 1998 (or current revision). The Standard Operating Procedures (SOP) or verification of SOP submittal, as described in Section 1.B. of the biomonitoring guidance shall be submitted no later than three months after the effective date of this permit. If the laboratory performing the testing has modified its protocols, a new SOP is required.

1. Chronic Bioassays

For the duration of the permit, the permittee shall conduct chronic toxicity tests using the water flea (Ceriodaphnia dubia) and fathead minnow (Pimephales promelas) on effluent samples from outfall 3PD00002001. These tests shall be conducted as specified in Section 3 of the biomonitoring guidance.

2. Acute Bioassays

Acute endpoints, as described in Section 2.H. of the biomonitoring guidance, shall be derived from the chronic test.

4. Data Review

a. Reporting

Following completion of each bioassay requirement,the permittee shall report results of the tests in accordance with Sections 2.H.1., 2.H.2.a., 3.H.1., and 3.H.2.a. of the biomonitoring guidance, including reporting the results on the monthly DMR and submitting a copy of the complete test report to Ohio EPA, Division of Surface Water, NPDES Permit Unit, P.O. Box 1049, Columbus, OH, 43216-1049.

Based on Ohio EPA's evaluation of the results, this permit may be modified to require additional biomonitoring, require a toxicity reduction evaluation, and/or contain whole effluent toxicity limits.

b. Definitions

TUa = Acute Toxicity Units = 100/LC50

TUc = Chronic Toxicity Units = 100/IC25

This equation for chronic toxicity units applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations except when the following equation is more restrictive (Ceriodaphnia dubia only):

TUc = Chronic Toxic Units = 100/square root of (NOEC x LOEC)

Z. Outfall Signage

The permittee shall post and maintain a permanent marker on the stream bank at each outfall that is regulated under this NPDES permit where a marker does not currently exist. This includes final outfalls, bypasses, and combined sewer overflows. The marker shall consist at a minimum of the name of the establishment to which the permit was issued, the Ohio EPA permit number, and the outfall number and a contact telephone number. The information shall be printed in letters not less than two inches in height. The marker shall be a minimum of 2 feet by 2 feet and shall be a minimum of 3 feet above ground level. The sign shall not be obstructed such that persons in boats or persons swimming on the river or someone fishing or walking along the shore cannot read the sign. Vegetation shall be periodically removed to keep the sign visible. If the outfall is normally submerged the sign shall indicate that. If the outfall is a combined sewer outfall, the sign shall indicate that untreated human sewage may be discharged from the outfall during wet weather and that harmful bacteria may be present in the water. When an existing marker is replaced or reset, the new marker shall comply with the requirements of this section.

PART III - GENERAL CONDITIONS

1. DEFINITIONS

"Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

"Average weekly" discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. Each of the following 7-day periods is defined as a calendar week: Week 1 is Days 1 - 7 of the month; Week 2 is Days 8 - 14; Week 3 is Days 15 - 21; and Week 4 is Days 22 - 28. If the "daily discharge" on days 29, 30 or 31 exceeds the "average weekly" discharge limitation, Ohio EPA may elect to evaluate the last 7 days of the month as Week 4 instead of Days 22 - 28. Compliance with fecal coliform bacteria or E coli bacteria limitations shall be determined using the geometric mean.

"Average monthly" discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. Compliance with fecal coliform bacteria or E coli bacteria limitations shall be determined using the geometric mean.

"85 percent removal" means the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

"Absolute Limitations" Compliance with limitations having descriptions of "shall not be less than," "nor greater than," "shall not exceed," "minimum," or "maximum" shall be determined from any single value for effluent samples and/or measurements collected.

"Net concentration" shall mean the difference between the concentration of a given substance in a sample taken of the discharge and the concentration of the same substances in a sample taken at the intake which supplies water to the given process. For the purpose of this definition, samples that are taken to determine the net concentration shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"Net Load" shall mean the difference between the load of a given substance as calculated from a sample taken of the discharge and the load of the same substance in a sample taken at the intake which supplies water to given process. For purposes of this definition, samples that are taken to determine the net loading shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"MGD" means million gallons per day.

"mg/l" means milligrams per liter.

"ug/l" means micrograms per liter.

"ng/l" means nanograms per liter.

"S.U." means standard pH unit.

"kg/day" means kilograms per day.

"Reporting Code" is a five digit number used by the Ohio EPA in processing reported data. The reporting code does not imply the type of analysis used nor the sampling techniques employed.

"Quarterly (1/Quarter) sampling frequency" means the sampling shall be done in the months of March, June, August, and December, unless specifically identified otherwise in the Effluent Limitations and Monitoring Requirements table.

"Yearly (1/Year) sampling frequency" means the sampling shall be done in the month of September, unless specifically identified otherwise in the effluent limitations and monitoring requirements table.

"Semi-annual (2/Year) sampling frequency" means the sampling shall be done during the months of June and December, unless specifically identified otherwise.

"Winter" shall be considered to be the period from November 1 through April 30.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Summer" shall be considered to be the period from May 1 through October 31.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

"Sewage sludge" means a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works as defined in section 6111.01 of the Revised Code. "Sewage sludge" includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes. "Sewage sludge" does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator, grit and screenings generated during preliminary treatment of domestic sewage in a treatment works, animal manure, residue generated during treatment of animal manure, or domestic septage.

"Sewage sludge weight" means the weight of sewage sludge, in dry U.S. tons, including admixtures such as liming materials or bulking agents. Monitoring frequencies for sewage sludge parameters are based on the reported sludge weight generated in a calendar year (use the most recent calendar year data when the NPDES permit is up for renewal).

"Sewage sludge fee weight" means the weight of sewage sludge, in dry U.S. tons, excluding admixtures such as liming materials or bulking agents. Annual sewage sludge fees, as per section 3745.11(Y) of the Ohio Revised Code, are based on the reported sludge fee weight for the most recent calendar year.

2. GENERAL EFFLUENT LIMITATIONS

The effluent shall, at all times, be free of substances:

A. In amounts that will settle to form putrescent, or otherwise objectionable, sludge deposits; or that will adversely affect aquatic life or water fowl;

B. Of an oily, greasy, or surface-active nature, and of other floating debris, in amounts that will form noticeable accumulations of scum, foam or sheen;

C. In amounts that will alter the natural color or odor of the receiving water to such degree as to create a nuisance;

D. In amounts that either singly or in combination with other substances are toxic to human, animal, or aquatic life;

E. In amounts that are conducive to the growth of aquatic weeds or algae to the extent that such growths become inimical to more desirable forms of aquatic life, or create conditions that are unsightly, or constitute a nuisance in any other fashion;

F. In amounts that will impair designated instream or downstream water uses.

3. FACILITY OPERATION AND QUALITY CONTROL

All wastewater treatment works shall be operated in a manner consistent with the following:

A. At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with conditions of the permit.

B. The permittee shall effectively monitor the operation and efficiency of treatment and control facilities and the quantity and quality of the treated discharge.

C. Maintenance of wastewater treatment works that results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by Ohio EPA as specified in the Paragraph in the PART III entitled, "UNAUTHORIZED DISCHARGES".

4. REPORTING

A. Monitoring data required by this permit shall be submitted monthly on Ohio EPA 4500 Discharge Monitoring Report (DMR) forms using the electronic DMR (e-DMR) internet application. e-DMR allows permitted facilities to enter, sign, and submit DMRs on the internet. e-DMR information is found on the following web page:

http://www.epa.ohio.gov/dsw/edmr/eDMR.aspx

Alternatively, if you are unable to use e-DMR due to a demonstrated hardship, monitoring data may be submitted on paper DMR forms provided by Ohio EPA. Monitoring data shall be typed on the forms. Please contact Ohio EPA, Division of Surface Water at (614) 644-2050 if you wish to receive paper DMR forms.

B. DMRs shall be signed by a facility's Responsible Official or a Delegated Responsible Official (i.e. a person delegated by the Responsible Official). The Responsible Official of a facility is defined as:

1. For corporations - a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. For partnerships - a general partner;

3. For a sole proprietorship - the proprietor; or,

4. For a municipality, state or other public facility - a principal executive officer, a ranking elected official or other duly authorized employee.

For e-DMR, the person signing and submitting the DMR will need to obtain an eBusiness Center account and Personal Identification Number (PIN). Additionally, Delegated Responsible Officials must be delegated by the Responsible Official, either on-line using the eBusiness Center's delegation function, or on a paper delegation form provided by Ohio EPA. For more information on the PIN and delegation processes, please view the following web page:

http://epa.ohio.gov/dsw/edmr/eDMR.aspx

C. DMRs submitted using e-DMR shall be submitted to Ohio EPA by the 20th day of the month following the month-of-interest. DMRs submitted on paper must include the original signed DMR form and shall be mailed to Ohio EPA at the following address so that they are received no later than the 15th day of the month following the month-of-interest:

Ohio Environmental Protection Agency
Lazarus Government Center
Division of Surface Water - PCU
P.O. Box 1049
Columbus, Ohio 43216-1049

D. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in Section 5. SAMPLING AND ANALYTICAL METHODS, the results of such monitoring shall be included in the calculation and reporting of the values required in the reports specified above.

E. Analyses of pollutants not required by this permit, except as noted in the preceding paragraph, shall not be reported to the Ohio EPA, but records shall be retained as specified in Section 7. RECORDS RETENTION.

5. SAMPLING AND ANALYTICAL METHOD

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored flow. Test procedures for the analysis of pollutants shall conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants" unless other test procedures have been specified in this permit. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to insure accuracy of measurements.

6. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

A. The exact place and date of sampling; (time of sampling not required on EPA 4500)

B. The person(s) who performed the sampling or measurements;

C. The date the analyses were performed on those samples;

D. The person(s) who performed the analyses;

E. The analytical techniques or methods used; and

F. The results of all analyses and measurements.

7. RECORDS RETENTION

The permittee shall retain all of the following records for the wastewater treatment works for a minimum of three years except those records that pertain to sewage sludge disposal, use, storage, or treatment, which shall be kept for a minimum of five years, including:

A. All sampling and analytical records (including internal sampling data not reported);

B. All original recordings for any continuous monitoring instrumentation;

C. All instrumentation, calibration and maintenance records;

D. All plant operation and maintenance records;

E. All reports required by this permit; and

F. Records of all data used to complete the application for this permit for a period of at least three years, or five years for sewage sludge, from the date of the sample, measurement, report, or application.

These periods will be extended during the course of any unresolved litigation, or when requested by the Regional Administrator or the Ohio EPA. The three year period, or five year period for sewage sludge, for retention of records shall start from the date of sample, measurement, report, or application.

8. AVAILABILITY OF REPORTS

Except for data determined by the Ohio EPA to be entitled to confidential status, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate district offices of the Ohio EPA. Both the Clean Water Act and Section 6111.05 Ohio Revised Code state that effluent data and receiving water quality data shall not be considered confidential.

9. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. RIGHT OF ENTRY

The permittee shall allow the Director or an authorized representative upon presentation of credentials and other documents as may be required by law to:

A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.

B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.

D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. UNAUTHORIZED DISCHARGES

A. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 11.B and 11.C.

B. Notice

1. Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

2. Unanticipated Bypass - The permittee shall submit notice of an unanticipated bypass as required in paragraph 12.B (24 hour notice).

C. Prohibition of Bypass

1. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under paragraph 11.B.

2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 11.C.1.

12. NONCOMPLIANCE NOTIFICATION

A. Exceedance of a Daily Maximum Discharge Limit

1. The permittee shall report noncompliance that is the result of any violation of a daily maximum discharge limit for any of the pollutants listed by the Director in the permit by e-mail or telephone within twenty-four (24) hours of discovery.

