Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

June 10, 2016

Mayor John Stanforth
Mr. Randy Riley, City Council President
City of Wilmington
69 North South Street
Wilmington, Ohio 45177

Re: Wilmington WWTP
Inspection
Inspection
NPDES
Clinton County
1PD00013

Subject: Ohio Environmental Protection Agency NPDES Inspection

Dear Mayor Stanforth and Mr. Riley:

On June 3, 2016, a compliance evaluation inspection was conducted at the Wilmington wastewater treatment plant (WWTP) located at 475 South Nelson Avenue, Wilmington. Present for the inspection were Harry McVey and Eric Green from the city of Wilmington WWTP and Sandra Leibfritz of the Ohio Environmental Protection Agency (Ohio EPA), Southwest District Office, Division of Surface Water.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your National Pollutant Discharge Elimination System (NPDES) permit and to evaluate the operation and maintenance of the plant.

Findings:

1. Wilmington WWTP reported the following sanitary sewer overflows (SSOs) and treatment plant bypasses at outfalls 300 and 602:

Year	SSO No. Outfall 300	Treatment Plant Bypass No. Outfall 602
2011	37	8
2012	8	0
2013	5	1
2014	5	1
2015	26	3
2016 (January – April)	2	2

Sanitary sewer overflows from collection systems and treatment plant bypasses discharge raw and/or partially treated sewage to our waterways that can threaten public health and the environment. These types of discharges are prohibited by Part I.B.1.c and Part III, Item 11.C of your NPDES permit.

As discussed with your operators, the cause of these discharges are due to excessive inflow and infiltration (I/I) into your collection system during wet weather. To address this issue, your NPDES was issued with a Schedule of Compliance for the reduction of I/I. Due to the excessive number of SSOs and bypasses as described above, the City will need to develop and implement a Capacity, Management, Operation and Maintenance (CMOM) Program. This program helps to identify problems, to prioritize projects, to develop a capital improvement plan(CIP)/funding strategy and to improve compliance.

Required Action

1. Wilmington WWTP must work toward reducing/eliminating the SSOs and treatment plant bypasses. No later than August 1, 2016 provide a timeline to this office for developing and implementing the CMOM program to reduce/eliminate the SSOs and treatment plant bypasses. Your response must include a CIP for the next 5 years.

Findings:

2. Wilmington WWTP applied for a No Exposure certification (No. 1GRN0436*CG) on March 6, 2014. During the inspection, storm water catch basins were observed throughout the plant. These catch basins were located near multiple treatment units, including the sludge drying beds and the ferric chloride tank. These catch basins discharge directly to Lytle Creek. Based on this information, Wilmington WWTP is not eligible for the No Exposure certification.

Required Action

2. Wilmington WWTP will immediately develop and implement a storm water pollution prevention plan (swp3) to comply with Parts IV, IV and VI of your individual NPDES permit (No. 1PD00013*OD). Provide a copy of your swp3 to this office no later than September 1, 2016.

Findings:

3. Each operator has their own log book for operations and maintenance at the WWTP. During the inspection, the entry and exit times were logged as an 8-hour day. Ohio Administrative Code (OAC) 3475-7-09(A) lists the specific record-keeping requirements pertaining to operational and maintenance activities completed at the facility. These requirements include the recording of the times which the WWTP was entered and exited. If the operator leaves the plant to check on the collection system, to attend training/meetings, to check on a sludge site or other similar activities, the operator must sign in and out in their log book.

Required Action

3. Wilmington WWTP shall ensure that all operational and maintenance activities, including entry and exit times are properly documented as required by Ohio Administrative Code 3745-7-09(A).

As a reminder, your Schedule of Compliance requires you to meet a phosphorus limit of 1.0 mg/l during the period of May through October. If your WWTP cannot attain a phosphorus limit of 1.0 mg/l, then a Permit-to-install application and detail plans are due to this office by November 1, 2016. If the phosphorus limit can be achieved by implementing source reduction measures, operational improvements and minor facility modifications, then provide written notification that the phosphorus limit of 1.0 mg/l can be achieved by November 1, 2016.

If you have any questions or comments concerning the attached inspection report, please contact Sandra Leibfritz at (937) 285-6104 or email at Sandra.Leibfritz@epa.ohio.gov.

