

Ohio EPA Permit No.: 3ID00021*ND
Application No: OH0004219

Action Date: February 29, 2024
Effective Date: April 1, 2024
Expiration Date: March 31, 2029

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

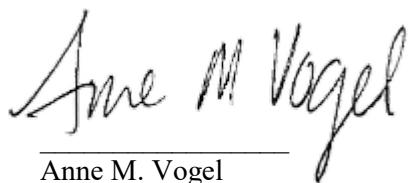
In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., hereinafter referred to as the "Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

Metallus, Inc.

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the Metallus, Inc. - Canton Water Treatment Plant, located at 3100 Gambrinus Avenue SW, Canton Ohio, Stark County, and discharging to Domer Ditch (aka Beal Run) at River Mile 0.08 in accordance with the conditions specified in Parts I, II, and III 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.



Anne M. Vogel
Director

Total Pages: 29

PART I, A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting for 36 months, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 3ID00021015. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 015 - Interim

Effluent Characteristic Parameter	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Day	Maximum Indicating Thermometer	All
00530 - Total Suspended Solids - mg/l	30	-	-	10	397	-	133	1/Week	24hr Composite	All
00552 - Oil and Grease, Hexane Extr Method - mg/l	10	-	-	-	133	-	31.8	1/Week	Grab	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00951 - Fluoride, Total (F) - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00981 - Selenium, Total Recoverable - ug/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
01074 - Nickel, Total Recoverable - ug/l	459	-	-	171	6.08	-	2.27	1/Month	24hr Composite	All
01079 - Silver, Total Recoverable - ug/l	17	-	-	1.3	0.226	-	0.017	1/Month	24hr Composite	All
01094 - Zinc, Total Recoverable - ug/l	393	-	-	211	5.21	-	2.80	1/Month	24hr Composite	All
01114 - Lead, Total Recoverable - ug/l	161	-	-	32	2.13	-	0.42	1/Month	24hr Composite	All
01118 - Chromium, Total Recoverable - ug/l	319	-	-	108	4.23	-	1.43	1/Month	24hr Composite	All
01119 - Copper, Total Recoverable - ug/l	52	-	-	30	0.689	-	0.397	1/Month	24hr Composite	All
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	24hr Total	All
50060 - Chlorine, Total Residual - mg/l	-	-	-	-	-	-	-	1/Week	Grab	All

Effluent Characteristic Parameter	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
50092 - Mercury, Total (Low Level) - ng/l	-	-	-	-	-	-	-	2/Year	Grab	March and Sep.
51600 - pH Range Excursion, Maximum Duration - Minutes	60	-	-	-	-	-	-	When Disch.	Total	All
61425 - Acute Toxicity, Ceriodaphnia dubia - TUa	-	-	-	-	-	-	-	1/Year	24hr Composite	September
61426 - Chronic Toxicity, Ceriodaphnia dubia - TUc	-	-	-	-	-	-	-	1/Year	24hr Composite	September
61941 - pH, Maximum - S.U.	-	-	-	-	-	-	-	1/Day	Continuous	All
61942 - pH, Minimum - S.U.	-	-	-	-	-	-	-	1/Day	Continuous	All
70300 - Residue, Total Filterable - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
82090 - Total Toxic Organics - ug/l	245	-	-	-	3.25	-	-	1/Month	Total	All
82581 - pH Range Excursions,	0	-	-	-	-	-	-	When Disch.	Total	All
82582 - pH Range Excursions, Monthly Total Duration - Minutes	446	-	-	-	-	-	-	1/Month	Total	All

Notes for Station Number 3ID00021015:

* Effluent loadings based on average design flow of 3.5 MGD. Effluent Limitation Guidelines (ELGs) from the following Title 40 Code of Federal Regulations (40 CFR) categories were applied to the regulated production sources (details are in the permit Fact Sheet):

40 CFR 420, "Iron and Steel Manufacturing Point Source Category"

- Subpart E, "Vacuum Degassing Subcategory"
- Subpart F, "Continuous Casting Subcategory"
- Subpart G, "Hot Forming Subcategory"
- Subpart J, "Cold Forming Subcategory"
- Subpart M, "Other Operations Subcategory"

40 CFR 433, "Metal Finishing Point Source Category" - Subpart A, "Metal Finishing Subcategory"

a. Sampling shall be performed when discharging. If NO DISCHARGE OCCURS DURING THE ENTIRE MONTH, eDMR users should select the "No Discharge" check box on the date entry form. PIN the eDMR.

b. Copper, Fluoride, Lead, Nickel, Selenium, Silver, and Zinc - See Part I, C. Schedule of Compliance.

- c. Sufficiently Sensitive Methods/Method Detection Limits - See Part II, Item J.
- d. Dissolved Metal Translator Study - See Part II, Item K.
- e. Acute and Chronic Whole Effluent Toxicity - See Part II, Item N.
- f. The Total Toxic Organic (TTO) limitation is a guideline-based limitation and is not an authorization to discharge toxic compounds at levels which cause water quality violations. See Part II, Item O for alternative TTO sampling requirements.
- g. Oil and Grease - The discharge shall not contribute to the surface water in amounts sufficient to cause any visible sheen.
- h. The pH (Maximum/Minimum) shall be maintained within the range of 6.5 - 9.0 S.U. pH readings which do not fall within this range shall be considered an excursion of permit limits. See Part II, Item I.
- i. pH Range Excursions, Monthly Total Duration (in minutes) - See Part II, Item I.
- j. pH Range Excursions, Maximum Duration (in minutes) - See Part II, Item I.
- k. pH Range Excursions, > 60 Minutes (Number/Day) - See Part II, Item I.
- l. Total Residual Chlorine - See Part I, C. Schedule of Compliance and Part II, Item P.
- m. Mercury - See Part II, Item Q.
- n. Cadmium and Total Cyanide Monitoring Waiver - In addition to parameters listed in the table above, regulations in 40 CFR 433 (Metal Finishing Regulations) include limits for cadmium and total cyanide. While these limits apply to the discharge from outfall 3ID00021015, they are not present in the wastewater in excess of background concentrations. Based on this information and available monitoring data, Ohio EPA has granted a monitoring waiver for cadmium and total cyanide under 40 CFR 122.44(a)(2). Applicable limitations include:

Parameter	Monthly Average (ug/l)	Daily Maximum (ug/l)
Cadmium	6.5 ug/l (0.086 kg/day)	18 ug/l (0.24 kg/day)
Total Cyanide	93 ug/l (1.23 kg/day)	172 ug/l (2.28 kg/day)

PART I, A. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning 36 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 outfall 3ID00021015. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 015 - Final

Effluent Characteristic Parameter	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00010 - Water Temperature - C	-	-	-	-	-	-	-	1/Day	Maximum Indicating Thermometer	All
00530 - Total Suspended Solids - mg/l	30	-	-	10	397	-	133	1/Week	24hr Composite	All
00552 - Oil and Grease, Hexane Extr Method - mg/l	10	-	-	-	133	-	31.8	1/Week	Grab	All
00665 - Phosphorus, Total (P) - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
00951 - Fluoride, Total (F) - mg/l	-	-	-	2.20	-	-	29.1	1/Month	24hr Composite	All
00981 - Selenium, Total Recoverable - ug/l	62	-	-	5	0.82	-	0.066	1/Month	24hr Composite	All
01074 - Nickel, Total Recoverable - ug/l	459	-	-	151	6.08	-	2.00	1/Month	24hr Composite	All
01079 - Silver, Total Recoverable - ug/l	13	-	-	1.3	0.17	-	0.017	1/Month	24hr Composite	All
01094 - Zinc, Total Recoverable - ug/l	342	-	-	211	4.53	-	2.80	1/Month	24hr Composite	All
01114 - Lead, Total Recoverable - ug/l	161	-	-	30	2.13	-	0.40	1/Month	24hr Composite	All
01118 - Chromium, Total Recoverable - ug/l	319	-	-	108	4.23	-	1.43	1/Month	24hr Composite	All
01119 - Copper, Total Recoverable - ug/l	44	-	-	27	0.58	-	0.36	1/Month	24hr Composite	All
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	24hr Total	All
50060 - Chlorine, Total Residual - mg/l	0.019	-	-	-	-	-	-	1/Week	Grab	All

Effluent Characteristic Parameter	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
50092 - Mercury, Total (Low Level) - ng/l	-	-	-	-	-	-	-	2/Year	Grab	March and Sep.
51600 - pH Range Excursion, Maximum Duration - Minutes	60	-	-	-	-	-	-	When Disch.	Total	All
61425 - Acute Toxicity, Ceriodaphnia dubia - TUa	-	-	-	-	-	-	-	1/Year	24hr Composite	September
61426 - Chronic Toxicity, Ceriodaphnia dubia - TUc	-	-	-	-	-	-	-	1/Year	24hr Composite	September
61941 - pH, Maximum - S.U.	-	-	-	-	-	-	-	1/Day	Continuous	All
61942 - pH, Minimum - S.U.	-	-	-	-	-	-	-	1/Day	Continuous	All
70300 - Residue, Total Filterable - mg/l	-	-	-	-	-	-	-	1/Month	24hr Composite	All
82090 - Total Toxic Organics - ug/l	245	-	-	-	3.25	-	-	1/Month	Total	All
82581 - pH Range Excursions,	0	-	-	-	-	-	-	When Disch.	Total	All
82582 - pH Range Excursions, Monthly Total Duration - Minutes	446	-	-	-	-	-	-	1/Month	Total	All

Notes for Station Number 3ID00021015:

* Effluent loadings based on average design flow of 3.5 MGD. Effluent Limitation Guidelines (ELGs) from the following Title 40 Code of Federal Regulations (40 CFR) categories were applied to the regulated production sources (details are in the permit Fact Sheet):

40 CFR 420, "Iron and Steel Manufacturing Point Source Category"

- Subpart E, "Vacuum Degassing Subcategory"
- Subpart F, "Continuous Casting Subcategory"
- Subpart G, "Hot Forming Subcategory"
- Subpart J, "Cold Forming Subcategory"
- Subpart M, "Other Operations Subcategory"

40 CFR 433, "Metal Finishing Point Source Category" - Subpart A, "Metal Finishing Subcategory"

a. Sampling shall be performed when discharging. If NO DISCHARGE OCCURS DURING THE ENTIRE MONTH, eDMR users should select the "No Discharge" check box on the date entry form. PIN the eDMR.

b. Copper, Fluoride, Lead, Nickel, Selenium, Silver, and Zinc - See Part I, C. Schedule of Compliance.