The permittee may report to the appropriate Ohio EPA district office e-mail account as follows (this method is preferred):

Southeast District Office: sedo24hournpdes@epa.state.oh.us
Southwest District Office: swdo24hournpdes@epa.state.oh.us
Northwest District Office: nwdo24hournpdes@epa.state.oh.us
Northeast District Office: nedo24hournpdes@epa.state.oh.us
Central District Office: cdo24hournpdes@epa.state.oh.us
Central Office: co24hournpdes@epa.state.oh.us

The permittee shall attach a noncompliance report to the e-mail. A noncompliance report form is available on the following web site under the Monitoring and Reporting - Non-Compliance Notification section:

http://epa.ohio.gov/dsw/permits/individuals.aspx

Or, the permittee may report to the appropriate Ohio EPA district office by telephone toll-free between 8:00 AM and 5:00 PM as follows:

Southeast District Office: (800) 686-7330
Southwest District Office: (800) 686-8930
Northwest District Office: (800) 686-6930
Northeast District Office: (800) 686-6330
Central District Office: (800) 686-2330
Central Office: (614) 644-2001

The permittee shall include the following information in the telephone noncompliance report:

a. The name of the permittee, and a contact name and telephone number;

b. The limit(s) that has been exceeded;

c. The extent of the exceedance(s);

d. The cause of the exceedance(s);

e. The period of the exceedance(s) including exact dates and times;

f. If uncorrected, the anticipated time the exceedance(s) is expected to continue; and,

g. Steps taken to reduce, eliminate or prevent occurrence of the exceedance(s).

B. Other Permit Violations

1. The permittee shall report noncompliance that is the result of any unanticipated bypass resulting in an exceedance of any effluent limit in the permit or any upset resulting in an exceedance of any effluent limit in the permit by e-mail or telephone within twenty-four (24) hours of discovery.

The permittee may report to the appropriate Ohio EPA district office e-mail account as follows (this method is preferred):

Southeast District Office: sedo24hournpdes@epa.state.oh.us
Southwest District Office: swdo24hournpdes@epa.state.oh.us
Northwest District Office: nwdo24hournpdes@epa.state.oh.us
Northeast District Office: nedo24hournpdes@epa.state.oh.us
Central District Office: cdo24hournpdes@epa.state.oh.us
Central Office: co24hournpdes@epa.state.oh.us

The permittee shall attach a noncompliance report to the e-mail. A noncompliance report form is available on the following web site:

http://www.epa.ohio.gov/dsw/permits/permits.aspx

Or, the permittee may report to the appropriate Ohio EPA district office by telephone toll-free between 8:00 AM and 5:00 PM as follows:

Southeast District Office: (800) 686-7330
Southwest District Office: (800) 686-8930
Northwest District Office: (800) 686-6930
Northeast District Office: (800) 686-6330
Central District Office: (800) 686-2330
Central Office: (614) 644-2001

The permittee shall include the following information in the telephone noncompliance report:

a. The name of the permittee, and a contact name and telephone number;

b. The time(s) at which the discharge occurred, and was discovered;

c. The approximate amount and the characteristics of the discharge;

d. The stream(s) affected by the discharge;

e. The circumstances which created the discharge;

f. The name and telephone number of the person(s) who have knowledge of these circumstances;

g. What remedial steps are being taken; and,

h. The name and telephone number of the person(s) responsible for such remedial steps.

2. The permittee shall report noncompliance that is the result of any spill or discharge which may endanger human health or the environment within thirty (30) minutes of discovery by calling the 24-Hour Emergency Hotline toll-free at (800) 282-9378. The permittee shall also report the spill or discharge by e-mail or telephone within twenty-four (24) hours of discovery in accordance with B.1 above.

C. When the telephone option is used for the noncompliance reports required by A and B, the permittee shall submit to the appropriate Ohio EPA district office a confirmation letter and a completed noncompliance report within five (5) days of the discovery of the noncompliance. This follow up report is not necessary for the e-mail option which already includes a completed noncompliance report.

D. If the permittee is unable to meet any date for achieving an event, as specified in a schedule of compliance in their permit, the permittee shall submit a written report to the appropriate Ohio EPA district office within fourteen (14) days of becoming aware of such a situation. The report shall include the following:

1. The compliance event which has been or will be violated;

2. The cause of the violation;

3. The remedial action being taken;

4. The probable date by which compliance will occur; and,

5. The probability of complying with subsequent and final events as scheduled.

E. The permittee shall report all other instances of permit noncompliance not reported under paragraphs A or B of this section on their monthly DMR submission. The DMR shall contain comments that include the information listed in paragraphs A or B as appropriate.

F. If the permittee becomes aware that it failed to submit an application, or submitted incorrect information in an application or in any report to the director, it shall promptly submit such facts or information.

13. RESERVED

14. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

15. AUTHORIZED DISCHARGES

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such violations may result in the imposition of civil and/or criminal penalties as provided for in Section 309 of the Act and Ohio Revised Code Sections 6111.09 and 6111.99.

16. DISCHARGE CHANGES

The following changes must be reported to the appropriate Ohio EPA district office as soon as practicable:

A. For all treatment works, any significant change in character of the discharge which the permittee knows or has reason to believe has occurred or will occur which would constitute cause for modification or revocation and reissuance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Notification of permit changes or anticipated noncompliance does not stay any permit condition.

B. For publicly owned treatment works:

1. Any proposed plant modification, addition, and/or expansion that will change the capacity or efficiency of the plant;

2. The addition of any new significant industrial discharge; and

3. Changes in the quantity or quality of the wastes from existing tributary industrial discharges which will result in significant new or increased discharges of pollutants.

C. For non-publicly owned treatment works, any proposed facility expansions, production increases, or process modifications, which will result in new, different, or increased discharges of pollutants.

Following this notice, modifications to the permit may be made to reflect any necessary changes in permit conditions, including any necessary effluent limitations for any pollutants not identified and limited herein. A determination will also be made as to whether a National Environmental Policy Act (NEPA) review will be required. Sections 6111.44 and 6111.45, Ohio Revised Code, require that plans for treatment works or improvements to such works be approved by the Director of the Ohio EPA prior to initiation of construction.

D. In addition to the reporting requirements under 40 CFR 122.41(l) and per 40 CFR 122.42(a), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit. If that discharge will exceed the highest of the "notification levels" specified in 40 CFR Sections 122.42(a)(1)(i) through 122.42(a)(1)(iv).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" specified in 122.42(a)(2)(i) through 122.42(a)(2)(iv).

17. TOXIC POLLUTANTS

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement. Following establishment of such standards or prohibitions, the Director shall modify this permit and so notify the permittee.

18. PERMIT MODIFICATION OR REVOCATION

A. After notice and opportunity for a hearing, this permit may be modified or revoked, by the Ohio EPA, in whole or in part during its term for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this permit;

2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

3. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

B. Pursuant to rule 3745-33-04, Ohio Administrative Code, the permittee may at any time apply to the Ohio EPA for modification of any part of this permit. The filing of a request by the permittee for a permit modification or revocation does not stay any permit condition. The application for modification should be received by the appropriate Ohio EPA district office at least ninety days before the date on which it is desired that the modification become effective. The application shall be made only on forms approved by the Ohio EPA.

19. TRANSFER OF OWNERSHIP OR CONTROL

This permit may be transferred or assigned and a new owner or successor can be authorized to discharge from this facility, provided the following requirements are met:

A. The permittee shall notify the succeeding owner or successor of the existence of this permit by a letter, a copy of which shall be forwarded to the appropriate Ohio EPA district office. The copy of that letter will serve as the permittee's notice to the Director of the proposed transfer. The copy of that letter shall be received by the appropriate Ohio EPA district office sixty (60) days prior to the proposed date of transfer;

B. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) shall be submitted to the appropriate Ohio EPA district office within sixty days after receipt by the district office of the copy of the letter from the permittee to the succeeding owner;

At anytime during the sixty (60) day period between notification of the proposed transfer and the effective date of the transfer, the Director may prevent the transfer if he concludes that such transfer will jeopardize compliance with the terms and conditions of the permit. If the Director does not prevent transfer, he will modify the permit to reflect the new owner.

20. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

21. SOLIDS DISPOSAL

Collected grit and screenings, and other solids other than sewage sludge, shall be disposed of in such a manner as to prevent entry of those wastes into waters of the state, and in accordance with all applicable laws and rules.

22. CONSTRUCTION AFFECTING NAVIGABLE WATERS

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

23. CIVIL AND CRIMINAL LIABILITY

Except as exempted in the permit conditions on UNAUTHORIZED DISCHARGES or UPSETS, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

24. STATE LAWS AND REGULATIONS

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

25. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

26. UPSET

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "upset," see Part III, Paragraph 1, DEFINITIONS.

27. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

28. SIGNATORY REQUIREMENTS

All applications submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR 122.22.

All reports submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR Section 122.22.

29. OTHER INFORMATION

A. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

B. ORC 6111.99 provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

C. ORC 6111.99 states that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

D. ORC 6111.99 provides that any person who violates Sections 6111.04, 6111.042, 6111.05, or division (A) of Section 6111.07 of the Revised Code shall be fined not more than $25,000 or imprisoned not more than one year, or both.

30. NEED TO HALT OR REDUCE ACTIVITY

40 CFR 122.41(c) states that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

31. APPLICABLE FEDERAL RULES

All references to 40 CFR in this permit mean the version of 40 CFR which is effective as of the effective date of this permit.

32. AVAILABILITY OF PUBLIC SEWERS

Not withstanding the issuance or non-issuance of an NPDES permit to a semi-public disposal system, whenever the sewage system of a publicly owned treatment works becomes available and accessible, the permittee operating any semi-public disposal system shall abandon the semi-public disposal system and connect it into the publicly owned treatment works.

Part IV. Storm Water Control Measures and Pollution Prevention Programs

In Part IV and in Part VI, the term "minimize" means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.

A. Control Measures.

You shall select, design, install, and implement control measures (including best management practices) to address the selection and design considerations in Part IV.B, and meet the control measures/best management practices in Part IV.C. The selection, design, installation, and implementation of these control measures shall be in accordance with good engineering practices and manufacturer's specifications. Note that you may deviate from such manufacturer's specifications where you provide justification for such deviation and include documentation of your rationale in the part of your SWPPP that describes your control measures, consistent with Part IV.J.3. If you find that your control measures are not achieving their intended effect of minimizing pollutant discharges, you shall modify these control measures as expeditiously as practicable. Regulated storm water discharges from your facility include storm water run-on that commingles with storm water discharges associated with industrial activity at your facility.

B. Control Measure Selection and Design Considerations.

You shall consider the following when selecting and designing control measures:

1. Preventing storm water from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from storm water;

2. Using control measures in combination is more effective than using control measures in isolation for minimizing pollutants in your storm water discharge;

3. Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;

4. Minimizing impervious areas at your facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches) can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care shall be taken to avoid ground water contamination;

5. Attenuating flow using open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;

6. Conserving and/or restoring of riparian buffers will help protect streams from storm water runoff and improve water quality; and

7. Using treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

C. Control Measures/Best Management Practices (BMPs)

1. Minimize Exposure. You shall minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, you should pay particular attention to the following:

   a. Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;

   b. Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas);

   c. Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;

   d. Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible;

   e. Use spill/overflow protection equipment;

   f. Drain fluids from equipment and vehicles prior to on-site storage or disposal;

   g. Perform all cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and

   h. Ensure that all washwater drains to a proper collection system (i.e., not the storm water drainage system).

   The discharge of vehicle and equipment washwater, including tank cleaning operations, is not authorized by this permit.

2. Good Housekeeping. You shall keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers.

3. Maintenance. You shall regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in storm water discharged to receiving waters. You shall maintain all control measures that are used to achieve the control measures/best management practices (BMPs) required by this permit in

effective operating condition. Nonstructural control measures shall also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If you find that your control measures need to be replaced or repaired, you shall make the necessary repairs or modifications as expeditiously as practicable.

4. Spill Prevention and Response Procedures. You shall minimize the potential for leaks, spills and other releases that may be exposed to storm water and develop plans for effective response to such spills if or when they occur. At a minimum, you shall implement:

   a. Procedures for plainly labeling containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides," etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;

   b. Preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;

   c. Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your storm water pollution prevention team (Part IV.J.1); and

   d. Where a leak, spill or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period, you shall notify the Ohio EPA in accordance with the requirements of Part III Item 12 of this permit.

5. Erosion and Sediment Controls. You shall stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions you shall take to meet this limit, you shall place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with the Ohio Department of Natural Resources (ODNR) Division of Soil and Water Conservation's Rainwater and Land Development manual (http://epa.ohio.gov/dsw/storm/technical_guidance.aspx), U.S. EPA's internet-based resources relating to BMPs for erosion and sedimentation, including the sector-specific *Industrial Storm Water Fact Sheet Series*, (www.epa.gov/npdes/stormwater/msgp), *National Menu of Storm Water BMPs* (www.epa.gov/npdes/stormwater/menuofbmps), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (www.epa.gov/owow/nps/urbanmm/index.html).