Sincerely,

Martyn G. Burt
Environmental Supervisor
Compliance and Enforcement
Division of Surface Water

Attachment: NPDES Compliance Inspection Report

ec: Harry McVey, Superintendent, ORC
Eric Green, Chief Operator, ORC
File Copy

MGB/bp

NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING				
Permit #	NPDES #	Inspection Type	Notice of Violation	Significant Non-Compliance
OH0028134	1PD00013*OD	CEI	No	No
Inspection Date	Entry Time	Exit Time		
6/3/2016	9:30 AM	11:11 AM		

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Wilmington WWTP 475 Nelson Avenue Wilmington, OH 45177	5/1/2015 Permit Expiration Date 1/31/2020
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Harry McVey, Superintendent, ORC Erick Greene, Chief Operator, ORC	(93) 382-2413
Name and Title of Responsible Official	Phone Number
Harry McVey, Superintendent, ORC	(937) 382-2413

SECTION C: AREAS EVALUATED DURING INSPECTION		
Corrective Action Needed – Y-Yes; N-No; N/A-Not Applicable		
N	E. NPDES Compliance	
N	F. Operations & Maintenance	
Y	G. Operator Certification	Log entry and exit times in ORC's log book
Y	H. Collection System	Develop and implement CMOM & CIP
N	I. Sludge Management	
Y	J. Storm Water	Develop and implement Parts IV, V and VI
N	K. Self-Monitoring Program	
N	L. Laboratory	
N	M. Effluent / Receiving Water Observations	

Comments:

Signatures	
Sandra Leibfritz 6.10.2016	Martyn G. Burt 6/10/2016
Sandra Leibfritz Date Compliance and Enforcement Inspector Division of Surface Water Southwest District Office	Martyn G. Burt Date Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office

Compliance Data for Wilmington WWTP between 4/1/2015 and 5/1/2016

Summary

Permit Effluent Limit Violations: 0
Permit Effluent Code Violations: 0
Permit Effluent Frequency Violations: 1
Compliance Schedule Milestones Not Entered: 4
Reported SSO Events: 22

Frequency Violations*						
Reporting Period	**Station**	**Parameter**	**Sample Frequency**	**Expected**	**Reported**	**Violation Date**
December 2015	601	Mercury, Total (Low Level)	1/Month	1	0	12/1/2015

*This issue has been resolved. There was a communication error where an Ohio EPA administrative modification changed the mercury test method from ug/l to ng/l. A sample was obtained and the result was "AA" (0.2 ug/l). Since December 2015, samples are collected and analyzed using the low level mercury test method in ng/l.

Compliance Schedule Milestones				
Schedule Due Date	**Completion Date**	**Event Code**	**Schedule Type**	**Schedule Milestone**
May 2017		5699	Construction	Final Compliance w/ Eff Limits
May 2018		5699	Construction	Final Compliance w/ Eff Limits
November 2018		5699	Construction	Final Compliance w/ Eff Limits
May 2019		95999	Other	Status Report

Wilmington WWTP SSO Events			
Parameter	**Units**	**Date**	**Reported Value**
Overflow Occurrence	No./Month	6/3/2015	1
Overflow Occurrence	No./Month	6/20/2015	4
Overflow Occurrence	No./Month	6/26/2015	7
Overflow Occurrence	No./Month	6/27/2015	2
Overflow Occurrence	No./Month	7/14/2015	3
Overflow Occurrence	No./Month	8/28/2015	1
Overflow Occurrence	No./Month	10/19/2015	1
Overflow Occurrence	No./Month	12/27/2015	1
Overflow Occurrence	No./Month	2/24/2016	1
Overflow Occurrence	No./Month	4/11/2016	1

Top 10 Flows	
Date	Flows (MGD)
10/23/2015	14.840
4/3/2015	8.528
2/24/2016	8.419
6/20/2015	8.271
12/27/2015	8.250
4/11/2016	7.841
12/28/2015	7.788
6/26/2015	7.712
7/14/2015	7.619
6/27/2015	7.609
Average	2.717

SECTION D: PERMIT VERIFICATION

	Yes	No	N/A
a. Correct name and mailing address of permittee	☒	☐	
b. Correct name and location of receiving waters	☒	☐	
c. Flows and loadings conform with NPDES permit	☒	☐	
d. Treatment processes are as described in permit application	☒	☐	
e. New treatment process added since last inspection	☐	☒	
f. Notification given to State of new, different or increased discharges	☐	☐	☒
g. All discharges are permitted	☒	☐	
h. Number and location of discharge points are as described in permit	☒	☐	☐
i. Are all storm water discharges properly permitted?	☒	☐	
For Industrial Facilities Only			
j. Products and production rates conform with permit application?	☐	☐	☒
k. Do categorical standards apply? If yes, which ones?	N/A		