- c. Sufficiently Sensitive Methods/Method Detection Limits - See Part II, Item J.
- d. Dissolved Metal Translator Study - See Part II, Item K.
- e. Acute and Chronic Whole Effluent Toxicity - See Part II, Item N.
- f. The Total Toxic Organic (TTO) limitation is a guideline-based limitation and is not an authorization to discharge toxic compounds at levels which cause water quality violations. See Part II, Item O for alternative TTO sampling requirements.
- g. Oil and Grease - The discharge shall not contribute to the surface water in amounts sufficient to cause any visible sheen.
- h. The pH (Maximum/Minimum) shall be maintained within the range of 6.5 - 9.0 S.U. pH readings which do not fall within this range shall be considered an excursion of permit limits. See Part II, Item I.
- i. pH Range Excursions, Monthly Total Duration (in minutes) - See Part II, Item I.
- j. pH Range Excursions, Maximum Duration (in minutes) - See Part II, Item I.
- k. pH Range Excursions, > 60 Minutes (Number/Day) - See Part II, Item I.
- l. Total Residual Chlorine - See Part I, C. Schedule of Compliance and Part II, Item P.
- m. Mercury - See Part II, Item Q.
- n. Cadmium and Total Cyanide Monitoring Waiver - In addition to parameters listed in the table above, regulations in 40 CFR 433 (Metal Finishing Regulations) include limits for cadmium and total cyanide. While these limits apply to the discharge from outfall 3ID00021015, they are not present in the wastewater in excess of background concentrations. Based on this information and available monitoring data, Ohio EPA has granted a monitoring waiver for cadmium and total cyanide under 40 CFR 122.44(a)(2). Applicable limitations include:

Parameter	Monthly Average (ug/l)	Daily Maximum (ug/l)
Cadmium	6.5 ug/l (0.086 kg/day)	18 ug/l (0.24 kg/day)
Total Cyanide	93 ug/l (1.23 kg/day)	172 ug/l (2.28 kg/day)

PART I, A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on 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 Calculated Outfall 3ID00021099. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Fictitious Outfall/Station - 099 - Final

Effluent Characteristic Parameter	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
51451 - Phosphorus, Total Load - Kg	-	-	-	-	-	-	-	1/Year	Calculated	December

Notes for Calculated Station Number 3ID00021099:

- a. This fictitious outfall represents the annual median Total Phosphorus load from outfall 3ID00021015 for TMDL reporting/tracking.
- b. The total phosphorus annual load is calculated as follows: [median daily effluent flow (MGD) for the calendar year] x [median total phosphorus concentration (mg/l) for the calendar year] x 3.7854. Round the result to two decimals and enter the calculated loading for this parameter on the December eDMR.
- c. Nimishillen Creek TMDL Requirements - See Part II, Item R.

PART I, C. - SCHEDULE OF COMPLIANCE

Milestone Summary Report			
Section	Report	Event Code	Due Date
Industrial Construction Schedule	Submit Facility Plans	53799	12 months after the permit effective date
Industrial Construction Schedule	Final Plan Submitted	1299	18 months after the permit effective date
Industrial Construction Schedule	Begin Construction	3099	24 months after the permit effective date
Industrial Construction Schedule	1st Report Construction Progress	3599	24 months after the permit effective date
Industrial Construction Schedule	End Construction	4599	35 months after the permit effective date
Industrial Construction Schedule	Operational Level Attained	5599	36 months after the permit effective date

1. Industrial Construction Schedule - Copper, Fluoride, Lead, Nickel, Selenium, Silver, Zinc, and Total Residual Chlorine

The permittee shall achieve compliance with the final effluent limitations for Outfall 3ID00021015, as specified in Part I.A. of this NPDES permit, as expeditiously as practicable. In any event, the permittee shall attain final compliance not later than the dates developed in accordance with the following schedule:

- a. The permittee shall submit a status report on the ability of the existing treatment facilities to meet the final effluent limits as soon as practicable, but no later than 12 months after the permit effective date. If the existing treatment facilities cannot meet these final limits, the permittee shall include a description of the actions proposed, and the associated milestone dates, to achieve final compliance. (Event Code 53799)
- b. If additional improvements to the existing treatment facilities are necessary, the permittee shall submit a complete and approvable PTI application and detailed plans for achieving final compliance as soon as practicable, but not later than 18 months after the permit effective date. (Event Code 01299)
- c. The permittee shall initiate construction of any necessary improvements as soon as practicable, but not later than 24 months after the permit effective date. (Event Code 03099)
- d. The permittee shall submit a report regarding the progress towards achieving compliance with the final effluent limitations as soon as practicable, but not later than 24 months after the permit effective date. (Event Code 03599)
- e. The permittee shall have completed construction of any necessary improvements as soon as practicable, but not later than 35 months after the permit effective date. (Event Code 04599)
- f. The permittee shall attain compliance with the final effluent limitations as soon as practicable, but not later than 36 months after the permit effective date. (Event Code 05599)
- g. All required submittals (e.g. reports, forms, and/or documentation) in Items 1a. - 1f. shall be addressed to the Ohio EPA Northeast District Office, Division of Surface Water. All notifications shall be in writing and submitted to Ohio EPA within 14 days of completion.

PART II, OTHER REQUIREMENTS

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

Sampling Station	Description of Location
3ID00021015	Final effluent from Water Treatment Plant (Lat: 40 N 45 ' 56 " ; Long: 81 W 24 ' 57 ")
3ID00021099	Calculated station for TMDL reporting/tracking. This is not a physical location; no samples are collected.

B. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved.

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit;
or
2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

C. 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.

D. All parameters, except flow and any other continuously-recorded parameters, 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.

E. Composite samples shall be comprised of a series of grab samples collected over a 24-hour period and proportionate in volume to the wastewater 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.

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

G. Treatment Additives

Written permission must be obtained from the director of the Ohio EPA prior to the use of any treatment additives discharged to waters of the state, except for those exempt in rule. If additives are being used that have not previously been approved, an approval must be obtained for continued use. Discharges of these additives must meet Ohio Water Quality Standards and shall not be harmful or inimical to aquatic life. Request for approvals shall be filed in accordance with OAC 3745-33-03(G) and should be filed at least forty-five days prior to use or immediately if the additive is currently being used. Application forms are available for download on the DSW website:

<https://epa.ohio.gov/static/Portals/35/permits/Additive-Form.docx>

H. There shall be no detectable amount of any priority pollutant attributable to cooling tower maintenance chemicals in the cooling tower blowdown wastewater.

I. pH Excursion

At sampling stations where pH is monitored continuously, the permittee shall maintain the pH of such wastewater within the range specified (6.5 - 9.0) in this permit. Any incident in which the pH exceeds the range specified in the permit shall be considered an "excursion". Excursions from the range are permitted subject to the following limitations and conditions:

1. The total duration of excursions (total time above or below the limit) shall not exceed 7 hours and 26 minutes (446 minutes) in a calendar month.
2. No individual excursion from the range of pH values (consecutive time above or below a limit) shall exceed 60 minutes.
3. The permittee shall report each month for each monitoring station where pH is monitored continuously the following:
 - a. the number of pH excursions;
 - b. the duration of each excursion;
 - c. the date of each excursion; and
 - d. the total time of all excursions combined.
4. For reporting purposes on eDMR, the permittee shall report as follows:
 - a. For daily pH values, report both the highest and lowest pH value for that day.
 - b. For the parameter "pH Range Excursions, Monthly Total Duration (minutes)" report the total duration of excursions for the entire calendar month on Day 1.
 - c. For the parameter "pH Range Excursion, Maximum Duration (minutes)" report, the duration of the longest excursion on each day of occurrence. If no such excursions occurred during the month, report "0" on Day 1.
 - d. For the parameter "pH Range Excursions > 60 Minutes (Number/Day)" report the number of excursions each day that exceeded 60 minutes in duration. If no such excursions occurred during the month, report "0" on Day 1.

J. Sufficiently Sensitive Methods / Method Detection Limits

The permittee shall use analytical procedures approved under 40 CFR 136 with sufficiently-sensitive method detection limits (MDLs) for all required monitoring parameters, All detected concentration values above the MDL must be reported. The MDLs for the following parameters shall be less than or equal to those listed below to comply with the monitoring requirements:

Parameter	MDL ($\mu\text{g/L}$)
Copper, Total Recoverable	5.0
Selenium, Total Recoverable	1.0
Silver, Total Recoverable	0.5

K. Dissolved Metal Translator or Water-Effect Ratio Study

If the permittee chooses to develop a dissolved metal translator (DMT) or water-effect ratio use in future NPDES permit renewals and/or modifications, the permittee shall follow the schedule presented below:

1. Not later than six months after the effective date of the permit, the permittee shall submit two copies of a study plan for determining site-specific water quality criteria based upon a dissolved metal translator or water-effect ratio. The study plan shall be developed consistent with the "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals" (EPA-823_B_940-001; U.S. EPA, February 1994) and Ohio Administrative Code 3745-2-04(F) and associated Ohio EPA guidance for the development of dissolved metal translators.

2. Not later than 12 months after the effective date of this permit, the permittee shall begin implementation of the study plan after addressing any comments that were received from Ohio EPA, Division of Surface Water.

3. Not later than 24 months after the effective date of the permit, the permittee shall submit the final report on the water-effect ratio or dissolved metal translator study.

a. The final report shall be prepared consistent with Section J of the "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals" (EPA-823-B-92-001) or Ohio Administrative Code 3745-2-04(F), as appropriate.

b. If the permittee wishes to request an increase in final effluent limits based upon the results of a water-effect ratio or a dissolved metal translator study, an NPDES permit modification request accompanied by a completed antidegradation addendum shall accompany the final report.

4. All submittals required under Part II, Item K shall be made to Ohio EPA Northeast District Office, Division of Surface Water.

L. Outfall Signage

The permittee shall maintain a permanent marker on the stream bank at each outfall that is regulated under this NPDES permit. This includes final outfalls, bypasses, and combined sewer overflows. The sign shall include, at a minimum, 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 sign 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 sign is replaced or reset, the new sign shall comply with the requirements of this section.

M. Industrial Stormwater Regulations

To comply with industrial stormwater regulations, the permittee applied for and obtained coverage under Ohio NPDES General Permit for stormwater discharges associated with industrial activity (aka Multi-sector General Permit or MSGP) No. OHR000007, effective June 1, 2022, as GR00394*GG. Compliance with the industrial stormwater regulations must be re-affirmed every five years. No later than June 1, 2027, the permittee must reapply for coverage under the Multi-sector General Permit or include stormwater monitoring with the individual NPDES permit renewal by including a completed Form 2F and stormwater map for associated outfalls or make other provisions to comply with the industrial storm water regulations.

N. Biomonitoring Program Requirements

The permittee shall continue to implement an effluent biomonitoring program to determine the toxicity of the effluent from Outfall 3ID00021015.

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.

Testing Requirements

1. Chronic Bioassays

The permittee shall conduct annual chronic toxicity tests, as specified in Part I, A, using *Ceriodaphnia dubia* on effluent samples from Outfall 3ID00021015. These tests shall be conducted as specified in Section 3 of the biomonitoring guidance.

2. Acute Bioassays

The permittee shall conduct annual definitive acute toxicity tests, as specified in Part I, A, using *Ceriodaphnia dubia* on effluent samples from Outfall 3ID00021015. These tests shall be conducted as specified in Section 2 of the biomonitoring guidance. Acute toxicity tests need not be performed for months in which chronic toxicity tests are conducted. Acute endpoints, as described in Section 2.H. of the biomonitoring guidance, shall be derived from the chronic test.

3. 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. The test report may be submitted electronically using the acute or chronic NPDES Biomonitoring Report Form available through the Ohio EPA eBusiness Center, Division of Surface Water NPDES Permit Applications service. Alternatively, the permittee may submit a hard copy of the 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)

O. Total Toxic Organics (TTO) Compliance Options

The permittee may elect to monitor TTO at outfall 3ID00021015 in accordance with subparagraph 1. below or, in lieu thereof, adopt and implement a certified toxic organic management plan (TOMP) and submit certifications in accordance with subparagraph 2. hereof.