6. Management of Runoff. You shall divert, infiltrate, reuse, contain, or otherwise reduce storm water runoff, to minimize pollutants in your discharges. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with the Ohio

Department of Natural Resources (ODNR) Division of Soil and Water Conservation's Rainwater and Land Development manual (http://epa.ohio.gov/dsw/storm/technical_guidance.aspx), U.S. EPA's internet-based resources relating to runoff management, including the sector-specific *Industrial Storm Water Fact Sheet Series*, (www.epa.gov/npdes/stormwater/msgp), *National Menu of Storm Water BMPs* (www.epa.gov/npdes/stormwater/menuofbmps), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (www.epa.gov/owow/nps/urbanmm/index.html).

7. Salt Storage Piles or Piles Containing Salt. You shall enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. You shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile.

8. Employee Training. You shall train all employees who work in areas where industrial materials or activities are exposed to storm water, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team. Training shall cover both the specific control measures used to achieve the conditions in this Part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit. Ohio EPA requires that training be conducted at least annually (or more often if employee turnover is high).

9. Non-Storm Water Discharges. You shall eliminate non-storm water discharges not authorized by an NPDES permit including sanitary and industrial wastewater and equipment and vehicle washwater that are not authorized by Part I of this permit. The following are the non-storm water discharges authorized under this permit:

   a. Discharges from fire-fighting activities (not planned exercises);

   b. Fire hydrant flushings;

   c. Potable water, including water line flushings;

   d. Uncontaminated condensate from air conditioners, coolers/chillers, and other compressors and from the outside storage of refrigerated gases or liquids;

   e. Irrigation drainage;

   f. Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;

   g. Pavement wash waters where no detergents or hazardous cleaning products are used (e.g., bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols, etc.), and the wash waters do not come into contact with oil and grease deposits, sources of pollutants associated with industrial activities (see Part IV.J.2), or any other toxic or hazardous materials, unless residues are first cleaned up using dry clean-up methods (e.g., applying absorbent materials

and sweeping, using hydrophobic mops/rags) and you have implemented appropriate control measures to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention, settlement);

h. Routine external building washdown/power wash water that does not use detergents or hazardous cleaning products (e.g., those containing bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols, etc.);

i. Uncontaminated ground water or spring water;

j. Foundation or footing drains where flows are not contaminated with process materials; and

k. Incidental windblown mist from cooling towers that collect on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdowns or drains).

10. Waste, Garbage and Floatable Debris. You shall ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged.

11. Dust Generation and Vehicle Tracking of Industrial Materials. You shall minimize generation of dust and off-site tracking of raw, final, or waste materials.

D. Corrective Actions

1. Conditions Requiring Review and Revision to Eliminate Problem. If any of the following conditions occur, you shall review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated in the future:

   a. An unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized by this or another NPDES permit) occurs at your facility;

   b. A discharge violates a numeric effluent limit;

   c. You become aware, or Ohio EPA determines, that your control measures are not stringent enough for the discharge to meet applicable water quality standards;

   d. An inspection or evaluation of your facility by an Ohio EPA official or local MS4 operator determines that modifications to the control measures are necessary to meet the control measures/best management practices (BMPs) in this permit; or

   e. You find in your routine facility inspection or quarterly visual assessment that your control measures are not being properly operated and maintained.

2. Conditions Requiring Review to Determine if Modifications Are Necessary. If any of the following conditions occur, you shall review the selection, design, installation, and

implementation of your control measures to determine if modifications are necessary to meet the Part IV.A conditions in this permit:

a. Construction or a change in design, operation, or maintenance at your facility significantly changes the nature of pollutants discharged in storm water from your facility, or significantly increases the quantity of pollutants discharged.

3. Corrective Action Deadlines. You shall document your discovery of any of the conditions listed in Part IV.D.1 and Part IV.D.2 within 24 hours of making such discovery. Subsequently, within 30 days of such discovery, you shall document any corrective action(s) to be taken to eliminate or further investigate the deficiency, or if no corrective action is needed, the basis for that determination. Specific documentation required within 24 hours and 30 days is detailed in Part IV.D.4. If you determine that changes are necessary following your review, any modifications to your control measures shall be made before the next storm event if possible, or as soon as practicable following that storm event. These time intervals are not grace periods, but are schedules considered reasonable for documenting your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely.

4. Corrective Action Report. Within 24 hours of discovery of any condition listed in Part IV.D.1 and Part IV.D.2, you shall document the following information (i.e., question 4 of the Corrective Actions section in the Annual Reporting Form, available at http://www.epa.state.oh.us/portals/35/permits/IndustrialStormWater_Final_GP_AppI_dec11.pdf):

- Identification of the condition triggering the need for corrective action review;
- Description of the problem identified; and
- Date the problem was identified.

Within 30 days of discovery of any condition listed in Part IV.D.1 and Part IV.D.2, you shall document the following information (i.e., questions 7-11 of the Corrective Actions section in the Annual Reporting Form):

- Summary of corrective action taken or to be taken (or, for triggering events identified in Part IV.D.2 where you determine that corrective action is not necessary, the basis for this determination);
- Notice of whether SWPPP modifications are required as a result of this discovery or corrective action;
- Date corrective action initiated; and
- Date corrective action completed or expected to be completed.

You shall include this documentation in an annual report as required in Part V.A.1 and retain onsite with your SWPPP.

5. Effect of Corrective Action. If the event triggering the review is a permit violation (e.g., non-compliance with an effluent limit), correcting it does not remove the original violation. Additionally, failing to take corrective action in accordance with this section is an additional permit violation. Ohio EPA will consider the appropriateness and promptness of corrective action in determining enforcement responses to permit violations.

6. Substantially Identical Outfalls. If the event triggering corrective action is linked to an outfall that represents other substantially identical outfalls, your review shall assess the need for corrective action for each outfall represented by the outfall that triggered the review. Any necessary changes to control measures that affect these other outfalls shall also be made before the next storm event if possible, or as soon as practicable following that storm event.

E. Inspections

Beginning on the effective date of this permit, you shall conduct the inspections in Part IV.E.1 and Part IV.E.2 at your facility. Include the following areas in all inspections: access roads and rail lines; grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station.

1. Routine Facility Inspections.

   a. Conduct routine facility inspections of all areas of the facility where industrial materials or activities are exposed to storm water, and of all storm water control measures used to comply with Part IV. Items A-C conditions contained in this permit. Routine facility inspections shall be conducted at least quarterly (i.e., once each calendar quarter) although in many instances, more frequent inspection (e.g., monthly) may be appropriate for some types of equipment, processes, and control measures or areas of the facility with significant activities and materials exposed to storm water. Perform these inspections during periods when the facility is in operation. You shall specify the relevant inspection schedules in your SWPPP document as required in Part IV. Items A-C. These routine inspections shall be performed by qualified personnel (for definition see VI - Definitions) with at least one member of your storm water pollution prevention team participating. At least once each calendar year, the routine facility inspection shall be conducted during a period when a storm water discharge is occurring.

      You shall document the findings of each routine facility inspection performed and maintain this documentation onsite with your SWPPP. You are not required to submit your routine facility inspection findings to Ohio EPA, unless specifically requested to do so. At a minimum, your documentation of each routine facility inspection shall include:

      i. The inspection date and time;

      ii. The name(s) and signature(s) of the inspector(s);

iii. Weather information and a description of any discharges occurring at the time of the inspection;

iv. Any previously unidentified discharges of pollutants from the site;

v. Any control measures needing maintenance or repairs;

vi. Any failed control measures that need replacement;

vii. Any incidents of noncompliance observed; and

viii. Any additional control measures needed to comply with the permit requirements.

Any corrective action required as a result of a routine facility inspection shall be performed consistent with Part IV.D of this permit.

b. Exceptions to Routine Facility Inspections:

Inactive and Unstaffed Sites: The requirement to conduct routine facility inspections on a quarterly basis does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to storm water. Such a facility is only required to conduct an annual site inspection in accordance with the requirements of Part IV.E.1. To invoke this exception, you shall maintain a statement in your SWPPP pursuant to Part IV.F indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to precipitation, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii). The statement shall be signed and certified in accordance with Appendix B, Subsection 11. If circumstances change and industrial materials or activities become exposed to storm water or your facility becomes active and/or staffed, this exception no longer applies and you shall immediately resume quarterly facility inspections. If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to storm water, then you shall include the same signed and certified statement as above and retain it with your records pursuant to Part IV.J.5.

Ohio EPA's Encouraging Environmental Excellence (E3) Program: If your facility has been recognized under the Gold and Platinum levels by Ohio EPA's Encouraging Environmental Excellence (E3) Program, you only need to conduct routine facility inspections for two quarters each year.

2. Quarterly Visual Assessment of Storm Water Discharges.

a. Quarterly Visual Assessment Procedures

Once each calendar quarter for the entire permit term, you shall collect a storm water sample from each outfall (except as noted in Part IV.E.2.c) that requires sampling under this permit and conduct a visual assessment of each of these samples. These samples are not required to

be collected consistent with 40 CFR Part 136 procedures but should be collected in such a manner that the samples are representative of the storm water discharge. The visual assessment shall be made:

- Of a sample in a clean, clear glass, or plastic container, and examined in a well-lit area;

- On samples collected within the first 30 minutes of an actual discharge from a storm event. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample shall be collected as soon as practicable after the first 30 minutes and you shall document why it was not possible to take samples within the first 30 minutes. In the case of snowmelt, samples shall be taken during a period with a measurable discharge from your site; and

- For storm events, on discharges that occur at least 72 hours (3 days) from the previous discharge. The 72-hour (3-day) storm interval does not apply if you document that less than a 72-hour (3-day) interval is representative for local storm events during the sampling period. If it is not possible to collect the sample on discharges that occur at least 72 hours (3 days) from the previous discharge, the sample shall be collected as close to this storm interval as practicable and you shall document why it was not possible to take samples from a 72 hour (3 day) storm interval.

- Areas Subject to Snow: In areas subject to snow, at least one quarterly visual assessment shall capture snowmelt discharge.

- For the following water quality characteristics: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution.

b. Quarterly Visual Assessment Documentation

You shall document the results of your visual assessments and maintain this documentation onsite with your SWPPP. You are not required to submit your visual assessment findings to Ohio EPA, unless specifically requested to do so. At a minimum, your documentation of the visual assessment shall include:

- Sample location(s);

- Sample collection date and time, and visual assessment date and time for each sample;

- Personnel collecting the sample and performing visual assessment, and their signatures;

- Nature of the discharge (i.e., runoff or snowmelt);

- Results of observations of the storm water discharge;

- Probable sources of any observed storm water contamination; and

- If applicable, why it was not possible to take samples within the first 30 minutes and/or from a 72 hour (3 day) storm interval.

Any corrective action required as a result of a quarterly visual assessment shall be performed consistent with Part IV.D of this permit.

c. Exceptions to Quarterly Visual Assessments:

The following are exceptions to quarterly visual assessments:

- Adverse Weather Conditions: When adverse weather conditions prevent the collection of samples during the quarter, you shall take a substitute sample during the next qualifying storm event. Documentation of the rationale for no visual assessment for the quarter shall be included with your SWPPP records. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions.

- Inactive and unstaffed sites: The requirement for a quarterly visual assessment does not apply at a facility that is inactive and unstaffed, as long as there are no industrial materials or activities exposed to storm water. To invoke this exception, you shall maintain a statement in your SWPPP indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to precipitation, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii). The statement shall be signed and certified in accordance with Part III.28 of this permit. If circumstances change and industrial materials or activities become exposed to storm water or your facility becomes active and/or staffed, this exception no longer applies and you shall immediately resume quarterly visual assessments. If you are not qualified for this exception at the time you are authorized under this permit, but during the permit term you become qualified because your facility is inactive and unstaffed, and there are no industrial materials or activities that are exposed to storm water, then you shall include the same signed and certified statement as above and retain it with your records.