Comments:

- The WWTP consists of mechanical bar screen, grit removal, primary clarifiers, storm clarifiers, trickling filters, aeration tanks, secondary clarifiers, ferric chloride/polymer and uv disinfection.
- The solid stream consists of gravity thickening, aerobic digester to sludge holding to land application of liquid sludge or drying beds.
- See attachment at end of report for flow diagram
- Wilmington was issued coverage under Ohio EPA's general permit for MS4s (OHQ000002/1GQ00067*BG) on February 3, 2015.
- The WWTP does accept leachate from Wilmington's landfill and brine water.
- Bypass operations occur at 8.0 MG

SECTION E: COMPLIANCE

See previous page for more compliance information.

	Yes	No	N/A
a. NPDES renewal app submitted 180 days prior to expiration	☐	☐	☒
b. Permittee has a compliance schedule	☒	☐	☐
c. Document containing compliance schedule	NPDES		
d. Permittee is meeting compliance schedule	☒	☐	☐
e. Any bypasses since last inspection	☒	☐	
f. Regulatory agency notified of all bypasses	☒	☐	☐
g. Permittee or representative reporting all noncompliance per Part III of NPDES	☒	☐	☐

Comments:

- The Schedule of Compliance in Part I, C for the municipal pretreatment schedule will be evaluated during the pretreatment compliance inspection.
- The Schedule of Compliance requires an initial in-house investigation (Toxicity Reduction Evaluation) when toxicity is greater than 1.0 TUa or 1.0 TUc at outfall 001. On September 2015, an in-house investigation was conducted for a toxicity of 5.66 TUc for *C. dubia*. The investigation was inconclusive. Wilmington WWTP does have a contract with Environmental Engineering to conduct a detailed TRE if required by Ohio EPA.
- Wilmington WWTP did submit a 2015 I/I report as required by the Schedule of Compliance.

SECTION F: OPERATION AND MAINTENANCE

a. Standby power available	Dual Feed
b. Standby power provides power to which treatment components?	Entire Plant
c. Which treatment components have alarm system available for power or equipment failures?	High water alarm, power failure, contact blowers, effluent wet well…

	Yes	No
d. All treatment units in service other than backup units	☒	☐
e. Routine and preventative maintenance scheduled and performed	☒	☐
f. Any major equipment breakdown since last inspection	☐	☒
g. Operation and maintenance manual provided and maintained	☒	☐
h. Any operational problems due to influent quality or quantity since last inspection	☒	☐
i. Are WWTP operations changed during high-flow events?	☒	☐

Comments:

- Allman software is used, Anterto program tracks maintenance.
- Storm mode can be automated, but their preference is manual adjustments.
- Floyd & Brown O&M May 1989 to uv disinfection (Trojan).
- SVI is 110, usually averages 103.
- There is 1 to 1.5 feet of sludge in the clarifiers
- MLSS is 3100 mg/l (ideal is 3000 mg/l).
- All drains within the building drain back to the head of the plant.
- All screens and debris are placed in a dumpster and disposed of at their sanitary landfill.

SECTION G: OPERATOR CERTIFICATION

a. Wastewater Treatment Works Classification	III			
		Yes	No	N/A
b. Operator of Record holds unexpired license of class required by Permit?		☒	☐	
c. Current Operator of Record form submitted?		☒	☐	
d. Copy of certificate of Operator of Record displayed on-site?		☒	☐	
e. Minimum operator staffing requirements fulfilled (OAC 3745-7)		☒	☐	
f. If a Staffing Reduction plan has been approved, are the stipulations of the plan being met?		☐	☒	☐
g. Has the Operator of Record submitted written notifications to the permittee, Ohio EPA and, if applicable, any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred?		☒	☐	☐
h. Operator of Record log book provided?		☒	☐	
i. Log book location	Administration Bldg			
j. Logbook Format	Hardbound			
Log book contains the following:				
k. Identification of treatment works		☒	☐	
l. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7		☒	☐	
m. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.)		☒	☐	
n. Laboratory results (unless documented on bench sheets)		Bench Sheets		
o. Identification of person making entries		☒	☐	

Comments:

- Each operator has own log book.