1. Monitoring Option

If the permittee elects to conduct monitoring to measure compliance with the TTO limit through monitoring outfall 3ID00021015, then monitoring shall be conducted in accordance with the following provisions:

a. At least two grab samples for volatile pollutants and either an 8-hour or a 24-hour composite sample for acid and base/neutral and pesticide pollutants shall be obtained on each monitoring day as required in Part I, A. Wastewater samples shall be prepared and analyzed by GC/MS in accordance with the requirements in 40 CFR 136. The TTO measured in the discharge are to be reported in the units of micrograms per liter ($\mu\text{g/L}$).

b. The term "total toxic organics" (TTO) shall mean the summation of all quantifiable values greater than 10 $\mu\text{g/L}$ for the pollutants listed in Metal Finishing "40 CFR 433.11(e)."

c. After review of the results of the wastewater monitoring and any other information, Ohio EPA may modify the provisions of paragraph O.1., as appropriate. Modifications may include, but are not limited to, restricting monitoring to those toxic organics which would reasonably be expected to be present. Ohio EPA may also require continued monitoring to measure compliance with the TTO limit. If monitoring is necessary to measure compliance with the TTO limit, the permittee would need to analyze for only those pollutants which would reasonably be expected to be present.

2. Certification Option

If the permittee elects to certify compliance rather than continue monitoring, the permittee shall:

a. Submit to the Ohio EPA a Toxic Organic Management Plan (TOMP) for review and approval that includes the information specified in Ohio Administrative Code (OAC) 3745-33-09 paragraph (C)(1). This includes, but is not limited to, the following: the toxic organic chemicals used, generated, and stored; the maximum quantities used; a pollution prevention assessment; a description of the methods of

disposal other than discharge to surface waters, such as reclamation, contract hauling or incineration; and procedures for ensuring that toxic organics do not spill or leak into process wastewaters, floor drains, non-contact cooling water, ground water, or surface waters. The plan shall include the certification statement below. Upon review and approval of the plan, Ohio EPA will modify this permit to include the plan as a provision of the permit.

b. Except as provided in subparagraph iii and iv below, make the following certification statement with each electronic discharge monitoring report (eDMR):

"Based on my inquiry of the person or persons directly responsible for managing compliance with the limit for total toxic organics, I certify that, to the best of my knowledge and belief, no discharge or dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to the Ohio EPA."

When exercising its right to submit a certification statement in lieu of TTO monitoring, the permittee shall input the code "AH" into eDMR and enter the certification statement in the "Comments" box.

c. If the permittee is unable to make the above certification statement, notify the Ohio EPA in accordance with Part III, 12 of this permit. Upon receiving this notification, Ohio EPA will determine whether it is appropriate to continue the certification option or require TTO monitoring.

d. Upon failure to comply with all the requirements in Part II.O of this permit, conduct the required monthly TTO monitoring and submit the subsequent results to eDMR.

3. Certification re-evaluation

Once every permit cycle, but no less frequently than once every five years, the TOMP shall be updated and the waste stream subject to TTO limits shall be sampled and analyzed for TTO, or those toxic organic compounds expected to be present. Failure to submit this information will result in the reinstatement of the compliance monitoring requirements in paragraph O.1.

P. 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).

Q. Monitoring for Mercury (low-level)

The permittee shall use either EPA Method 1631 or EPA Method 245.7 promulgated under 40 CFR 136 to comply with the mercury monitoring requirements of this permit.

R. Nimishillen Creek Total Maximum Daily Load (TMDL) Report Tracking

The "Total Maximum Daily Loads for the Nimishillen Creek Watershed" report was approved in December 2009. The TMDL assigned an individual wasteload allocation of 3.58 kg/day total phosphorus (annual median load) for discharges from Metallus, Inc. - Canton. Based on current information, the phosphorus loading from Metallus, Inc. - Canton is consistent with the wasteload allocation and assumptions in the TMDL. The phosphorus loading from Metallus, Inc. - Canton will continue to be re-evaluated as part of subsequent permit renewals.

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 LIMITATION

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 waterfowl;
- 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 growth 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:

<https://epa.ohio.gov/divisions-and-offices/surface-water/permitting/electronic-business-services>

- 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 a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) 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 (b) The manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions that 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 a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

3. In the case of a municipal, state or other public facility, by either the principal executive officer, the 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:

<https://epa.ohio.gov/divisions-and-offices/surface-water/guides-manuals/edmr-pin-information-and-application>

C. DMRs submitted using e-DMR shall be submitted to Ohio EPA by the 20th day of the month following the month-of-interest.

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 ensure 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.ohio.gov
Southwest District Office: swdo24hournpdes@epa.ohio.gov
Northwest District Office: nwdo24hournpdes@epa.ohio.gov
Northeast District Office: nedo24hournpdes@epa.ohio.gov
Central District Office: cdo24hournpdes@epa.ohio.gov
Central Office: co24hournpdes@epa.ohio.gov

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:

<https://epa.ohio.gov/divisions-and-offices/surface-water/permitting/individual-wastewater-discharge-permits>

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.ohio.gov
Southwest District Office: swdo24hournpdes@epa.ohio.gov
Northwest District Office: nwdo24hournpdes@epa.ohio.gov
Northeast District Office: nedo24hournpdes@epa.ohio.gov
Central District Office: cdo24hournpdes@epa.ohio.gov
Central Office: co24hournpdes@epa.ohio.gov

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:

<https://epa.ohio.gov/divisions-and-offices/surface-water/permitting/individual-wastewater-discharge-permits>

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 any time 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

Notwithstanding 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.

National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for **Metallus, Inc. (formerly TimkenSteel Corporation)**
(Final Version - Revised 2/29/2024)

Public Notice No.: 194369
Public Notice Date: January 18, 2024
Comment Period Ends: February 17, 2024

Ohio EPA Permit No.: 3ID00021*ND
Application No.: OH0004219

Name and Address of Applicant:

Metallus, Inc.
1835 Dueber Ave. SW
Canton, Ohio 44706

Name and Address of Facility Where
Discharge Occurs:

Metallus, Inc. - Canton
3100 Gambrinus Ave. SW
Canton, OH 44706
Stark County

Receiving Water: **Domer Ditch/Beal Run (RM 0.08)**

Subsequent Stream Network: **Hurford Run, Nimishillen Creek, Sandy Creek, Tuscarawas River,
Muskingum River, Ohio River**

INTRODUCTION

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations (CFR), Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency (Ohio EPA), as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This Fact Sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act (CWA) and Ohio Water Pollution Control Law (Ohio Revised Code [ORC] 6111). Decisions to award variances to Water Quality Standards (WQS) or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

Antidegradation provisions in Ohio Administrative Code (OAC) Chapter 3745-1 describe the conditions under which water quality may be lowered in surface waters. No antidegradation review was necessary.

Effluent limits based on available treatment technologies are required by Section 301(b) of the CWA. Many of these have already been established by the United States Environmental Protection Agency (U.S. EPA) in the effluent guideline regulations (a.k.a. categorical regulations) for industry categories in 40 CFR Parts 405-499. Technology-based regulations for publicly-owned treatment works are listed in the Secondary Treatment Regulations (40 CFR Part 133). If regulations have not been established for a category of dischargers, the director may establish technology-based limits based on best professional judgment (BPJ).

Ohio EPA reviews the need for water-quality-based limits on a pollutant-by-pollutant basis. Wasteload allocations (WLAs) are used to develop these limits based on the pollutants that have been detected in the discharge, and the receiving water's assimilative capacity. The assimilative capacity depends on the flow in the water receiving the discharge, and the concentration of the pollutant upstream. The greater the upstream flow, and the lower the upstream concentration, the greater the assimilative capacity is. Assimilative capacity may represent dilution (as in allocations for metals), or it may also incorporate the break-down of pollutants in the receiving water (as in allocations for oxygen-demanding materials).

The need for water-quality-based limits (WQBELs) is determined by comparing the WLA for a pollutant to a measure of the effluent quality. The measure of effluent quality is called Projected Effluent Quality (PEQ). This is a statistical measure of the average and maximum effluent values for a pollutant. As with any statistical method, the more data that exists for a given pollutant, the more likely that PEQ will match the actual observed data. If there is a small data set for a given pollutant, the highest measured value is multiplied by a statistical factor to obtain a PEQ; for example if only one sample exists, the factor is 6.2, for two samples - 3.8, for three samples - 3.0. The factors continue to decline as samples sizes increase. These factors are intended to account for effluent variability, but if the pollutant concentrations are fairly constant, these factors may make PEQ appear larger than it would be shown to be if more sample results existed.

SUMMARY OF PERMIT CONDITIONS

Based on the wasteload allocation process, new and/or revised effluent limits are proposed for copper, fluoride (30-day avg.), lead (30-day average), nickel (30-day avg.), selenium, silver (daily maximum), and zinc (daily maximum). A 36-month compliance schedule is included in the permit.

Annual chronic Whole Effluent Toxicity (WET) tests, with the determination of acute toxicity endpoints, is being added for *Ceriodaphnia dubia*.

The existing 40 CFR 122.44(a)(2) monitoring waivers are being continued for total cyanide and cadmium.

A new effluent limit, and associated 36-month compliance schedule, has been included for total residual chlorine.

A new monitoring requirement has been included for mercury.

The oil and grease reporting code has been revised.

Calculated Outfall 3ID00021099 has been added to allow for the reporting of median annual total phosphorus load from Metallus, Inc. - Canton.

To ensure that data is obtained that allows Ohio EPA to make water quality-related decisions, a special condition is proposed in Part II of the permit that provides guidance on the analytical method detection limits (MDLs) the permittee should use in analyzing for these contaminants.

In Part II of the permit, special conditions are included that address storm water compliance; whole effluent toxicity (WET) testing; dissolved metal translator (DMT) study; total toxic organic compliance options; method detection levels; pH excursions; and outfall signage.