- Ohio EPA's *Encouraging Environmental Excellence (E3)* Program: If your facility has been recognized under the Gold and Platinum levels by Ohio EPA's Encouraging Environmental Excellence (E3) Program, you only need to conduct quarterly visual assessment of storm water discharges for two quarters each year.

F. Storm Water Pollution Prevention Plan (SWPPP)

A storm water pollution prevention plan (SWPPP) shall be developed to address each outfall that discharges to waters of the state that contains storm water associated with industrial activity. Storm water pollution prevention plans shall be prepared in accordance with good engineering practices. The SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. The

SWPPP shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. Facilities must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit.

The SWPPP does not contain effluent limitations; the limitations are contained in Part I of this permit. The SWPPP is intended to document the selection, design, and installation of control measures. As distinct from the SWPPP, the documentation requirements are intended to document the implementation (including inspection, maintenance, monitoring, and corrective action) of the permit requirements.

G. Deadlines for SWPPP Preparation and Compliance.

1. The plan for a storm water discharge associated with industrial activity:

   a. Shall be prepared within six months of the effective date of this permit (and updated based on facility or materials handling changes as specified in Part IV, Item I);

   b. Shall provide for implementation and compliance with the terms of the plan within twelve months of the effective date of this permit.

2. Upon showing of good cause, the Director may establish a later date for preparing and compliance with a plan for a storm water discharge associated with industrial activity.

H. Signature and Plan Review.

1. The plan shall be signed and dated in accordance with Part III, Item 28, and be retained on-site at the facility which generates the storm water discharge.

2. The permittee shall make plans immediately available upon request to the Ohio EPA Director, or authorized representative, or Regional Administrator of U.S. EPA, a local agency approving storm water management plans, or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system, to the operator of the municipal system.

   The Director may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this Part. Within 30 days of such notification from the Director, the permittee shall make the required changes to the plan and shall submit to the Director a written certification that the requested changes have been made.

3. All storm water pollution prevention plans required under this permit are considered reports that shall be available to the public under Section 308(b) of the Act. Confidential Business Information (CBI) may be withheld from the public, but may not be withheld from those staff cleared for CBI review within Ohio EPA. An interested party wishing a copy of a discharger's SWPPP will have to contact the Ohio EPA to obtain a copy.

I. Keeping SWPPP Current

The permittee shall modify the plan whenever necessary to address any of the triggering conditions for corrective action in Part IV.D and to ensure that they do not reoccur, or to reflect changes implemented when a review following the triggering conditions in Part IV.D.2 indicates that changes to your control measures are necessary to meet the control measures/best management practices (BMPs) in this permit. Changes to your SWPPP document shall be made in accordance with the corrective action deadlines in Part IV.D.3 and Part IV.D.4.

Amendments to the plan may be reviewed by Ohio EPA in the same manner as Part IV.H above.

J. Contents of SWPPP.

The plan shall include, at a minimum, the following items:

1. Pollution Prevention Team. You shall identify the staff members (by name or title) that comprise the facility's storm water pollution prevention team as well as their individual responsibilities. Your storm water pollution prevention team is responsible for assisting the facility manager in developing and revising the facility's SWPPP as well as maintaining control measures and taking corrective actions where required. Each member of the storm water pollution prevention team shall have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

2. Description of Potential Pollutant Sources. You shall document at your facility where industrial materials or activities are exposed to storm water and from which allowable non-storm water discharges are released. Industrial materials or activities, include, but are not limited to: material handling equipment or activities; industrial machinery; raw materials; industrial production and processes: and intermediate products, by-products, final product or waste product. For each area identified, the description shall include, at a minimum:

   a. Site Description. Your SWPPP shall include:

      i. A description of the industrial activities at your facility;

      ii. A general location map (e.g. U.S. Geologic Survey (USGS) quadrangle map) with enough detail to identify the location of your facility and all receiving waters for your storm water discharges.

      iii. A site map showing

         - The size of the property in acres;
         - The location and extent of significant structures and impervious surfaces;
         - Directions of storm water flow (use arrows);

- Locations of all existing structural control measures;
- Locations of all receiving waters in the immediate vicinity of your facility;
- Locations of all storm water conveyances including ditches, pipes and swales;
- Locations of potential pollutant sources identified under Part IV J. 2.b;
- Locations where significant spills or leaks identified under Part IV J. 2.b. have occurred;
- Locations of all storm water monitoring points;
- Locations of storm water inlets and outfalls, with a unique identification code for each outfall (e.g. Outfall 001, Outfall 002, etc), indicating any outfalls that are considered substantially identical to another outfall, and an approximate outline of the areas draining to each outfall;
- Municipal separate storm sewer systems, where your storm water discharges to them;
- Locations and descriptions of all non-storm water discharges identified under Part IV. C. 10;
- Locations of the following activities where such activities are exposed to precipitation
    - Fueling stations;
    - Vehicle and equipment maintenance and/or cleaning areas;
    - Loading/unloading areas;
    - Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
    - Transfer areas for substances in bulk;
    - Machinery; and
- Locations and sources of run-on to your site from adjacent property that contains significant quantities of pollutants.
- Locations of any of the following which may be exposed to precipitation or surface runoff: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving

station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides, and pesticides.

b. Inventory of Exposed Materials. This includes a list of industrial activities exposed to storm water (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams). This also includes a list of the pollutant(s) or pollutant constituents (e.g, crankcase oil, zinc, sulfuric acid, and cleaning solvents) associated with each identified activity. The pollutant list shall include all significant materials that have been handled, treated, stored, or disposed, and that have been exposed to storm water in the three years prior to the data you prepare of amend your SWPPP.

c. Spills and Leaks. You shall document where potential spills and leaks could occur that could contribute pollutants to storm water discharges, and the corresponding outfall(s) that would be affected by such spills and leaks. You shall document all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a storm water conveyance, in the three years prior to the date you prepare or amend your SWPPP. Note that significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA Section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC Section 9602. This permit does not relieve you of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 relating to spills or other releases of oil or hazardous substances.

d. Sampling Data. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility.

e. Non-Storm Water Discharges. You shall document that you have evaluated for the presence of non-storm water discharges, except for those listed in Part I and Part IV.C.9, and that all unauthorized discharges have been eliminated. Documentation of your evaluation shall include: 1) The date of any evaluation; 2) A description of the evaluation criteria used; 3) A list of the outfalls or onsite drainage points that were directly observed during the evaluation; 4) The different types of non-storm water discharge(s) and source locations; and 5) The action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), if any were identified. For example, a floor drain was sealed, a sink drain was re-routed to sanitary, or an NPDES permit application was submitted for an unauthorized cooling water discharge. Keep a copy of all your current NPDES permits issued for wastewater and industrial, vehicle and equipment washwater discharges or, if an NPDES permit has not yet been issued, a copy of the pending application(s) with your SWPPP. If the washwater is handled in another manner, the disposal method shall be described and all pertinent documentation shall be retained onsite.

f. Salt Storage. You shall document the location of any storage piles containing salt used for deicing or other commercial or industrial purposes.

3. Description of Control Measures. You shall document the location and type of control measures you have installed and implemented at your site to achieve the control measures/best management practices (BMPs) in Part IV.C. You shall describe how you addressed the control measure selection and design considerations in Part IV.B. This documentation shall describe how the control measures at your site address both the pollutant sources identified in Part IV.J.2 and any storm water run-on that commingles with any discharges covered under this permit. In addition to the other control measures, consider the following: routing contaminated storm water to the treatment works; or covering exposed materials (i.e., from the following areas: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station).

4. Schedules and Procedures.

   a. Pertaining to Control Measures used to Comply with the Control Measures/Best Management Practices (BMPs). The following shall be documented in your SWPPP:

      i. Good Housekeeping (See Part IV.C.2) – A schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers.

      ii. Maintenance (See Part IV.C.3) – Preventative maintenance procedures, including regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, to avoid situations that may result in leaks, spills, and other releases, and any back-up practices in place should a runoff event occur while a control measure is off-line;

      iii. Spill Prevention and Response Procedures (See Part IV.C.4) – Procedures for preventing and responding to spills and leaks. You may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) developed for the facility under Section 311 of the CWA or BMP programs otherwise required by an NPDES permit for the facility, provided that you keep a copy of that other plan onsite (hard copy or electronic) and make it available for review consistent with Part IV.J.5; and

      iv. Employee Training (See Part IV.C.8) – A schedule for all types of necessary training. At a minimum, training shall address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and controls; fueling procedures; general good housekeeping practices; and proper procedures for using fertilizer, herbicides, and pesticides.

   b. Pertaining to Monitoring and Inspection. Where applicable, you shall document in your SWPPP your procedures for conducting analytical storm water monitoring. You shall document in your SWPPP your procedures for performing, as appropriate, the two types of inspections specified by this permit, including: 1) Routine facility inspections (See Part IV.E.1) and 2) Quarterly visual assessment of storm water discharges (See Part IV.E.2).

5. Documentation Requirements.

You are required to keep inspection, monitoring, and certification records with your SWPPP that together keep your records complete and up-to-date, and demonstrate your full compliance with the conditions of this permit. You shall retain a copy of the current SWPPP required by this permit at the facility, and it shall be immediately available to Ohio EPA; a local agency approving storm water management plans; and the operator of an MS4 receiving discharges from the site. Ohio EPA may provide access to portions of your SWPPP to a member of the public upon request. Confidential Business Information (CBI) may be withheld from the public, but may not be withheld from those staff cleared for CBI review within Ohio EPA. Your current SWPPP or certain information from your current SWPPP shall be made available to the public, except any confidential business information (CBI) or restricted information, but you must clearly identify those portions of the SWPPP that are being withheld from public access. See 40 CFR Part 2 for relevant definitions of CBI: **http://www.gpo.gov/fdsys/pkg/CFR-2013-title40-vol1/pdf/CFR-2013-title40-vol1-part2-subpartB.pdf**.

K. Sector-Specific Requirements

Subpart T – Sector T – Treatment Works.

Reserved.

Part V. Monitoring and Reporting Requirements

A. Reporting and Recordkeeping

1. Annual Report. You shall complete an annual report using the Annual Reporting Form provided by Ohio EPA at the following location:

   http://epa.ohio.gov/Portals/35/permits/OHR000006_Final%20Permit.pdf [Pages 141-142]

   You are not required to submit your annual report to Ohio EPA unless specifically requested. The timeframe to complete the report is at the discretion of the permittee but the same schedule to complete shall be maintained throughout this permit term. You shall keep the completed annual reports with your SWPPP.

Part VI. Definitions and Acronyms

Action Area – all areas to be affected directly or indirectly by the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities, and not merely the immediate area involved in these discharges and activities.

Best Management Practices (BMPs) – schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to surface waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR 122.2.

Co-located Industrial Activities – Any industrial activities, excluding your primary industrial activity(ies), located on-site that are defined by the storm water regulations at 122.26(b)(14)(i)-(ix) and (xi). An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the storm water regulations or identified by the SIC code list in Appendix D.

Control Measure – refers to any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to surface waters of the State.

Director – the Director of the Ohio Environmental Protection Agency (Ohio EPA).

Discharge – when used without qualification, means the "discharge of a pollutant." See 40 CFR 122.2.

Discharge of a pollutant – any addition of any “pollutant” or combination of pollutants to “surface waters of the State” from any “point source,” or any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into surface waters of the State from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

Discharge-related activities – activities that cause, contribute to, or result in storm water and allowable non-storm water point source discharges, and measures such as the siting, construction and operation of BMPs to control, reduce, or prevent pollution in the discharges.

Drought-stricken area – a period of below average water content in streams, reservoirs, ground-water aquifers, lakes and soils.

U.S. EPA Approved or Established Total Maximum Daily Loads (TMDLs) – “U.S. EPA Approved TMDLs” are those that are developed by a State and approved by U.S. EPA. “U.S. EPA Established TMDLs” are those that are developed by U.S. EPA.

Existing Discharger – an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.

Facility or Activity – any NPDES “point source” (including land or appurtenances thereto) that is subject to regulation under the NPDES program. See 40 CFR 122.2.

Federal Facility – any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the federal government.

Illicit Discharge – is defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

Impaired Water (or "Water Quality Impaired Water" or "Water Quality Limited Segment") – A water is impaired for purposes of this permit if it has been identified by a State or U.S. EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards (these waters are called "water quality limited segments" under 40 CFR 30.2(j)). Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established.