SECTION H: COLLECTION SYSTEM

Collection System Overview

a. Which department oversees collection system operation and maintenance	City of Wilmington Wastewater Department
b. Who is the certified Collection System Operator?	Harry McVey
c. Is there a plan for collection system maintenance? If yes, to what extent is this plan being implemented?	Refer to 2015 I/I Report
d. Were there any major repairs or improvements to collection system since last inspection?	Yes, Refer to 2015 I/I Report
e. Name the satellite communities that discharge into your collection system	None

Comments:

Highlights to the Wilmington's 2015 I/I Report.

- In 2015, a total of $326,256 was spend on sanitary and storm sewer collection systems.
- Televised 23,381 l.f of sanitary sewer
- Lined 2 manholes using SprectraShield liner system
- Contracted with Miller Pipeline for $207,640 to line 6,954 l.f of sewer. The project began in 2014 and was completed in 2015.
- 4,381 l.f of sanitary sewer was root treated.
- Installed 574 l.f of 4-inch and 100 feet of 6-inch sanitary sewer.
- Installed updated communication computer chips at David's Drive, Wexford and DP&L lift stations.
- Wilmington has appropriated $200,000 for the 2016 to rehabilitate the sewers. Manhole rehabilitation will occur in Timer Glen Subdivision a subdivision located off Dana Avenue. There will be approximately 16 point repairs throughout the sanitary sewer collection system. Approximately 900 l.f installed in 1937.
- Approximately 25% of their collection system was installed in the 1930s and 40% is greater than 50 years old.
- Approximately 60% of their collection system has been televised and 100% smoked tested. There are approximately 40 to 50 repaired to be made.
- There area 76.8 miles of sanitary sewers and over 100 miles of storm water collection system. There are over 2,0000 manholes and over 2,400 catch basins.

Continued... SECTION H: COLLECTION SYSTEM

Pumps and Force Mains

a. How many lift stations are within the collection system?	13
b. How many lift stations have alarms?	All - Telemetry
c. How many lift stations are equipped with permanent standby power or equivalent?	None. Portable lift station and generator

Capacity / SSOs / I&I / WIB	Yes	No
a. Are portable pumps used to relieve the system?	☐	☐
b. Any complaints received since last inspection of basement flooding?	☐	☐
c. Have there been any SSOs since the last inspection?	☒	☐
d. What progress has been made in SSO elimination if applicable?	Refer to 2015 I/I report.	
e. Are any portions of the sewer system at or near dry weather capacity? If yes, describe plans.	No	
f. Is there an inflow and infiltration reduction plan being followed? If yes, describe plans.	Yes. Refer to 2015 I/I report.	

Combined Sewer System	Yes	No
a. Does the collection system include combined sewers?	☐	☒
Skip following questions if there are no combined sewers		
b. Are all CSOs included in your NPDES permit? If not, explain.	N/A	
c. What is the status of the LTCP implementation?	N/A	
d. If there is no LTCP, what is the status of preparation of the LTCP?	N/A	

SECTION I: SLUDGE MANAGEMENT

a. Date of last sludge inspection		
b. Sludge disposal method	Land Application	
c. Name of sludge disposal contractor	Borton	
d. How many days of sludge storage are provided at plant?	4 months	
	Yes	No
e. Has amount of sludge generated changed significantly since last inspection?	☐	☒
f. Sludge records maintained for a minimum of 5 years?	☒	☐
g. Any complaints received last year regarding sludge	☐	☒
h. Is sludge adequately processed (digestion, pathogen control)	☒	☐
i. Is inadequate sludge handling causing operational problems?	☐	☒

Comments:

SECTION J: STORM WATER PROGRAM

Comments:

- The develop and implement Parts IV, V and VI.

SECTION K: SELF-MONITORING PROGRAM

Flow Measurement	Yes	No
a. Actual flow discharged is measured?	☒	☐
b. Flow measurement equipment adequate to handle full range of flows	☒	☐
c. Is the primary flow measuring device calibrated at least annually or in accordance with manufacturers specifications	☒	☐
d. Date of last calibration	October 19, 2015	
e. Who calibrates the flow measuring device?	Egg Harbor, Inc.	
f. Frequency of calibration	Yearly	
g. How often is the flow measuring device checked for functionality?	Daily	

Sampling, Monitoring, and Records	Yes	No	N/A
a. Secondary instruments operated and maintained	☒	☐	
b. Sampling location(s) are as specified by permit	☒	☐	
c. Sampling frequency agree with permit (look at compliance table for frequency violations or missing DMRs)	☒	☐	
d. Are proper sampling methods used (i.e. Oil & Grease collected in a glass container)	☒	☐	
e. Are the proper sampling types used (i.e., Grab, Composite, Flow proportionate, etc.)	☒	☐	
f. Are the field parameters (pH, DO, total residual chlorine, temperature) measured within 15 minutes of collection?	☒	☐	☐
g. Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e. continuous monitoring instrumentation, calibration and maintenance records)	☒	☐	

Comments:

- Their lab analyst, Stan Bolka, is retiring. He is responsible for analysis of their metals. Once he retires. All metal samples with be analyzed using an outside laboratory.
- Range of meter is 0-15 MGD.
- Influent sample taken between screens and grit.