Table of Contents

	Page
INTRODUCTION.....	1
SUMMARY OF PERMIT CONDITIONS	2
PROCEDURES FOR PARTICIPATION IN THE FORMULATION OF FINAL DETERMINATIONS	5
INFORMATION REGARDING CERTAIN WATER QUALITY BASED EFFLUENT LIMITS	5
LOCATION OF DISCHARGE/RECEIVING WATER USE CLASSIFICATION.....	7
FACILITY DESCRIPTION.....	7
DESCRIPTION OF EXISTING DISCHARGE	10
ASSESSMENT OF IMPACT ON RECEIVING WATERS	10
DEVELOPMENT OF WATER-QUALITY-BASED EFFLUENT LIMITS	12
REASONABLE POTENTIAL/ EFFLUENT LIMITS/HAZARD MANAGEMENT DECISIONS.....	15
OTHER REQUIREMENTS.....	19

List of Figures

Figure 1. Location of Metallus, Inc. - Canton.....	21
Figure 2. Location of Metallus, Inc. - Canton Outfall 3ID00021015.....	22
Figure 3. Wastewater Flows.....	23
Figure 4. Wastewater Flow Sources.....	24
Figure 5. Wastewater Treatment System Site Plan	25
Figure 6. Diagram of Wastewater Treatment System.....	26
Figure 7. Oil Processing System	27

List of Tables

Table 1. Monitoring Station, Treatment Processes, and Flow Rate.....	28
Table 2. Effluent Violations for Outfall 3ID00021015 (1/2018 - 12/2022).....	28
Table 3. Annual Effluent Flow Rates for Outfall 3ID00021015 (1/2018 - 12/2022).....	28
Table 4. Outfall 3ID00021015 Effluent Characterization Based on NPDES Form 2C Data.....	29

Table 5. Outfall 3ID00021015 Effluent Characterization Using DMR Data (1/2018 - 12/2022).....	31
Table 6. Projected Effluent Quality.....	32
Table 7. Summary of Acute Toxicity Results for Outfall 3ID00021015.....	33
Table 8. Aquatic Life Use Attainment Table	33
Table 9. Water Quality Criteria in the Study Area.....	34
Table 10. Instream Conditions and Discharger Flow.....	35
Table 11. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria.....	36
Table 12. Parameter Assessment.....	37
Table 13. Interim Effluent Limits for Outfall 3ID00021015	38
Table 14. Final Effluent Limits for Outfall 3ID00021015.....	40

List of Attachments

Attachment 1. Production Rates (2010 - 2021).....	42
Attachment 2. Applicable Federal Effluent Limitation Guidelines.....	43
Attachment 3. Calculation of Loading Limits for Outfall 3ID00021015 Using Effluent Limitation Guidelines.....	49
Attachment 4. Implementation of Limits	55
Attachment 5. List of Approved Cooling/Treatment Additives.....	56
Attachment 6. List of STORET Stations for Background Data	57

List of Addendums

Addendum 1. Acronyms	58
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PROCEDURES FOR PARTICIPATION IN THE FORMULATION OF FINAL DETERMINATIONS

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be emailed to HClerk@epa.ohio.gov or mailed to:

**Legal Records Section
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049**

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted by email to epa.dswcomments@epa.ohio.gov (preferred method) or delivered in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

**Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049**

The Ohio EPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. The first 250 pages copied are free. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

For additional information about this fact sheet or the draft permit, contact John Schmidt at 330-963-1175 or John.Schmidt@epa.ohio.gov.

INFORMATION REGARDING CERTAIN WATER QUALITY BASED EFFLUENT LIMITS

This draft permit may contain proposed water-quality-based effluent limits (WQBELs) for parameters that **are not** priority pollutants. (See the following link for a list of the priority pollutants: http://epa.ohio.gov/portals/35/pretreatment/Pretreatment_Program_Priority_Pollutant_Detection_Limits.pdf .) In accordance with ORC 6111.03(J)(3), the Director established these WQBELs after considering, to the extent consistent with the Federal Water Pollution Control Act, evidence relating to the technical feasibility and economic reasonableness of removing the polluting properties from those wastes and to evidence relating to

conditions calculated to result from that action and their relation to benefits to the people of the state and to accomplishment of the purposes of this chapter. This determination was made based on data and information available at the time the permit was drafted, which included the contents of the timely submitted NPDES permit renewal application, along with any and all pertinent information available to the Director.

This public notice allows the permittee to provide to the Director for consideration during this public comment period additional site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness for achieving compliance with the proposed final effluent limitations for these parameters. The permittee shall email to epa.dswcomments@epa.ohio.gov (preferred method) or deliver or mail this information to:

**Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049**

Should the applicant need additional time to review, obtain or develop site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness of achieving compliance with these limitations, a written request for any additional time shall be sent to the above address no later than 30 days after the Public Notice Date on Page 1.

Should the applicant determine that compliance with the proposed WQBELs for parameters other than the priority pollutants is technically and/or economically unattainable, the permittee may submit an application for a variance to the applicable WQS used to develop the proposed effluent limitation in accordance with the terms and conditions set forth in OAC 3745-33-07(D). The permittee shall submit this application to the above address no later than 30 days after the Public Notice Date.

Alternately, the applicant may propose the development of site-specific WQS pursuant to OAC 3745-1-39. The permittee shall submit written notification regarding their intent to develop site specific WQS for parameters that are not priority pollutants to the above address no later than 30 days after the Public Notice Date.

LOCATION OF DISCHARGE/RECEIVING WATER USE CLASSIFICATION

Metallus, Inc. Corporation - Canton (Metallus, Inc. - Canton) discharges to Domer Ditch (aka Beal Run) via Outfall 3ID00021015 at River Mile (RM) 0.08. Figure 1 shows the approximate location of the facility.

This segment of Domer Ditch (Beal Run) is described by Ohio EPA River Codes: 17-460-002, 12-digit Watershed Unit Assessment (WAU) Code: 050400010505, County: Stark, Ecoregion: Erie/Ontario Lake Hills & Plains. Domer Ditch (Beal Run) is designated for the following uses under Ohio's WQS (OAC 3745-1-24): Warmwater Habitat (WWH), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Secondary Contact Recreation (SCR).

Domer Ditch (Beal Run) enters Hurford Run at RM 1.72. This segment of Hurford Run is described by Ohio EPA River Code: 17-460-001, WAU: 050400010505, County: Stark, Ecoregion: Erie/Ontario Lake Hills & Plains. At the point of confluence with Domer Run, Hurford Run is designated for the following uses under Ohio's WQS (OAC 3745-1-24): Limited Resource Water, AWS, IWS, and Secondary Contact Recreation. Immediately downstream of the confluence, Hurford Run is designated for Modified Warmwater Habitat (RM 1.71 - 0.8) and Warmwater Habitat (RM 0.8 - confluence with Nimishillen Creek).

Use designations define the goals and expectations of a waterbody. These goals are set for aquatic life protection, recreation use and water supply use, and are defined in the Ohio WQS (OAC 3745-1-07). The use designations for individual waterbodies are listed in rules -08 through -32 of the Ohio WQS. Once the goals are set, numeric WQS are developed to protect these uses. Different uses have different water quality criteria.

Use designations for aquatic life protection include habitats for coldwater fish and macroinvertebrates, warmwater aquatic life and waters with exceptional communities of warmwater organisms. These uses all meet the goals of the federal CWA. Ohio WQS also include aquatic life use designations for waterbodies which cannot meet the CWA goals because of human-caused conditions that cannot be remedied without causing fundamental changes to land use and widespread economic impact. The dredging and clearing of some small streams to support agricultural or urban drainage is the most common of these conditions. These streams are given Modified Warmwater or Limited Resource Water designations.

Recreation uses are defined by the depth of the waterbody and the potential for wading or swimming. Uses are defined for bathing waters, swimming/canoeing (Primary Contact Recreation) and wading only (Secondary Contact which are generally waters too shallow for swimming or canoeing).

Water supply uses are defined by the actual or potential use of the waterbody. Public Water Supply designations apply near existing water intakes so that waters are safe to drink with standard treatment. Most other waters are designated for agricultural water supply and industrial water supply.

FACILITY DESCRIPTION

Metallus, Inc. - Canton produces carbon steel, alloy and micro-alloy steel in the form of specialty bar, seamless mechanical tubing, value-add components, billets and bottom-poured ingots. Production takes place in three distinct steel manufacturing facilities, referred to as the Faircrest Steel Mill (Faircrest), Gambrinus Steel Mill (Gambrinus), and Harrison Steel Mill (Harrison). A fourth facility, Gambrinus Roller Bearing Mill, now discharges all flows to the

municipal sanitary sewer system under an industrial pretreatment permit issued by the City of Canton. Major production processes include melting scrap steel in electric arc furnaces (EAFs), refining melted steel by adding alloying agents and additives prior to casting, continuous casting, reheating steel prior to rolling, vacuum degassing, hot forming, cold forming, cutting, alkaline cleaning, and limited pickling. The production rates for the respective facilities, for the period 2010 - 2021, are shown in Attachment 1.

The process operations at Metallus, Inc. - Canton are classified under the Standard Industrial Classification (SIC) category 3312, “Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills.”

Faircrest Steel Plant

Faircrest manufactures alloy steel blooms, billets, and bars. At the end of 2014, a bloom vertical caster was added to the process line. The industrial processes at the facility include:

- Vacuum Degassing
- Continuous Caster (vertical)
- Forge Press
- Hot Forming (Blooming Mill and Billet Mill)
- Scarfing

Harrison Steel Plant

Harrison manufactures specialty carbon and alloy steels in the forms of billets and bars. The industrial processes at the facility include:

- Vacuum Degassing
- Continuous Caster
- Hot Forming (Billet Mill and two Bar Mills)

Gambrinus Steel Plant

Gambrinus manufactures specialty alloy steel tubing (seamless). In 2013, a new intermediate finishing line (IFL) was added to Gambrinus. The industrial processes at the facility include:

- Hot Forming (Piercing Mills)
- Water Blasting (IFL)
- Thermal Treatment / Quenching (IFL)
- Cold Forming (Cold Draw)

Potable water from the City of Canton is utilized in the plants' processes. Metallus, Inc. - Canton also maintains groundwater wells to meet its process water needs. Sanitary waste is discharged to the City of Canton Water Reclamation Facility's collection system and therefore is not subject to the requirements of this permit.

All stormwater-only outfalls at Metallus, Inc. - Canton are presently covered under the NPDES Industrial Storm Water General Permit No. 3GR00394*GG, which was renewed on September 1, 2022, and therefore are not subject to the requirements of this permit.

The process wastewaters generated from the respective facility operations are regulated under the following Title 40 of the Code of Federal Regulations (40 CFR) categories:

- 40 CFR 420, "Iron and Steel Manufacturing Point Source Category"
 - Subpart E, "Vacuum Degassing Subcategory"
 - Subpart F, "Continuous Casting Subcategory"
 - Subpart G, "Hot Forming Subcategory"
 - Subpart J, "Cold Forming Subcategory"
- 40 CFR 433, "Metal Finishing Point Source Category"
 - Subpart A, "Metal Finishing Subcategory"

Process wastewaters from all four facilities are routed to Metallus, Inc. - Canton's Water Treatment Plant (WTP). The collection system consists of pump stations at each facility. The contributing flows from the respective steel plants are depicted in Figures 3 and 4.

The Metallus, Inc. - Canton WTP, constructed in 1978 and last modified in 2019, consists of by the following processes (See Figs. 5 - 7):

- Oil waste treatment process
- Coagulation (aluminum chloride & polymer)
- Clarification/Settling (three 1-million gallon clarifiers)
- pH adjustment (sulfuric acid & hydrochloric acid)
- Cooling (cooling towers & storage reservoir)
- Supplemental chemical addition (Alum)
- Filtration (four 1,750 gpm deep bed filters)
- Sludge dewatering (vacuum filters)

As depicted in Figure 4, treatment begins with the addition of a coagulant (e.g. aluminum chloride) at the splitter box of the WTP, followed by anionic polymer in the parallel 35,000-gallon flash mix tanks, and subsequent settling in the clarifiers. The clarifier effluent flows to a cooling tower supply sump, where water

can be pumped to a cooling tower in the warmer months (or is bypassed when not needed). Sulfuric acid and/or hydrochloric acid can be added for pH control prior to the 2-million gallon storage reservoir. Approximately 90 percent of the treated wastewater is recycled from the reservoir to meet the process water supply needs of the three steel mills (approx. 12,500 gpm); approx. 3,000 gpm is supplemented by either City water or the onsite industrial water supply well. Excess water (aka blowdown) from the system is treated with alum and filtered through the deep bed filters prior to the discharge via Outfall 3ID00021015.