Industrial Activity – the 10 categories of industrial activities included in the definition of "storm water discharges associated with industrial activity" as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).

Industrial Storm Water – storm water runoff from industrial activity.

Municipal Separate Storm Sewer – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. See 40 CFR 122.26(b)(4) and (b)(7).

New Discharger – a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

New Source – any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:

- after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or

- after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See 40 CFR 122.2.

New Source Performance Standards (NSPS) – technology-based standards for facilities that qualify as new sources under 40 CFR 122.2 and 40 CFR 122.29.

No exposure – all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See 40 CFR 122.26(g).

Ohio EPA – the Ohio Environmental Protection Agency.

Operator – any entity with a storm water discharge associated with industrial activity that meets either of the following two criteria:

(i) The entity has operational control over industrial activities, including the ability to modify those activities; or

(ii) The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with the permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by the permit).

Person – an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. See 40 CFR 122.2.

Point source – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. See 40 CFR 122.2.

Pollutant – dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water. See 40 CFR 122.2.

Pollutant of concern – A pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in a state's 303(d) list.

Primary industrial activity – includes any activities performed on-site which are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). [For co-located activities covered by multiple SIC codes, it is recommended that the primary industrial determination be based on the value of receipts or revenues or, if such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. In situations where the vast majority of on-site activity falls within one SIC code, that activity may be the primary industrial activity.] Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.

Qualified Personnel – Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact storm water quality at your facility, and who can also evaluate the effectiveness of control measures.

Reportable Quantity Release – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 117, and 302 for complete definitions and reportable quantities for which notification is required.

Runoff coefficient – the fraction of total rainfall that will appear at the conveyance as runoff. See 40 CFR 122.26(b)(11).

Semi-Arid Climate – areas where annual rainfall averages from 10 to 20 inches.

Significant materials – includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges. See 40 CFR 122.26(b)(12).

Special Aquatic Sites – sites identified in 40 CFR 230 Subpart E. These are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region.

Storm Water – storm water runoff, snow melt runoff, and surface runoff and drainage. See 40 CFR 122.26(b)(13).

Storm Water Discharges Associated with Construction Activity – a discharge of pollutants in storm water runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating), construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial storm water directly related to the construction process (e.g., concrete or asphalt batch plants) are located. See 40 CFR 122.26(b)(14)(x) and 40 CFR 122.26(b)(15).

Storm Water Discharges Associated with Industrial Activity – the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from

the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in 40 CFR 122.26(b)(14).

Surface Waters of the State - Means all streams, lakes, ponds, marshes, watercourses, waterways, springs, irrigation systems, drainage systems, and all other bodies or accumulations of surface water, natural or artificial, which are situated wholly or partly within, or border upon, this state, or are within its jurisdiction, except those private waters which do not combine or effect a junction with natural surface waters.

Total Maximum Daily Loads (TMDLs) – A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges; load allocations (LAs) for nonpoint sources and/or natural background, and shall include a margin of safety (MOS) and account for seasonal variations. (See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7).

Water Quality Impaired – See 'Impaired Water'.

Water Quality Standards – A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. States and U.S. EPA adopt water quality standards to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (See CWA sections 101(a)2 and 303(c)). Water quality standards also include an antidegradation policy. See P.U.D. o. 1 of Jefferson County et al v. Wash Dept of Ecology et al, 511 US 701, 705 (1994).

"You" and "Your" – as used in this permit are intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's facility or responsibilities. The use of "you" and "your" refers to a particular facility and not to all facilities operated by a particular entity. For example, "you shall submit" means the permittee shall submit something for that particular facility. Likewise, "all your discharges" would refer only to discharges at that one facility.

ABBREVIATIONS AND ACRONYMS

BAT – Best Available Technology Economically Achievable

BOD5 – Biochemical Oxygen Demand (5-day test)

BMP – Best Management Practice

BPJ – Best Professional Judgment

BPT – Best Practicable Control Technology Currently Available

CERCLA – Comprehensive Environmental Response, Compensation and Liability Act

CGP – Construction General Permit

COD – Chemical Oxygen Demand

CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 *et seq*)

CWT – Centralized Waste Treatment

DMR – Discharge Monitoring Report

U.S. EPA – U. S. Environmental Protection Agency

FWS – U. S. Fish and Wildlife Service

LA – Load Allocations

MDMR – MSGP Discharge Monitoring Report

MGD – Million Gallons per Day

MOS – Margin of Safety

MS4 – Municipal Separate Storm Sewer System

MSDS – Material Safety Data Sheet

MSGP – Multi-Sector General Permit

NAICS – North American Industry Classification System

NMFS – U. S. National Marine Fisheries Service

NOI – Notice of Intent

NOT – Notice of Termination

NPDES – National Pollutant Discharge Elimination System

NRC – National Response Center

NTU – Nephelometric Turbidity Unit

OMB – U. S. Office of Management and Budget

ORW – Outstanding Resource Water

OSM – U. S. Office of Surface Mining

POTW – Publicly Owned Treatment Works

RCRA – Resource Conservation and Recovery Act

RQ – Reportable Quantity

SARA – Superfund Amendments and Reauthorization Act

SIC – Standard Industrial Classification

SMCRA – Surface Mining Control and Reclamation Act

SPCC – Spill Prevention, Control, and Countermeasures

SWPPP – Storm Water Pollution Prevention Plan

TMDL – Total Maximum Daily Load

TSDF – Treatment, Storage, or Disposal Facility

TSS – Total Suspended Solids

USGS – United States Geological Survey

WLA – Wasteload Allocation

WQS – Water Quality Standard

Appendix B

Statistical Analysis of Peak Flows

Conneaut

Site ID WWTP Influent

Meter Location: WWTP
Design Storm: 10 Year 2-Hr
Design Rainfall: 2.09 in./2-Hr

Dry Day ADF - 1.519 mgd
Equivalent Sewer Size - 36 in.
Critical Capacity - 10 mgd
Net Tributary Sewers 300 inch-miles

Peak Flow Summary

Storm Date	Storm Day	Peak 2-Hr Measured Rainfall (in.)	Peak Hour Measured I/I Rate (MGD)	Peaking Factor	Design Storm Storm I/I Rate (MGD)
06/03/18	Sunday	0.75	1.443	2.80	4.040
06/18/18	Monday	0.98	5.204	2.10	10.928
06/23/18	Saturday	0.82	4.616	2.50	11.540
07/06/18	Friday	0.39	3.413	5.40	18.430
07/25/18	Wednesday	1.04	4.149	2.00	8.298
08/19/18	Sunday	1.49	3.287	1.40	4.602
08/28/18	Tuesday	0.65	1.335	3.20	4.272
08/31/18	Friday	1.18	4.517	1.80	8.131
09/11/18	Tuesday	1.19	6.312	1.80	11.362
			Design Storm I/I Rate (Average)		9.067
			Peak-hr Dry Day		1.852
			Peak Hour Flow Rate		10.919

Subarea Peak I/I Flow Rate (Gallons per Day per inch-mile) of Mainline Sewer

30,223

I/I Volume Summary

Storm Date	Storm Day	Rainfall Total (in.)	Measured I/I Volume (gal)	Design Storm Volume Factor	Design Storm Volume (gal)	I/I Volume as Percentage of Total Rainfall (%)
06/03/18	Sunday	0.75	188,163	2.8	526,856	0.1%
06/18/18	Monday	1.52	2,329,695	1.4	3,261,573	0.3%
06/23/18	Saturday	1.30	1,713,805	1.6	2,742,088	0.3%
07/06/18	Friday	0.42	1,082,107	5.0	5,410,535	0.5%
07/25/18	Wednesday	1.47	1,302,457	1.4	1,823,440	0.2%
08/19/18	Sunday	1.93	861,403	1.1	947,543	0.1%
08/28/18	Tuesday	0.83	495,542	2.5	1,238,855	0.1%
08/31/18	Friday	1.19	702,191	1.8	1,263,944	0.1%
09/11/18	Tuesday	3.72	9,241,399	0.6	5,544,839	0.5%
			Design Storm I/I Volume (Average)		2,528,853	0.2%
			Average Dry Day Flow		1,519,000	
			Total Design Storm Flow		4,047,853	**I/I (gal per acre)**

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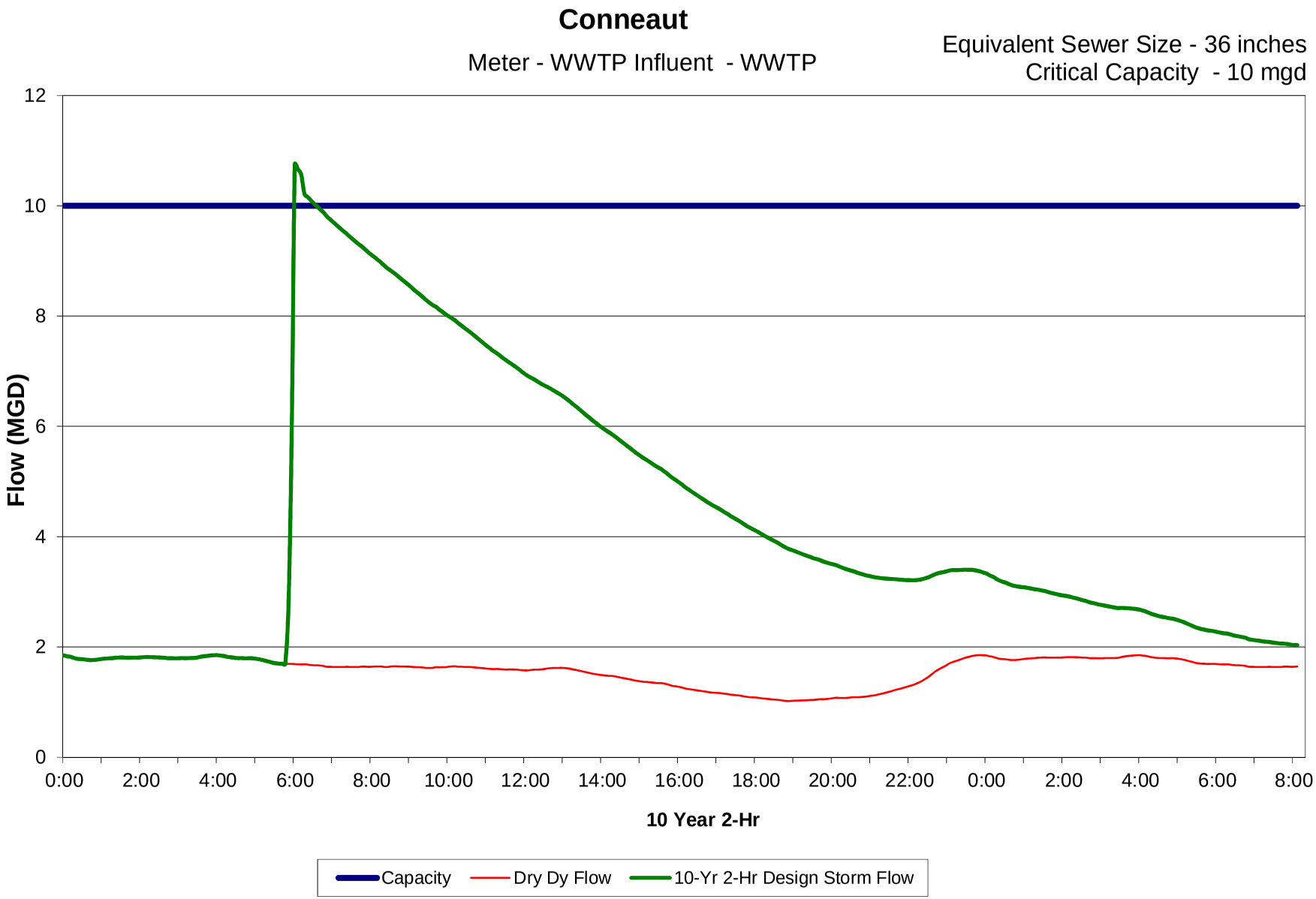
Retention Basin Design