SECTION L: LABORATORY

In-House Sampling:

Parameter	Analytical Test Methods	Parameter	Analytical Test Methods
Hardness as $CaCo_3$	EPA 130.2	Total Solids	EPA 160.3
pH	EPA 150.1	Volatile Solids	EPA 160.4
TSS	EPA 160.2	As, TR	EPA 206.2
NH_3 as N	EPA 350.1	Cd, TR	EPA 213.2
Total P	EPA 365.1	Cr, TR	EPA 218.2
$CBOD_5$	SM 5220 B	Cu, TR	EPA 220.2
O&G hexane extr	EPA 1664 A	Pb, TR	EPA 239.2
E coli	EPA 160.3	Ni, TR	EPA 249.2
Fecal Coliform	SM 9222 D	Zn, TR	EPA 289.1
TDS	EPA 8163	D.O.	EPA 360.1
Temperature	EPA 170.1		

	Yes	No	N/A
a. Quality assurance manual provided and maintained?	☒	☐	
b. Does quality assurance manual contain SOPs for all sampling and analyses conducted on site?	☒	☐	
c. If alternate procedures are used, are they U.S. EPA approved?	☐	☐	☒
d. Are permit required parameters analyzed more frequently than required by the permit?	☒	☐	
i. If yes, are results recorded in permittee's e-DMR report?	☒	☐	☐

Commercial Laboratory Sampling: Laboratory Name: **Pace Analytical**

Parameter	Analytical Test Methods	Parameter	Analytical Test Methods
CN^-, Total	EPA 335.4	Dibenzo(A,H)Anthracene	SW 8270 C
Ag, TR	SM 3113 B	Pentachlorophenol	SW 8270 C
Cr^{+6}	SM 3500 Cr B	CN^- free	1677 09
TKN	SM 4500 N org D	K, Total	SW 6010 B
NO_2^- & NO_3^-	SM 4500 NO_3 F	Se, Total	SW 6010 B
Hg (low level)	EPA 1631 E	Mo, Total	EPA 200.7
Indeno(123)pyrene	SW 8270 C	Hg, Total	SW 7471 A