Oily and coolant wastewaters are received separately via truck and treated through the oil waste processing system (see Figure 5). Treatment includes a series of two 3,000-gallon mixing tanks where alum and polymer are added, a 1,000-gallon corrugated plate separator, and a dissolved air flotation (DAF) unit. Polymer is also added to the DAF to aid in flotation. The collected used oil is directed to a 6,000-gallon Final Used Oil Accumulation Tank; the oil is hauled for recycle or reuse. Effluent from the DAF unit goes to the headworks the WTP.

Sludge treatment includes pumping solids from the clarifiers to a vacuum filter, with filtrate recycled to the plant headworks. The filter cake is hauled as a nonhazardous solid waste to a licensed landfill. In 2018, Metallus, Inc. instituted a side stream process for iron removal from specific sludges. Iron bearing sludge is manually dewatered for sale as a usable product.

DESCRIPTION OF EXISTING DISCHARGE

Table 1 provides a summary of the wastewater sources and treatment systems utilized at Outfall 3ID00021015.

Table 2 summarizes recent effluent violations at Outfall 3ID00021015 for the period, January 2018 to December 2022.

Table 3 provides the annual flow rates for Outfall 3ID00021015 for the period, January 2018 to December 2022. A design flow rate of 3.5 MGD is used in the wasteload calculations and loading calculations.

Table 4 summarizes select data compiled from the NPDES permit renewal application Form 2C.

Table 5 presents a summary of unaltered data from the facility's monthly Discharge Monitoring Reports (DMRs). Data is presented for the for the period, January 2018 to December 2022. The current NPDES permit limits are provided for comparison.

Table 6 summarizes the chemical specific data for Outfall 3ID00021015 by presenting the average and maximum PEQ values.

Table 7 summarizes the results of acute Whole Effluent Toxicity (WET) tests for Outfall 3ID00021015 using *Ceriodaphnia Dubia* (water flea).

ASSESSMENT OF IMPACT ON RECEIVING WATERS

The stream segments associated with Metallus, Inc. - Canton's effluent discharge (Domer Ditch and Hurford Run) have been identified as a priority impaired water on Ohio's 303(d) list.

An assessment of the impact of a permitted point source on the immediate receiving waters includes an evaluation of the available chemical/physical, biological, and habitat data which have been collected by Ohio EPA pursuant to the Five-Year Basin Approach for Monitoring and NPDES Reissuance. Other data may be used provided it was collected in accordance with Ohio EPA methods and protocols as specified by the Ohio WQS and Ohio EPA guidance documents. Other information which may be evaluated includes, but is not limited to: NPDES permittee self-monitoring data; effluent and mixing zone bioassays conducted by Ohio EPA, the permittee, or U.S. EPA.

In evaluating this data, Ohio EPA attempts to link environmental stresses and measured pollutant exposure to the health and diversity of biological communities. Stresses can include pollutant discharges (permitted and unpermitted), land use effects, and habitat modifications. Indicators of exposure to these stresses include whole effluent toxicity tests, fish tissue chemical data, and fish health biomarkers (for example, fish blood tests).

Use attainment is a term which describes the degree to which environmental indicators are either above or below criteria specified by the Ohio WQS (OAC 3745-1). Assessing use attainment status for aquatic life uses primarily relies on the Ohio EPA biological criteria (OAC 3745-1-07; Table 7-15). These criteria apply to rivers and streams outside of mixing zones. Numerical biological criteria are based on measuring several characteristics of the fish and macroinvertebrate communities; these characteristics are combined into multimetric biological indices including the Index of Biotic Integrity and modified Index of Well-Being, which indicate the response of the fish community, and the Invertebrate Community Index, which indicates the response of the macroinvertebrate community. Numerical criteria are broken down by ecoregion, use designation, and stream or river size. Ohio has five ecoregions defined by common topography, land use, potential vegetation and soil type.

Three attainment status results are possible at each sampling location -full, partial, or non-attainment. Full attainment means that all of the applicable indices meet the biocriteria. Partial attainment means that one or more of the applicable indices fails meet the biocriteria. Nonattainment means that either none of the applicable indices meet the biocriteria or one of the organism groups indicates poor or very poor performance. An aquatic life use attainment table (see Table 8) is constructed based on the sampling results and is arranged from upstream to downstream and includes the sampling locations indicated by river mile, the applicable biological indices, the use attainment status (i.e., full, partial, or non), the Qualitative Habitat Evaluation Index, and comments and observations for each sampling location.

The Total Maximum Daily Load (TMDL) program, established under Section 303(d) of the Clean Water Act, focuses on identifying and restoring polluted rivers, streams, lakes and other surface water bodies. TMDLs are prepared for waters identified as impaired on the 303(d) list in the Integrated Report. A TMDL is a written, quantitative assessment of water quality problems in a water body and contributing sources of pollution. It specifies the amount a pollutant needs to be reduced to meet water quality standards (WQS), allocates pollutant load reductions, and provides the basis for taking actions needed to restore a water body. Ohio EPA typically focuses on watersheds in preparing TMDLs.

Ohio EPA conducted a biological and water quality survey of Nimishillen Creek and tributaries in 2003, 2004 and 2005 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants. Based on the survey data, the “Total Maximum Daily Loads for the Nimishillen Creek Watershed” report was developed and subsequently approved by U.S. EPA on December 16, 2009. According to the TMDL, the relevant segments of

Nimishillen Creek Watershed, including Hurford Run, are impaired for thermal pollution, ammonia, and pH due to the following major causes: flow alteration, wastewater treatment plant discharges, nutrients, crop production, habitat, siltation, and septic tanks (see Table 8).

TMDLs were prepared for phosphorus, habitat, and bacteria. Recommendations in the Nimishillen TMDL include:

- total phosphorus limits for wastewater facilities discharging more than 100,000 gallons per day
- agricultural conservation practices for abating sediment, nutrient and manure pollution
- local health departments identify and address septic system failures and provide educational opportunities
- stream setbacks, controls for subsurface drainage, less damaging channel maintenance, and stream restoration to improve or protect habitat quality

The TMDL report can be found at the following Ohio EPA website:

https://epa.ohio.gov/static/Portals/35/tmdl/NimishillenCreekTMDL_final_oct09_wo_app.pdf

The TMDL recommends phosphorus limits of 0.27 mg/L and 3.58 kg/day for Metallus, Inc. - Canton. Based on the information in Table 5, the calculated 95th percentile phosphorus concentration at Outfall 3ID00021015 is 0.205 mg/L. This information supports that Metallus, Inc. - Canton is in compliance with the TMDL recommendation. Therefore, implementation of an effluent limit is not necessary.

DEVELOPMENT OF WATER-QUALITY-BASED EFFLUENT LIMITS

Determining appropriate effluent concentrations is a multiple-step process in which parameters are identified as likely to be discharged by a facility, evaluated with respect to Ohio water quality criteria, and examined to determine the likelihood that the existing effluent could violate the calculated limits.

Parameter Selection

Effluent data for the Metallus, Inc. - Canton were used to determine what parameters should undergo WLA. The parameters discharged are identified by the data available to Ohio EPA DMR data submitted by the permittee, compliance sampling data collected by Ohio EPA, and any other data submitted by the permittee, such as priority pollutant scans required by the NPDES application or by pretreatment, or other special conditions in the NPDES permit. The sources of effluent data used in this evaluation are as follows:

Self-monitoring data (DMR)	January 2018 through December 2022
NPDES Application Form 2C Data	2021/2022

Non-Representative Data and Statistical Outliers

The data were examined and no values were removed from the evaluation.

This data is evaluated statistically, and PEQ values are calculated for each pollutant. Average PEQ (PEQ_{avg}) values represent the 95th percentile of monthly average data, and maximum PEQ (PEQ_{max}) values represent the 95th percentile of all data points (see Table 6).

The PEQ values are used according to Ohio rules to compare to applicable WQS and allowable WLA values for each pollutant evaluated. Initially, PEQ values are compared to the applicable average and maximum WQS. If both PEQ values are less than 25 percent of the applicable WQS, the pollutant does not have the reasonable potential to cause or contribute to exceedances of WQS, and no WLA is done for that parameter. If either PEQ_{avg} or PEQ_{max} is greater than 25 percent of the applicable WQS, a WLA is conducted to determine whether the parameter exhibits reasonable potential and needs to have a limit or if monitoring is required (see Table 9).

For more information on PEQ calculations, see Modeling Guidance #1 at the following webpage:

<https://epa.ohio.gov/static/Portals/35/guidance/model1.pdf>

Wasteload Allocation

For those parameters that require a WLA, the results are based on the uses assigned to the receiving waterbody in OAC 3745-1. Dischargers are allocated pollutant loadings/concentrations based on the Ohio WQS (OAC 3745-1). Most pollutants are allocated by a mass-balance method because they do not degrade in the receiving water. For free flowing streams, WLAs using this method are done using the following general equation: Discharger WLA = (downstream flow x WQS) - (upstream flow x background concentration). Discharger WLAs are divided by the discharge flow so that the allocations are expressed as concentrations.

The applicable waterbody uses for this facility's discharge and the associated stream design flows are as follows:

Aquatic life (Warmwater Habitat)		
Toxics (metals, organics, etc.)	Average	Annual 7Q10
	Maximum	Annual 1Q10
Ammonia	Average	Summer 30Q10
		Winter 30Q10
Agricultural Water Supply		Harmonic mean flow
Human Health (nondrinking)		Harmonic mean flow

Allocations are developed using a percentage of stream design flow as specified in Table 10. The resultant allocations cannot exceed the Inside Mixing Zone Maximum (IMZM) criteria.

The data used in the WLA are listed in Table 9 and Table 10. The WLA results to maintain all applicable criteria are presented in Table 11.

Whole Effluent Toxicity WLA

Whole effluent toxicity (WET) is the total toxic effect of an effluent on aquatic life measured directly with a toxicity test. Acute WET tests measure survival and mortality of the test organism over a short time period (48- or 96-hours). Chronic WET tests measure survival and mortality, as well as effects on growth and reproduction over a longer period of the test organism's life.

WQS for WET are expressed in Ohio's narrative "free from" WQS rule [OAC 3745-1-04(D)]. These "free froms" are translated into toxicity units (i.e. TU_a and TU_c) for use in NPDES permits by the associated WQS Implementation Rule (OAC 3745-2-09). The translation results in numeric values of 0.3 TU_a and 1.0 TU_c. WLAs can then be calculated using these values as if they were water quality criteria.

There are two separate reasonable potential procedures in Ohio - one for the Lake Erie watershed and one for the Ohio River watershed. Dischargers in the Ohio River watershed are assessed using OAC 3745-33-07(B). Dischargers in the Lake Erie watershed are assessed in accordance with the "Great Lakes Water Quality Initiative Implementation Procedures" contained in [40 CFR Part 132, Appendix F, Procedure 6](#).