Existing Detention (gallons): 300,000

WWTP Flowrate (MGD)	Additional Volume Required (gal)
10.00	0
7.00	104,000



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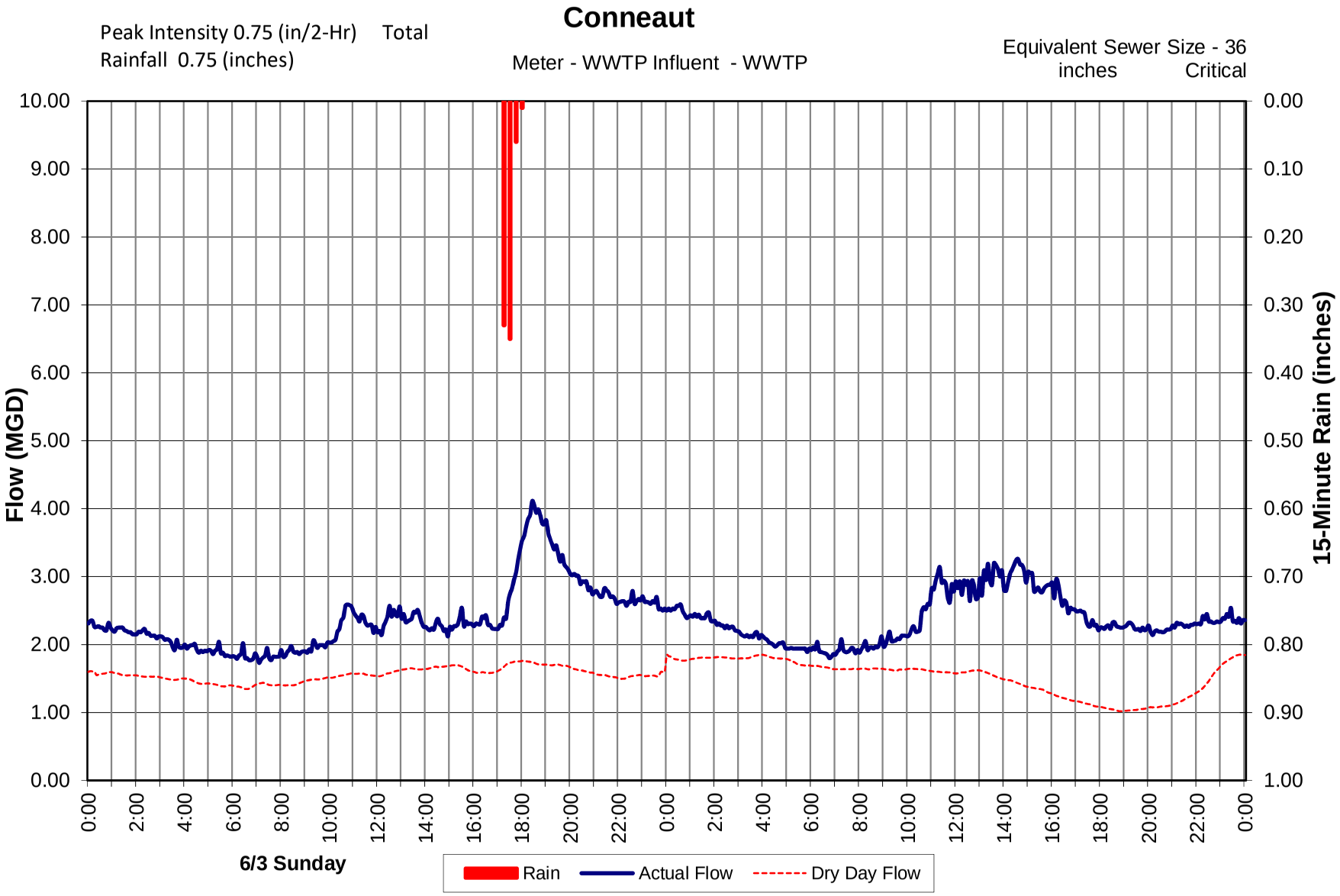
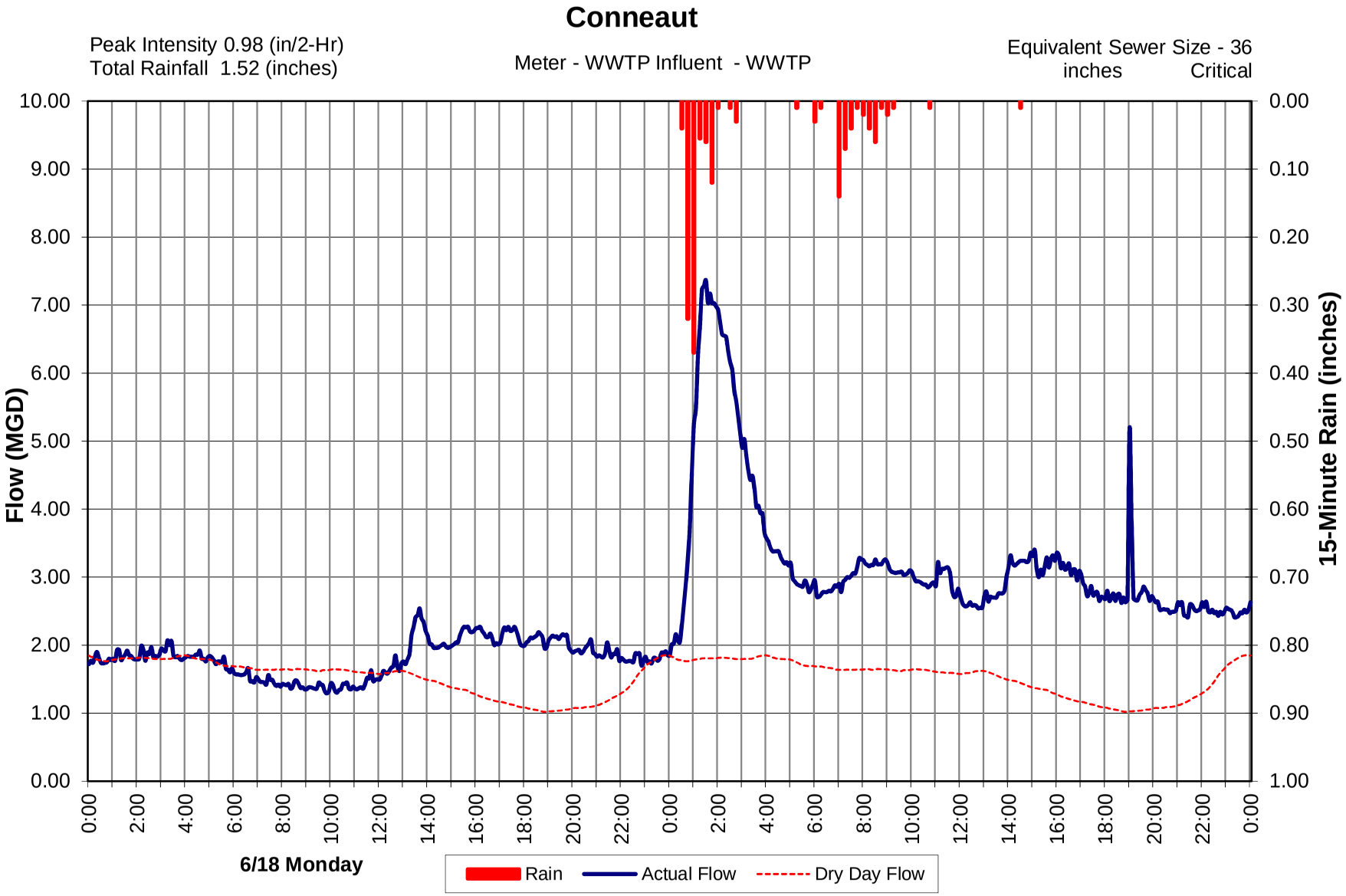

Conneaut
Peak Intensity 0.75 (in/2-Hr) Total Rainfall 0.75 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
6/3 Sunday
Rain
Actual Flow
Dry Day Flow


Conneaut
Peak Intensity 0.98 (in/2-Hr)
Total Rainfall 1.52 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
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0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
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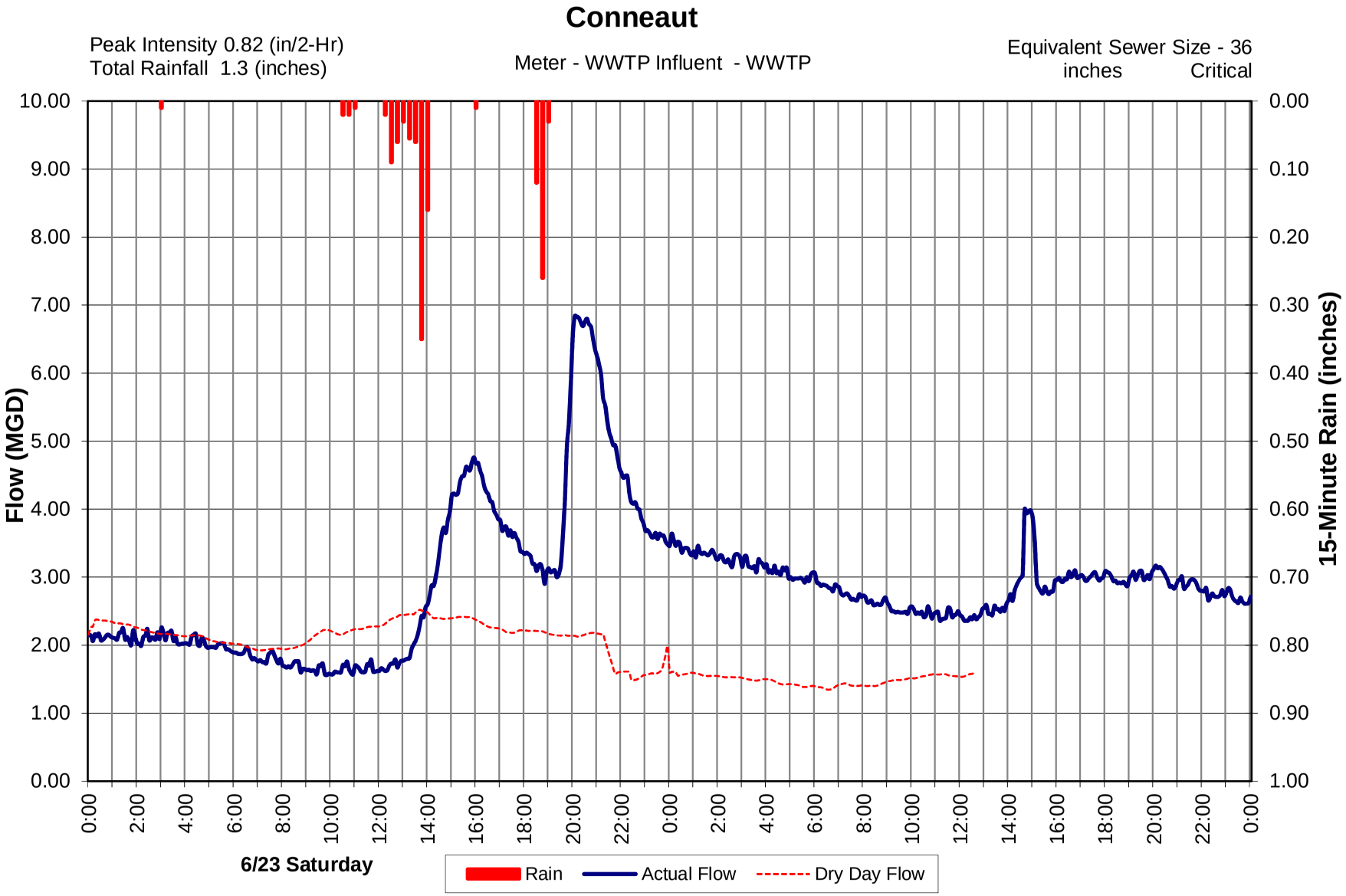
16:00
18:00
20:00
22:00
0:00
6/18 Monday
Rain
Actual Flow
Dry Day Flow