SECTION L: LABORATORY - Continues

Laboratory Name: EnviroScience

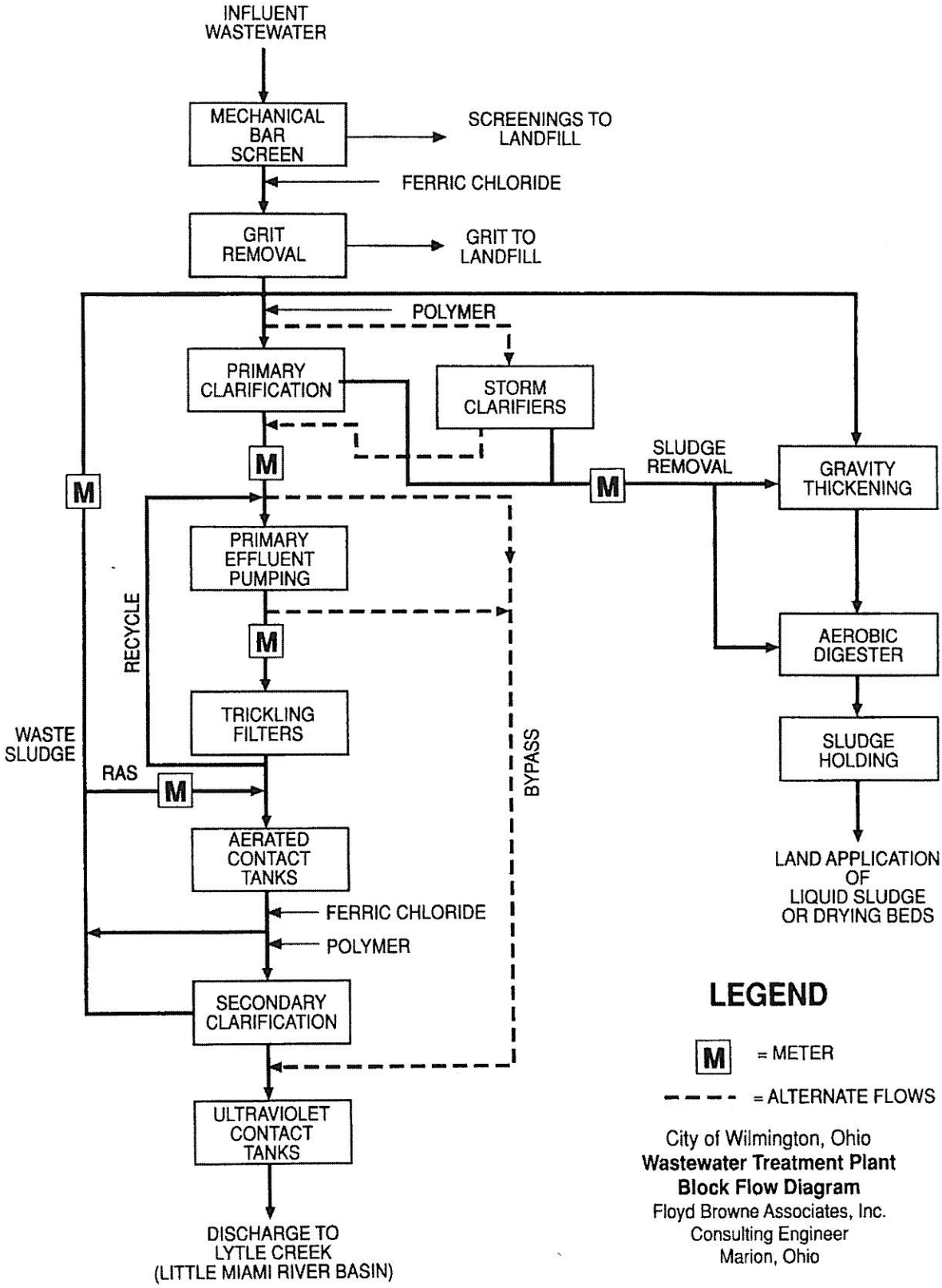
Parameter	Analytical Test Methods
C. dubia - TUa	EPA 1002.0
C. dubia - TUc	EPA 1002.0
P. promelas - TUa	EPA 1002.0
P. promelas - TUc	EPA 1002.0

Quality Assurance and Quality Control	Yes	No	N/A
a. Does the lab participate in DMRQA or other QC programs?	☒	☐	
b. Has corrective action been taken for any parameters found unsatisfactory in the last DMRQA or water Pollution Studies?	☐	☐	☒
i. Date of last study: **March 20, 2015**	☒	☐	☐
ii. Parameters found unsatisfactory - **All Acceptable**	☐	☒	☐
c. Has a Performance Audit Inspection (PAI) been conducted by Ohio EPA, Division of Environmental Services since the last inspection?	☐	☒	
i. If yes; have the recommendations from that PAI been implemented?	☐	☐	☒

SECTION M: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	Yes	None	None	None	None	None	None	Clear

Comments:


INFLUENT WASTEWATER
MECHANICAL BAR SCREEN
SCREENINGS TO LANDFILL
FERRIC CHLORIDE
GRIT REMOVAL
GRIT TO LANDFILL
POLYMER
PRIMARY CLARIFICATION
STORM CLARIFIERS
M
SLUDGE REMOVAL
GRAVITY THICKENING
PRIMARY EFFLUENT PUMPING
RECYCLE
AEROBIC DIGESTER
TRICKLING FILTERS
WASTE SLUDGE
RAS
BYPASS
SLUDGE HOLDING
AERATED CONTACT TANKS
LAND APPLICATION OF LIQUID SLUDGE OR DRYING BEDS
FERRIC CHLORIDE
POLYMER
SECONDARY CLARIFICATION
LEGEND
= METER
= ALTERNATE FLOWS
ULTRAVIOLET CONTACT TANKS
City of Wilmington, Ohio
Wastewater Treatment Plant
Block Flow Diagram
Floyd Browne Associates, Inc.
Consulting Engineer
Marion, Ohio
DISCHARGE TO LYTLE CREEK (LITTLE MIAMI RIVER BASIN)