The WLA calculations for WET are similar to those for aquatic life criteria - using the chronic toxicity unit (TU_c) and 7Q10 flow for the average and the acute toxicity unit (TU_a) and 1Q10 flow for the maximum. WET WLAs are based on meeting the values of 0.3 TU_a and 1.0 TU_c downstream of the discharge, and include any available dilution. These values are the levels of effluent toxicity that should not cause instream toxicity during critical low-flow conditions. WLAs for acute toxicity are capped at 1.0 TU_a unless the discharger demonstrates that an Area-of-Initial-Mixing (AIM) exists under OAC 3745-2-08, or that one of the factors in OAC 3745-33-07(B)(5)-(9) allows a higher TU_a limit to be granted. For the purposes of establishing WET limitations, the values of 1.0 TU_a and 1.0 TU_c are the most restrictive limitations that can be applied in NPDES permits [OAC 3745-33-07(B)(10)].

For Metallus, Inc. - Canton, the WLA values for Outfall 3ID00021015 are 0.3 TU_a and 1.01 TU_c.

The chronic toxicity unit (TU_c) is defined as 100 divided by the estimate of the effluent concentration which causes a 25% reduction in growth or reproduction of test organisms (IC₂₅):

$$TU_c = 100/IC_{25}$$

This equation 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):

$$TU_c = 100/\text{geometric mean of No Observed Effect Concentration and Lowest Observed Effect Concentration}$$

The acute toxicity unit (TU_a) is defined as 100 divided by the concentration in water having 50% chance of causing death to aquatic life (LC₅₀) for the most sensitive test species:

$$TU_a = 100/LC_{50}$$

This equation applies outside the mixing zone for all designated waters. Based on the above, a value of 1.0 TU_a is the lowest value that can be calculated using the equation. TU_a values between 0.2 and 1.0 are based on an interpolation of toxic effects where an LC₅₀ cannot be identified.

When the acute WLA is less than 1.0 TU_a, it may be defined as:

<u>Dilution Ratio</u> (<u>downstream flow to discharger flow</u>)	<u>Allowable Effluent Toxicity</u> (<u>percent effects in 100% effluent</u>)
up to 2 to 1	30
greater than 2 to 1 but less than 2.7 to 1	40
2.7 to 1 to 3.3 to 1	50

$$Acute\ Dilution\ Ratio = \frac{[[1Q10] + [Outfall\ flow\ rate]]}{[Outfall\ flow\ rate]} = \frac{[0.04 + 5.42]}{[5.42]} = 1.01$$

The acute WLA for Metallus, Inc. - Canton is 30 percent mortality in 100 percent effluent based on the dilution ratio of 1.01 to 1.

REASONABLE POTENTIAL/ EFFLUENT LIMITS/HAZARD MANAGEMENT DECISIONS

After appropriate effluent limits are calculated, the reasonable potential of the discharger to violate the WQS must be determined. Each parameter is examined and placed in a defined "group". Parameters that do not have a WQS or do not require a WLA based on the initial screening are assigned to either group 1 or 2. For the allocated parameters, the preliminary effluent limits (PEL) based on the most restrictive average and maximum WLAs are selected from Table 11. The average PEL (PEL_{avg}) is compared to the average PEQ (PEQ_{avg}) from Table 6, and the PEL_{max} is compared to the PEQ_{max}. Based on the calculated percentage of the allocated value [(PEQ_{avg} ÷ PEL_{avg}) X 100, or (PEQ_{max} ÷ PEL_{max}) X 100], the parameters are assigned to group 3, 4, or 5. The groupings are listed in Table 12.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 13 and Table 13 present the interim and the final effluent limits and monitoring requirements proposed for Metallus, Inc. - Canton Outfall 3ID00021015 and the basis for their recommendation. Unless otherwise indicated, the monitoring frequencies proposed in the permit are continued from the existing permit.

Flow Rate

Monitoring for this parameter is proposed to continue in order to evaluate the performance of the treatment plant.

pH Minimum, pH Maximum, and pH Range Excursions

Limits proposed for pH, i.e. 6.5 - 9.0 S.U., are based on Ohio WQS (OAC 3745-1-07).

Metallus, Inc. - Canton continuously measures the pH of wastewater discharged via Outfall 3ID00021015. Pursuant to 40 CFR 401.17, permittees that continuously measure pH are required to maintain the pH of such wastewater within the specified permit range, except that excursions from the range are permitted subject to the following limitations and conditions:

- (1) The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and*
- (2) No individual excursion from the range of pH values shall exceed 60 minutes.*

An excursion is defined as “an unintentional and temporary incident in which the pH value of discharge wastewater exceeds the range set forth” in the NPDES permit.

Water Temperature

Monitoring requirements are proposed to continue for water temperature. A review of the discharge data indicates that Metallus, Inc. - Canton no longer has the reasonable potential to exceed WQS criteria in OAC 3745-1-07, Table 7-14(A).

Total Suspended Solids, Oil and Grease, Cadmium, Chromium, Copper, Total Cyanide, Lead, Nickel, Silver, Zinc, and Total Toxic Organics (TTO)

The industrial process discharges at Metallus, Inc. - Canton are subject to ELGs which require production-based and/or flow-based loading limits for these parameters. Unless a monitoring waiver has been requested by Metallus, Inc. - Canton and approved by Ohio EPA in accordance with 40 CFR 122.44(a)(2), all of these parameters require limits regardless of parameter grouping (Table 12). In the case of cadmium and total cyanide, monitoring waivers were granted in the previous permit. The waivers were based on sampling data demonstrating that these two parameters were either not present in the discharge and/or not detected above background concentrations. Based on the October 26, 2023 request from Metallus, Inc. - Canton, the monitoring waivers are being reauthorized in this permit renewal. This determination is based on the information previously provided in support of the current waiver and the lack of operational changes impacting this information.

The final effluent limitations are based on application of the most stringent limit between treatment plant design criteria, WQBELs, ELGs, Metallus, Inc. - Canton's highest historically-permitted limit, and the antibacksliding (ABS) provisions in OAC 3745-33-05(F). See Attachment 2 for example calculations and limit comparison.

Based on the WLA process, the following new and/or revised WQBELs are recommended for copper, lead, nickel, silver, and zinc:

- Copper - 27 µg/L (30-day Average) and 44 µg/L (Daily Maximum)
- Lead - 30 µg/L (30-day Average)
- Nickel – 151 µg/L (30-day Average)
- Silver - 13 µg/L (Daily Maximum)
- Zinc - 342 µg/L (Daily Maximum)

A 36-month compliance schedule is included in the permit to meet these new limits. In the interim, limits based on the existing permit shall be enforced.

If monitoring is necessary to measure compliance with the TTO standard, Metallus, Inc. - Canton need analyze for only those pollutants listed in 40 CFR 433.11 which would reasonably be expected to be present. (See *TTO Certification Alternative* below).

Oil and Grease

The daily maximum limits proposed for oil and grease are based on WQS (OAC 3745-1-07). These limits are protective of the ELG criteria. In addition, the parameter reporting code has been revised to 00552 to better align with current analytical method(s).

Fluoride, Selenium, and Total Residual Chlorine

The Ohio EPA risk assessment (Table 12) places fluoride, selenium, and total residual chlorine (TRC) in group 5. This placement, as well as the data in Tables 5, 6, and 11, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For these parameters, the PEQ is greater than 100 percent of the WLA and certain conditions exist that increase the risk to the environment. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1). A 36-month compliance schedule is proposed to meet the final effluent limits.

In the case of TRC, the risk assessment is based on one data point from the NPDES application. Therefore, the PEQ values calculated may not be representative of actual levels in the effluent discharge. The collection of additional data will help determine sources of TRC, the variability of the pollutant in the discharge, and potential for environmental risk. Only the daily maximum effluent limit is recommended for this parameter.

Total Filterable Residue (Total Dissolved Solids) and Iron

The Ohio EPA risk assessment (Table 12) places these parameters in group 4. This placement, as well as the data in Tables 5, 6, and 11, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring for group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2). Monitoring for TDS shall continue on a monthly basis.

In the case of iron, the “Method A” PEQ calculation appears to over-represent the level of the parameter in the discharge. The single reported analytical value of 810 µg/L is significantly less than 25% of the iron WQS of 5000 µg/L. Based on this additional analysis, this parameter does not have the reasonable potential to contribute to WQS exceedances. Therefore, no new monitoring requirements are recommended for iron.

Phosphorus

The TMDL report listed nutrient enrichment as one of the major causes of impairment and industrial point source is listed among the “high magnitude” sources of impairment at the Sherrick Run – Nimishillen Creek watershed assessment unit. The TMDL also recommended phosphorus limits for Metallus, Inc. - Canton. However, Ohio EPA is not proposing limits for total phosphorus at this time. Phosphorus reductions from other sources are being evaluated as the first phase of the implementation of the TMDL recommendations. Considering this information, quarterly monitoring for phosphorus is recommended to continue. The monitoring data will be utilized to track any trends in point source contributions of phosphorus.

Mercury

The applicable mercury WQS is 12 ng/L. The NPDES application data presented in Table 4, i.e. <0.2 µg/L or < 200 ng/L, indicates that the permittee did not use a sufficiently-sensitive laboratory analytical method for this parameter. Semi-annual monitoring will be required to demonstrate that this parameter does not have the reasonable potential to contribute to WQS exceedances,

Boron and Molybdenum

The assessment for each of these parameters is based on one data point. Therefore, the PEQ values calculated may not be representative of actual levels in the effluent discharge. Using the discretion allowed the Director under OAC 3745-33-07(A)(5), no new monitoring requirements are proposed.

Aluminum, Magnesium, Manganese, and Sulfates

Due to a lack of numeric criteria, these parameters could not be evaluated at this time for reasonable potential.

Whole Effluent Toxicity (WET) Reasonable Potential

Given the nature of the discharge from Metallus, Inc. - Canton, *Ceriodaphnia dubia* was selected as the more sensitive species to determine Whole Effluent Toxicity (WET). A review of the WET data presented in Table 7 indicates that all of acute values were less than the analytical detection level, i.e. 0.2 TUa. Based on evaluating this and other pertinent data under the provisions of OAC 3745-33-07(B), Metallus, Inc. - Canton is placed in Category 4 with respect to

WET. This placement indicates that reasonable potential for acute toxicity is not demonstrated with respect to *C. dubia*. Based on this determination and the limited downstream dilution, it is recommended that annual chronic WET tests be added to the permit. In lieu of performing separate acute WET tests, acute toxicity endpoints will be determined as part of the chronic test.

OTHER REQUIREMENTS

Nimishillen Creek TMDL Report Tracking - Calculated Outfall 3ID00021099 has been added to the permit. This fictitious station will allow for reporting/tracking of the median annual total phosphorus load to the Nimishillen Creek watershed from Metallus, Inc. - Canton.

Compliance Schedule - A 36-month compliance schedule is proposed for Metallus, Inc. - Canton to meet the new and/or revised effluent limits for total residual chlorine, copper, fluoride, lead, nickel, selenium, silver, and zinc. Details are in Part I.C of the permit.

Dissolved Metal Translator Study - If the permittee chooses to develop a DMT or water-effect ratio for copper, lead, silver, and zinc at Outfall 3ID00021015, the permittee shall follow the schedule presented in Part II of the permit.

Total Toxic Organics (TTO) Certification Alternative

Under 40 CFR 433.12, Metallus, Inc. - Canton may elect to adopt and implement a toxic organic management plan (TOMP) to certify compliance in lieu of monitoring for TTO. To request the certification alternative, Metallus, Inc. - Canton shall submit for review and approval a TOMP that specifies the following:

- Toxic organic compounds used, generated and stored, including the maximum quantities used;
- A pollution prevention assessment;
- The method of disposal used, such as reclamation, contract hauling, or incineration; and
- Procedures for ensuring that toxic organics do not routinely spill or leak into process wastewater, floor drains, non-contact cooling water, ground water or surface waters.