Conneaut
Peak Intensity 0.82 (in/2-Hr)
Total Rainfall 1.3 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0.00
0.10
0.20
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4:00
6:00
8:00
10:00
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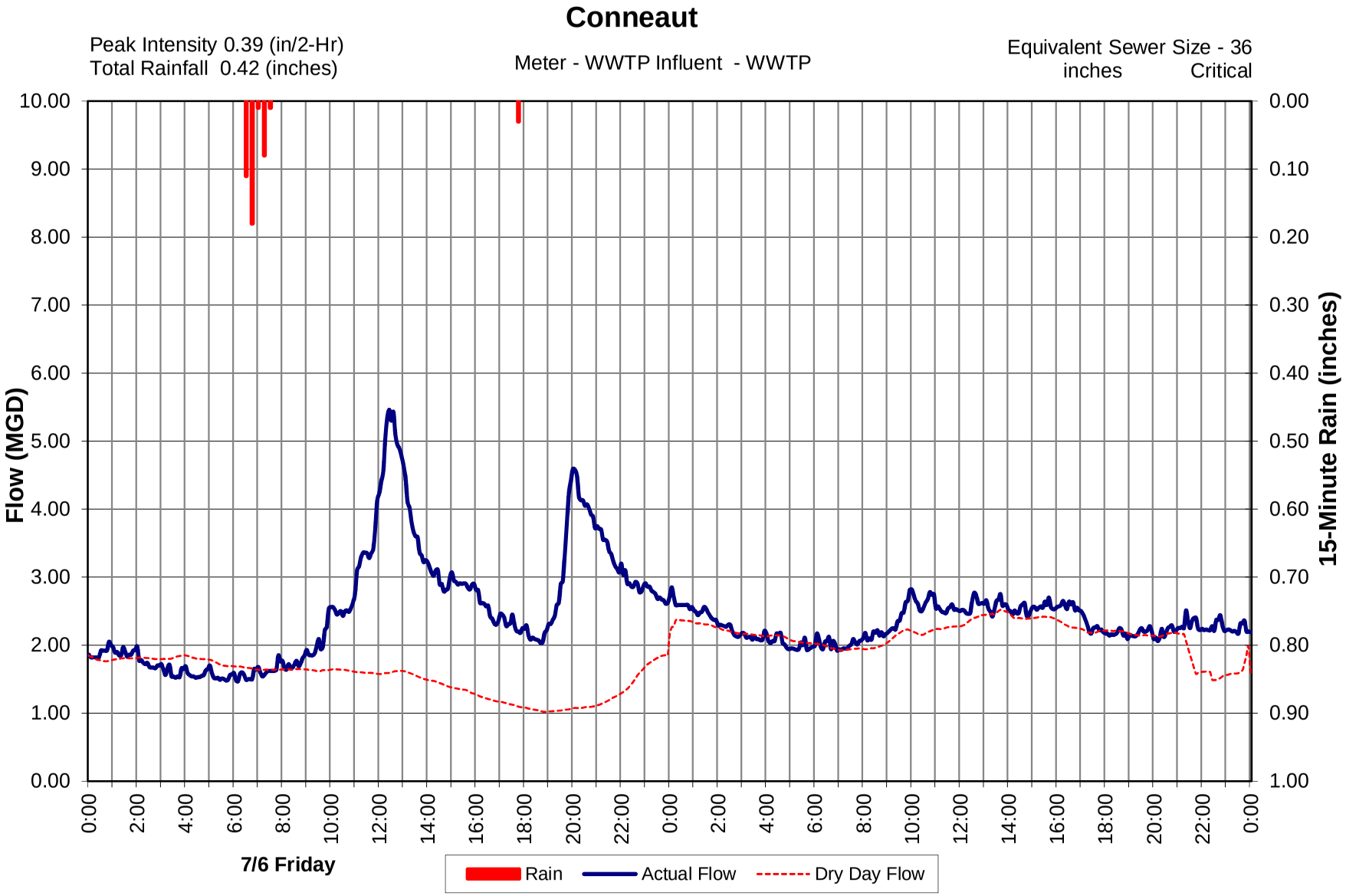
20:00
22:00
0:00
6/23 Saturday
Rain
Actual Flow
Dry Day Flow


Conneaut
Peak Intensity 0.39 (in/2-Hr)
Total Rainfall 0.42 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
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4:00
6:00
8:00
10:00
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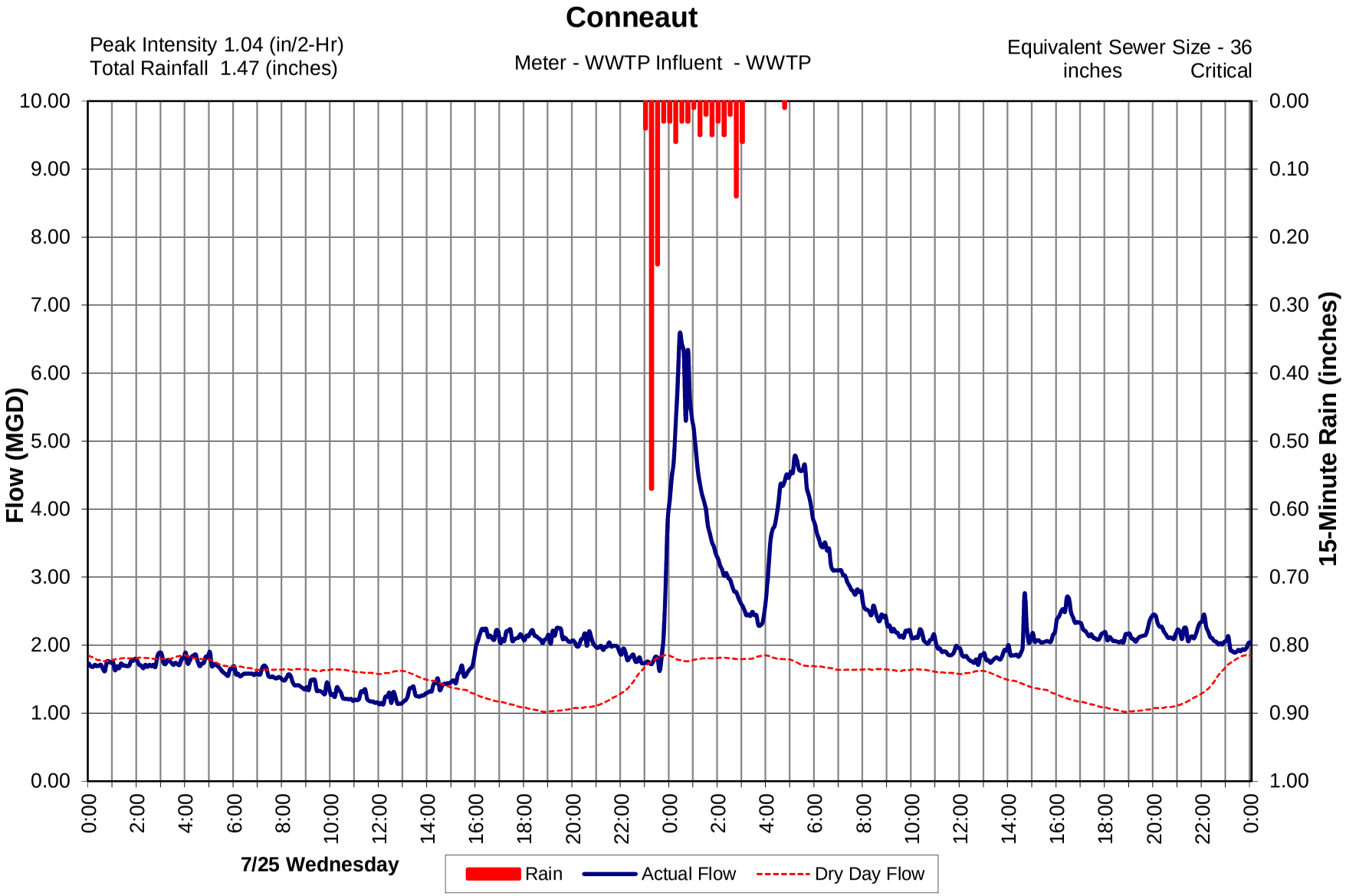
20:00
22:00
0:00
7/6 Friday
Rain
Actual Flow
Dry Day Flow