Upon approval of the TOMP, certification statements are to be submitted with each eDMR. An approved plan is only valid for the term of the permit. Re-evaluation of the wastestream and an updated TOMP shall be submitted once every permit cycle.

Treatment and Maintenance Chemicals

OAC 3745-33-03 (C) states that “the applicant shall attach to the application a list of chemicals or substances that the applicant proposes to add to the wastewater being or to be discharged including, but not limited to, maintenance chemicals and chemicals used to aid in the treatment of the wastewater.” The list of chemicals provided by Metallus, Inc. - Canton is included as

(*) - Values do not account for all regulated sources and, therefore, are not used in derivation of effluent limits.

Method Detection Limit Reporting

The Method Detection Limit (MDL) represents the minimum concentration at which we can be confident that a pollutant is present, i.e. above zero, in a discharge. The Quantification Level (QL) is the minimum concentration at which we can be confident that the numerical result is accurate. Minimum Level (ML) and Practical Quantification Level (PQL) are specific ways to measure the QL. In general, Ohio law requires that Ohio EPA use PQL as the quantification level in NPDES permits, and sets PQL at 5 times the MDL for the most sensitive test method (ORC 6111.13). This statute also allows the director to set other PQLs and MDLs based on a national consensus standard or other generally accepted standard.

When submitting Discharge Monitoring Reports (DMRs), NPDES permit holders must report all detected concentration values above the MDL, even if that value is below the QL. A detection above the MDL indicates the presence of a pollutant, with strong confidence, which must be considered when performing a reasonable potential analyses.

For more information on MDLs, see Modeling Guidance #9 at the following webpage:
https://epa.ohio.gov/static/Portals/35/guidance/permit_9.pdf

Sufficiently Sensitive Method

Part II of the permit includes a condition requiring the permittee to use laboratory analytical methods with a sufficiently sensitive MDL. All detected concentration values above the MDL must be reported.

Storm Water Compliance

To comply with industrial storm water regulations, the permittee obtained coverage under the Ohio NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (aka Multi-Sector General Permit or MSGP) No. OHR000007 (Effective Date: June 1, 2022; Expiration Date: May 31, 2027). Renewal coverage under MSGP was issued on September 1, 2022 as 3GR00394*GG. Unless prompted by Ohio EPA, the permittee must continue with renewal coverage under the MSGP or make other provisions to comply with the industrial storm water regulations.

Outfall Signage

Part II of the permit includes requirements for the permittee to place and maintain a sign at each outfall to outfall to the receiving stream providing information about the discharge. Signage at outfalls is required pursuant to OAC 3745-33-08(A).

Figure 1. Location of Metallus, Inc. - Canton

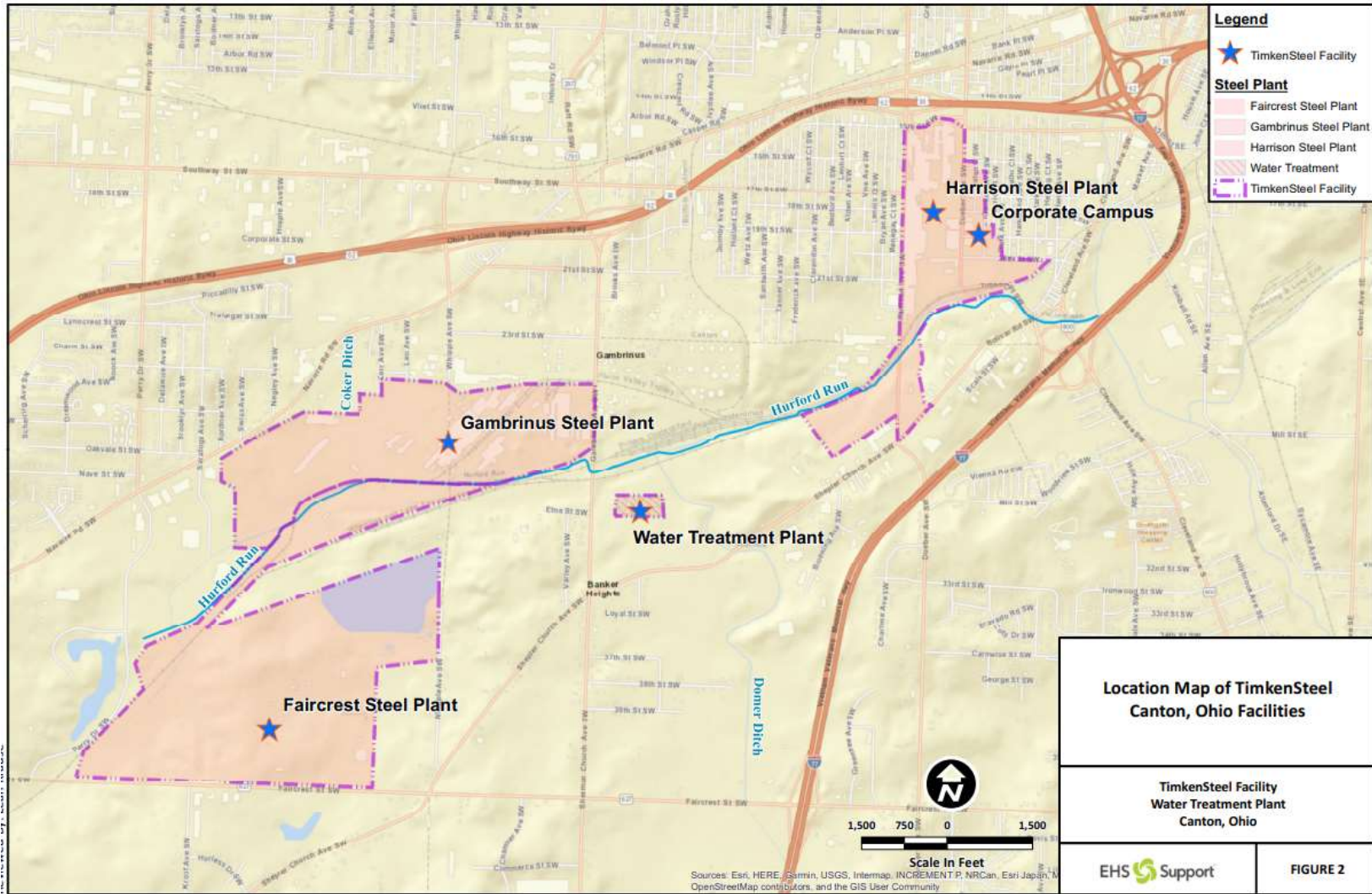
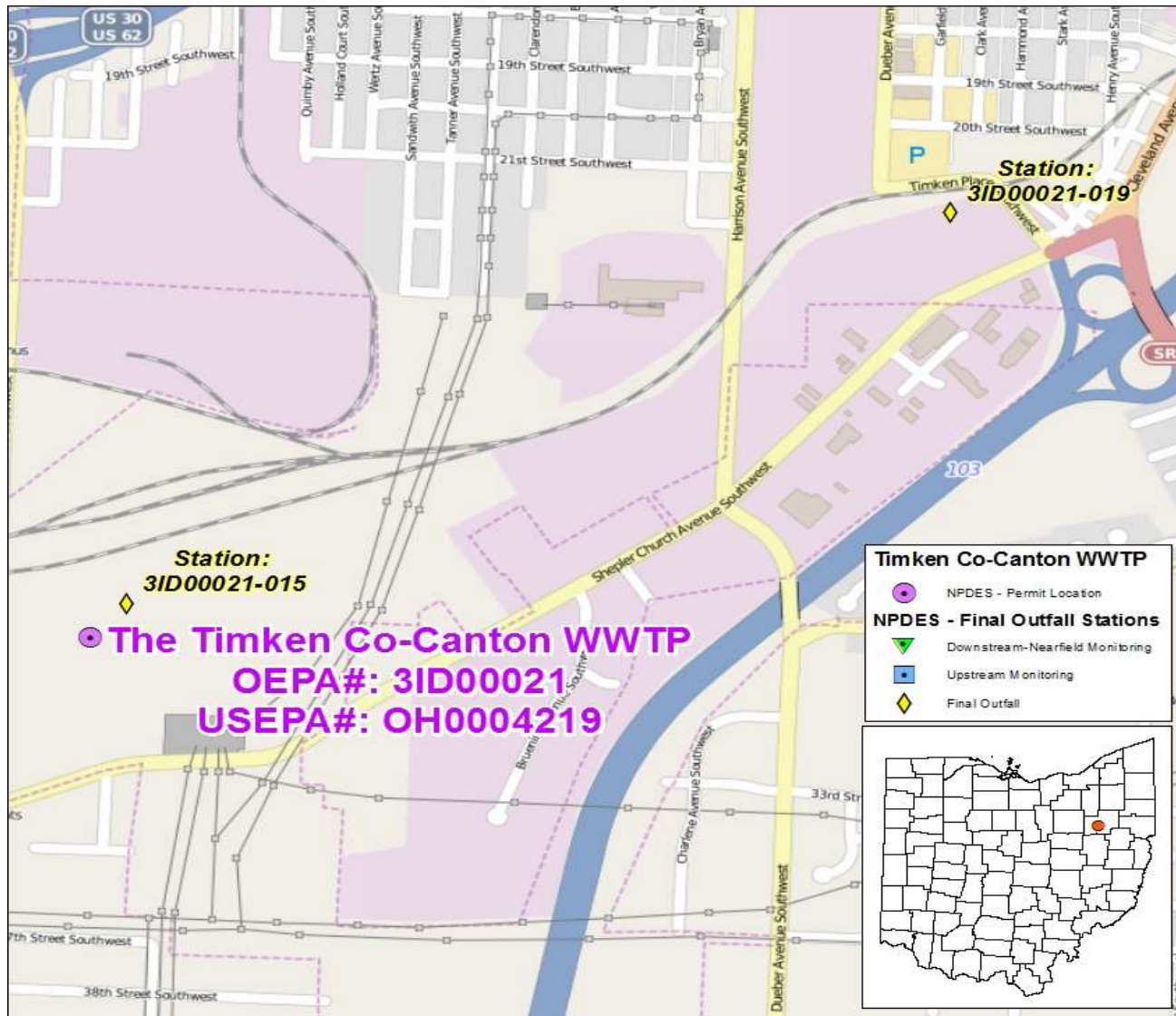


Figure 2. Location of Metallus, Inc. - Canton Outfall 3ID00021015



Note: Outfall 3ID00021-019 no longer discharges process wastewater and no longer requires coverage under this permit.