Conneaut
Peak Intensity 1.04 (in/2-Hr)
Total Rainfall 1.47 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
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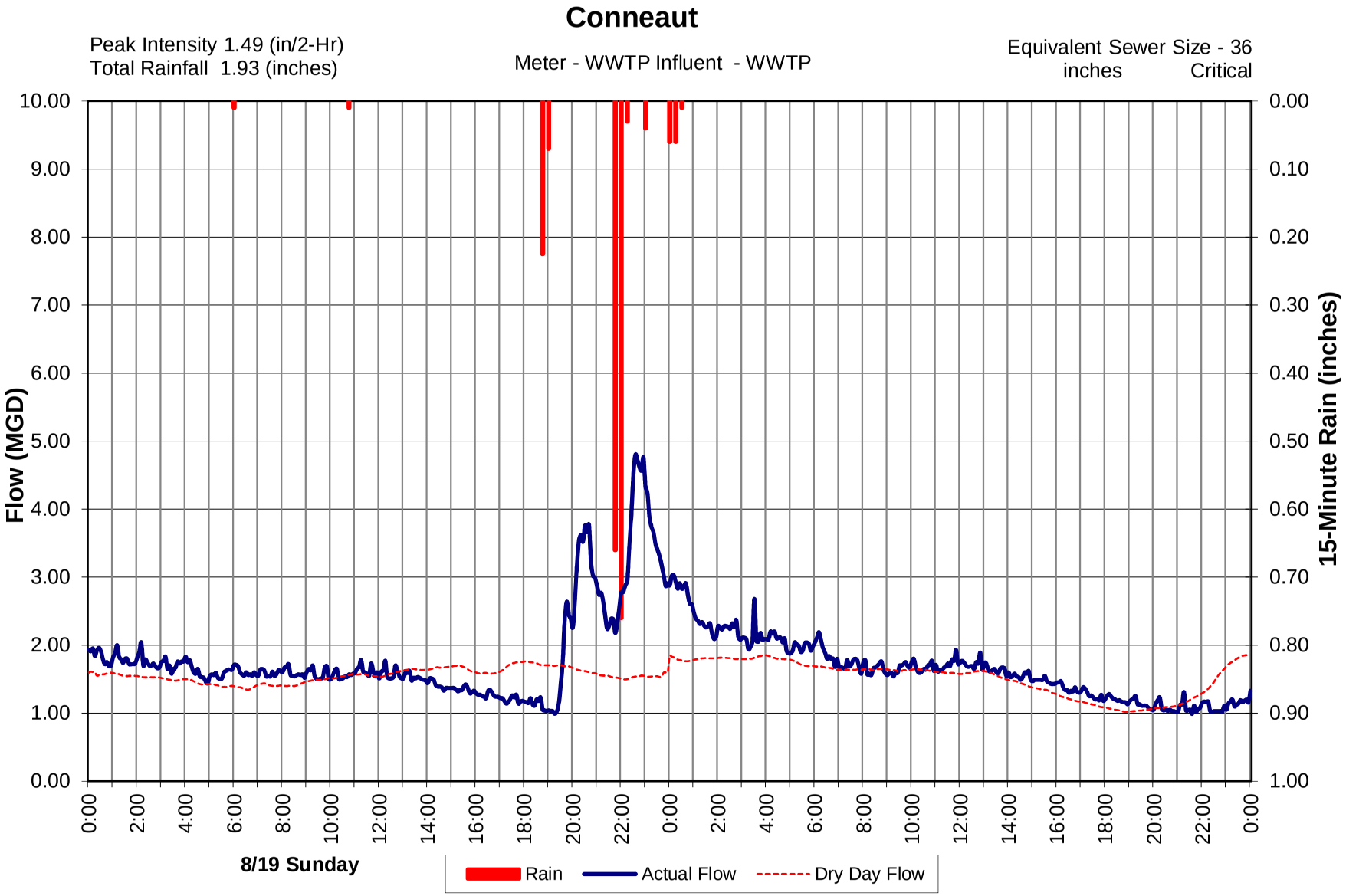
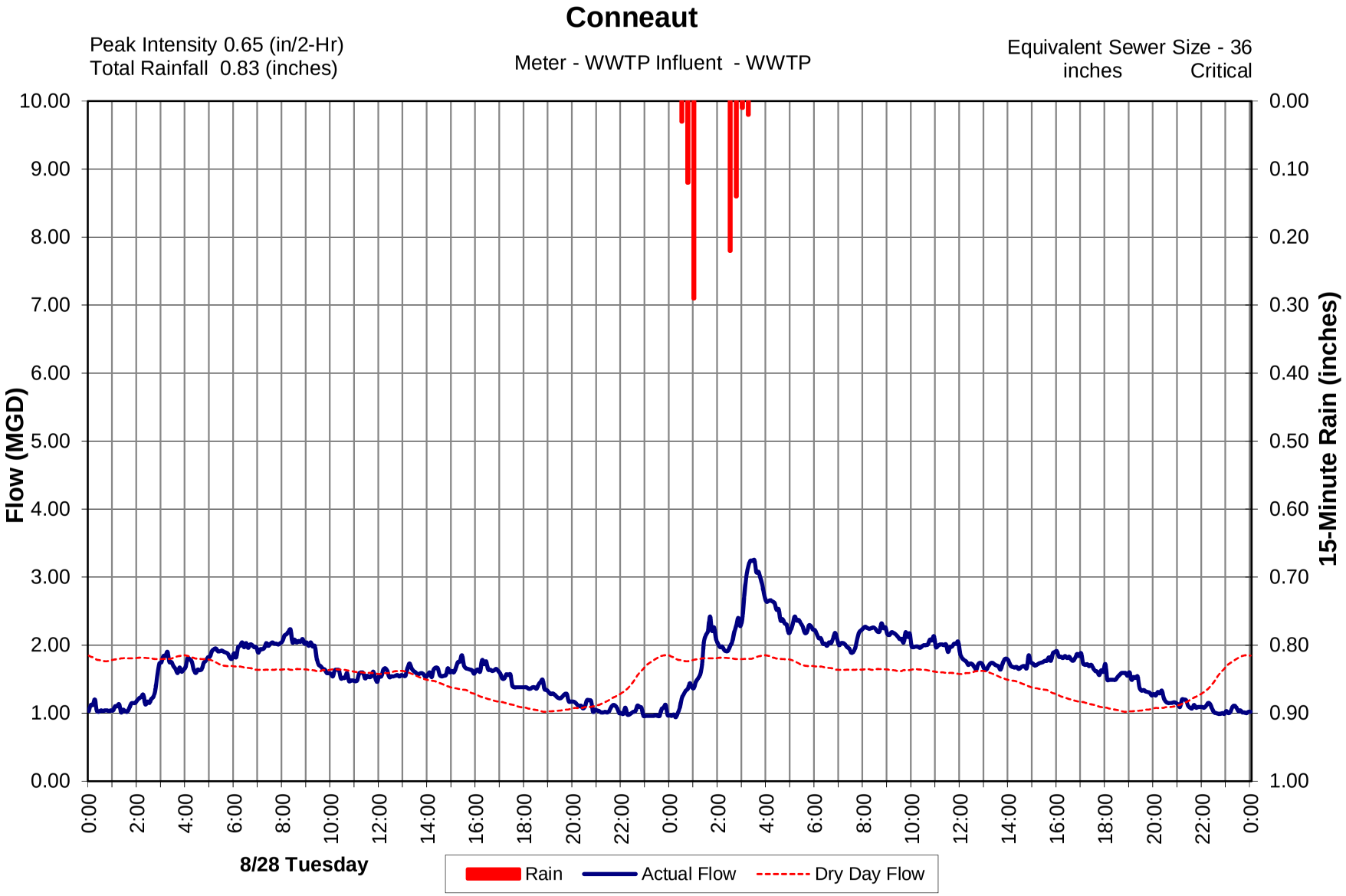
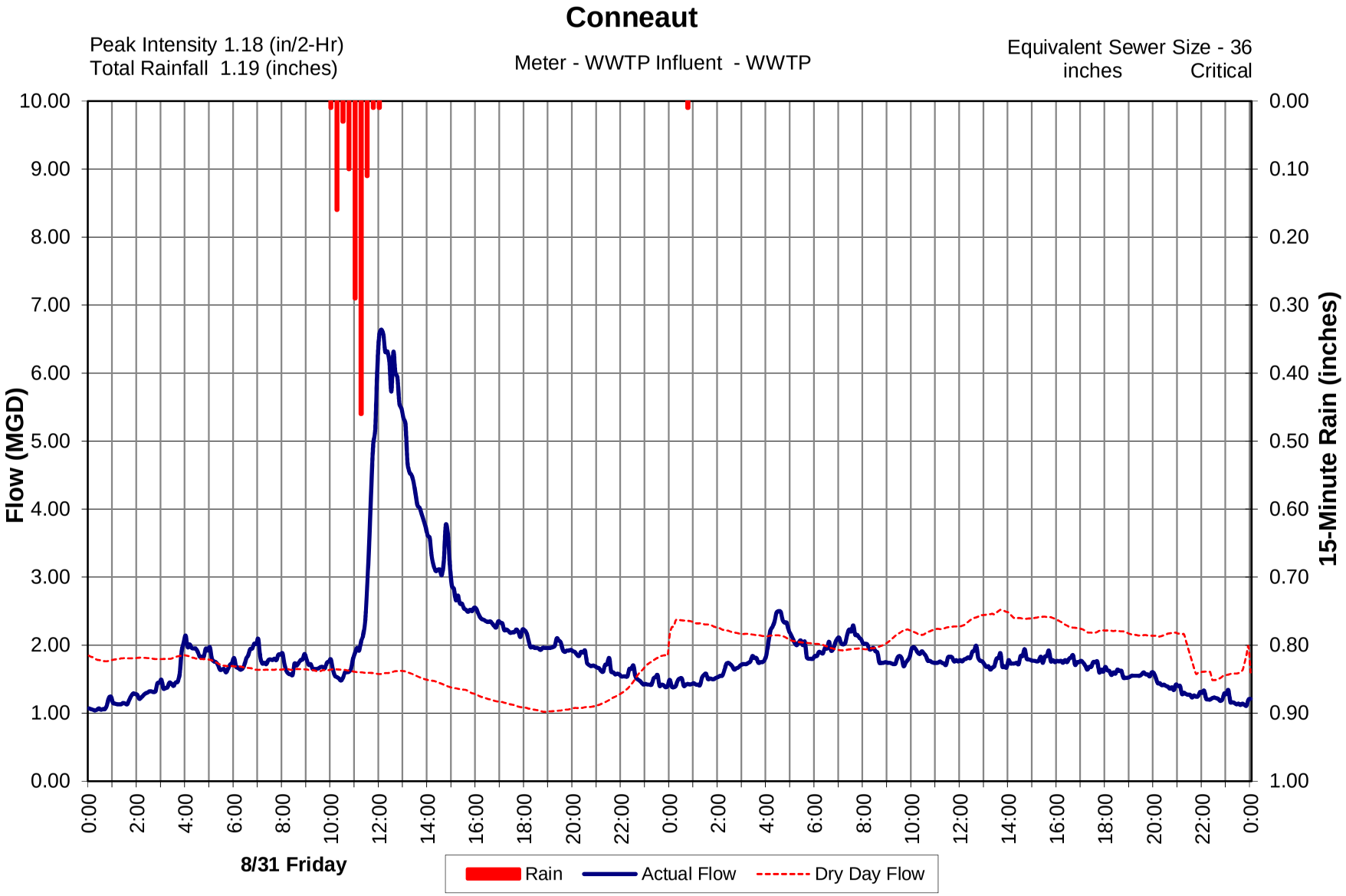
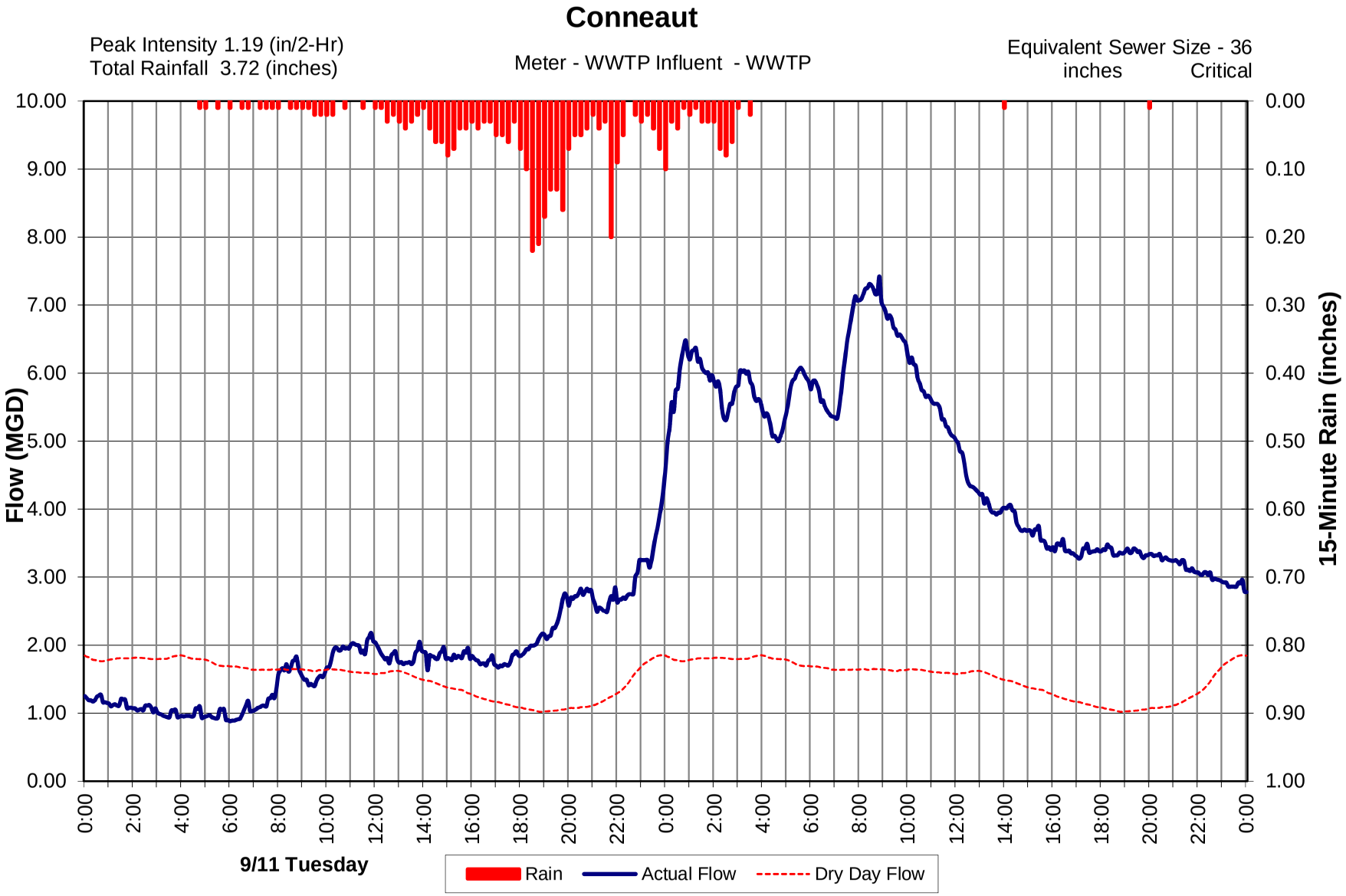
0.90
1.00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
7/25 Wednesday
Rain
Actual Flow
Dry Day Flow


Conneaut
Peak Intensity 1.49 (in/2-Hr)
Total Rainfall 1.93 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
8/19 Sunday
Rain
Actual Flow
Dry Day Flow


Conneaut
Peak Intensity 0.65 (in/2-Hr)
Total Rainfall 0.83 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
8/28 Tuesday
Rain
Actual Flow
Dry Day Flow


Conneaut
Peak Intensity 1.18 (in/2-Hr)
Total Rainfall 1.19 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
8/31 Friday
Rain
Actual Flow
Dry Day Flow


Conneaut
Peak Intensity 1.19 (in/2-Hr)
Total Rainfall 3.72 (inches)
Meter - WWTP Influent - WWTP
Equivalent Sewer Size - 36 inches Critical
Flow (MGD)
15-Minute Rain (inches)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
1.00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
2:00
4:00
6:00
8:00
10:00
12:00
14:00
16:00
18:00
20:00
22:00
0:00
9/11 Tuesday
Rain
Actual Flow
Dry Day Flow