Figure 3. Wastewater Flows

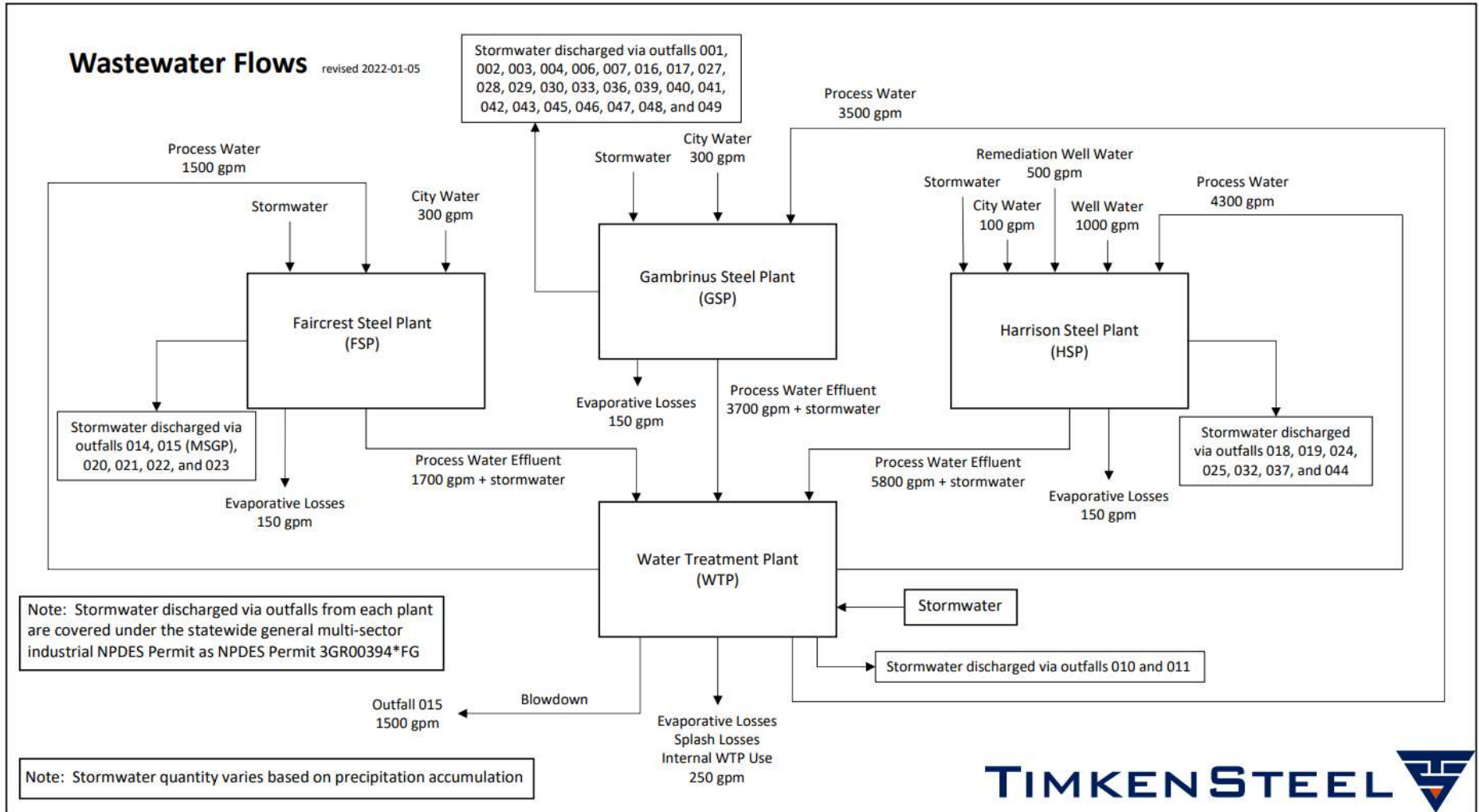
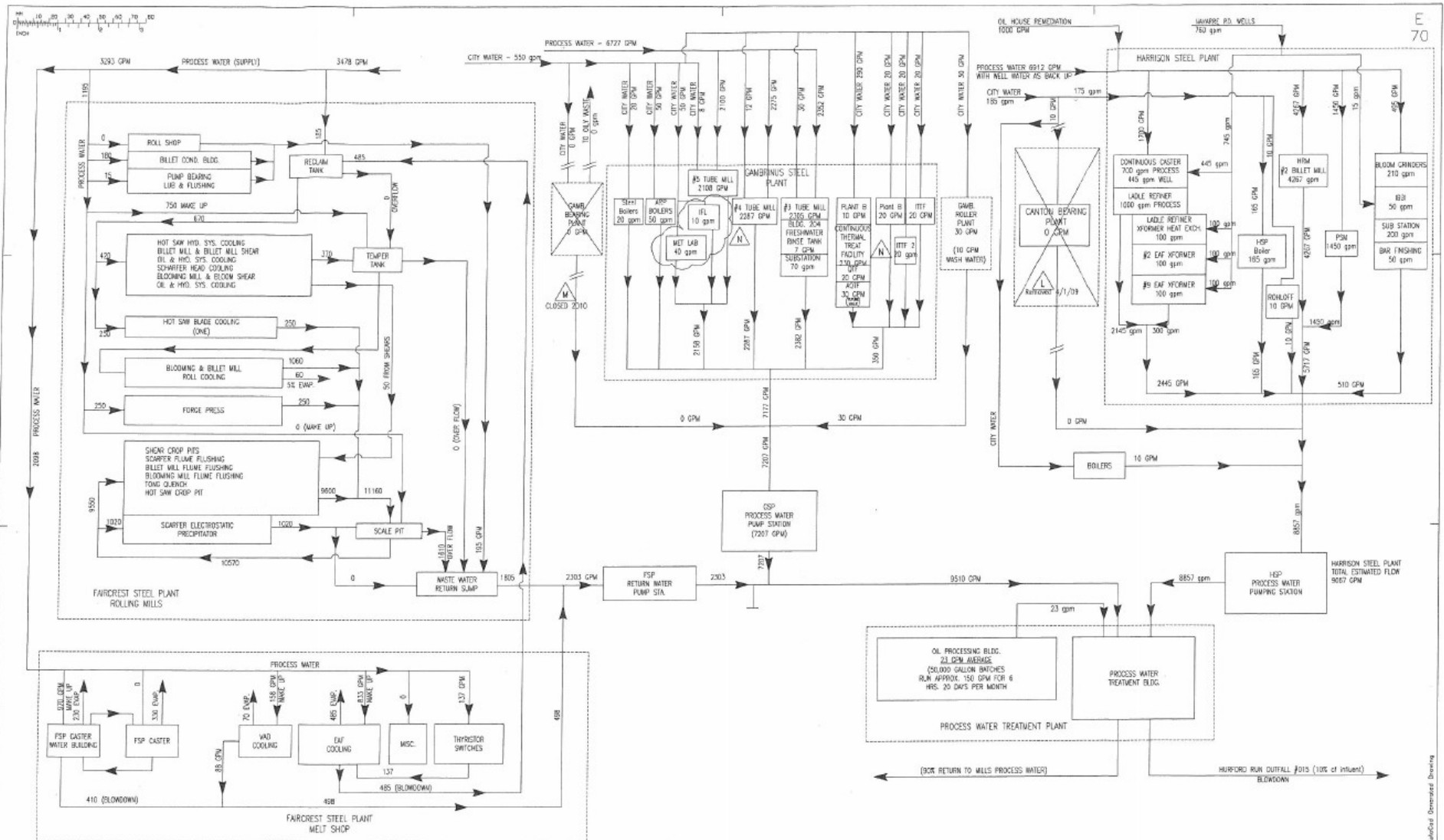


Figure 4. Wastewater Flow Sources



*As of July 2016, the temper tank (3740 gpm) and mold cooling tower at Faircrest Steel Plant do not discharge to Outfall 31D00021015.

Figure 5. Wastewater Treatment System Site Plan

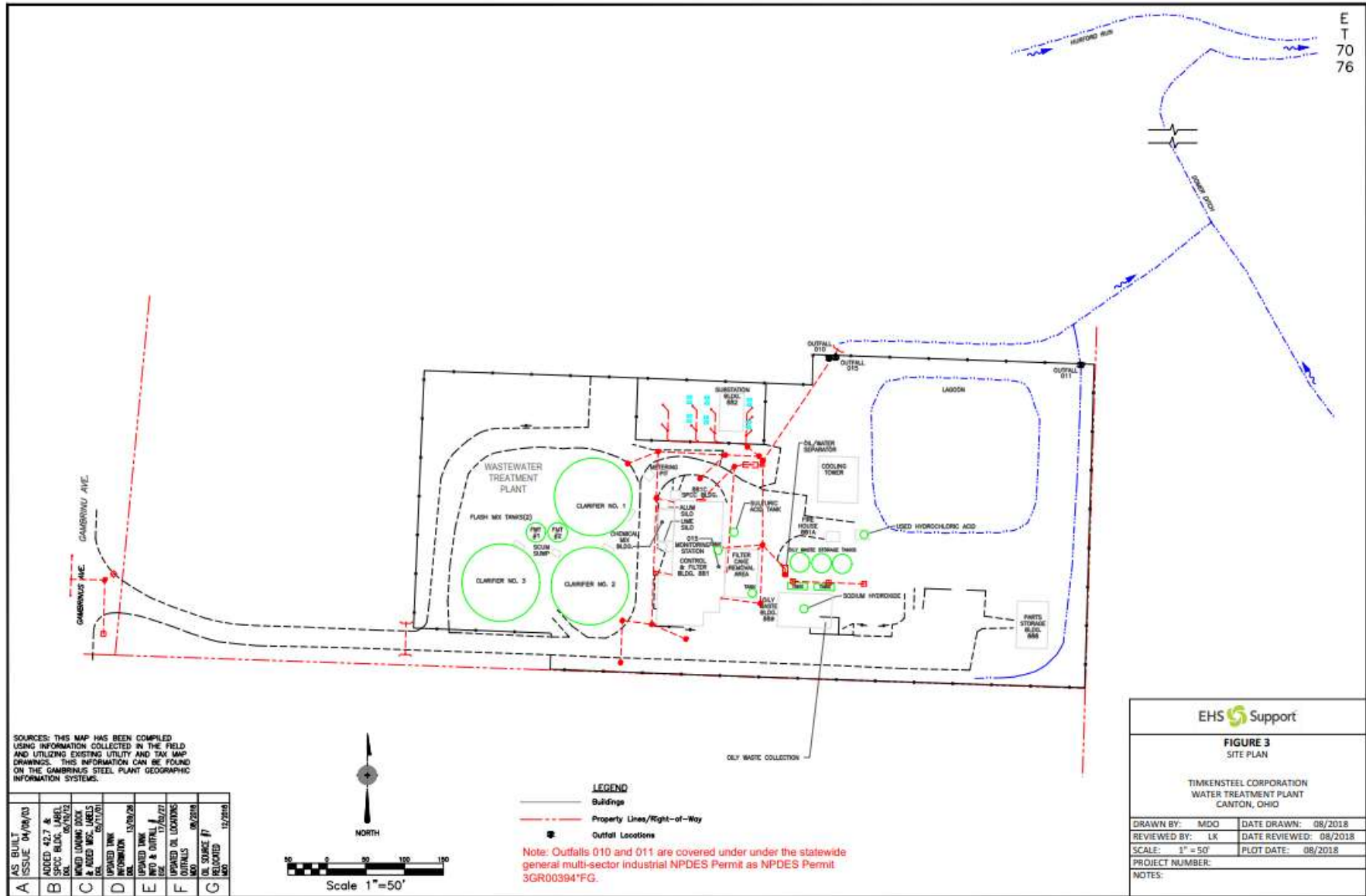


Figure 6. Diagram of Wastewater Treatment System

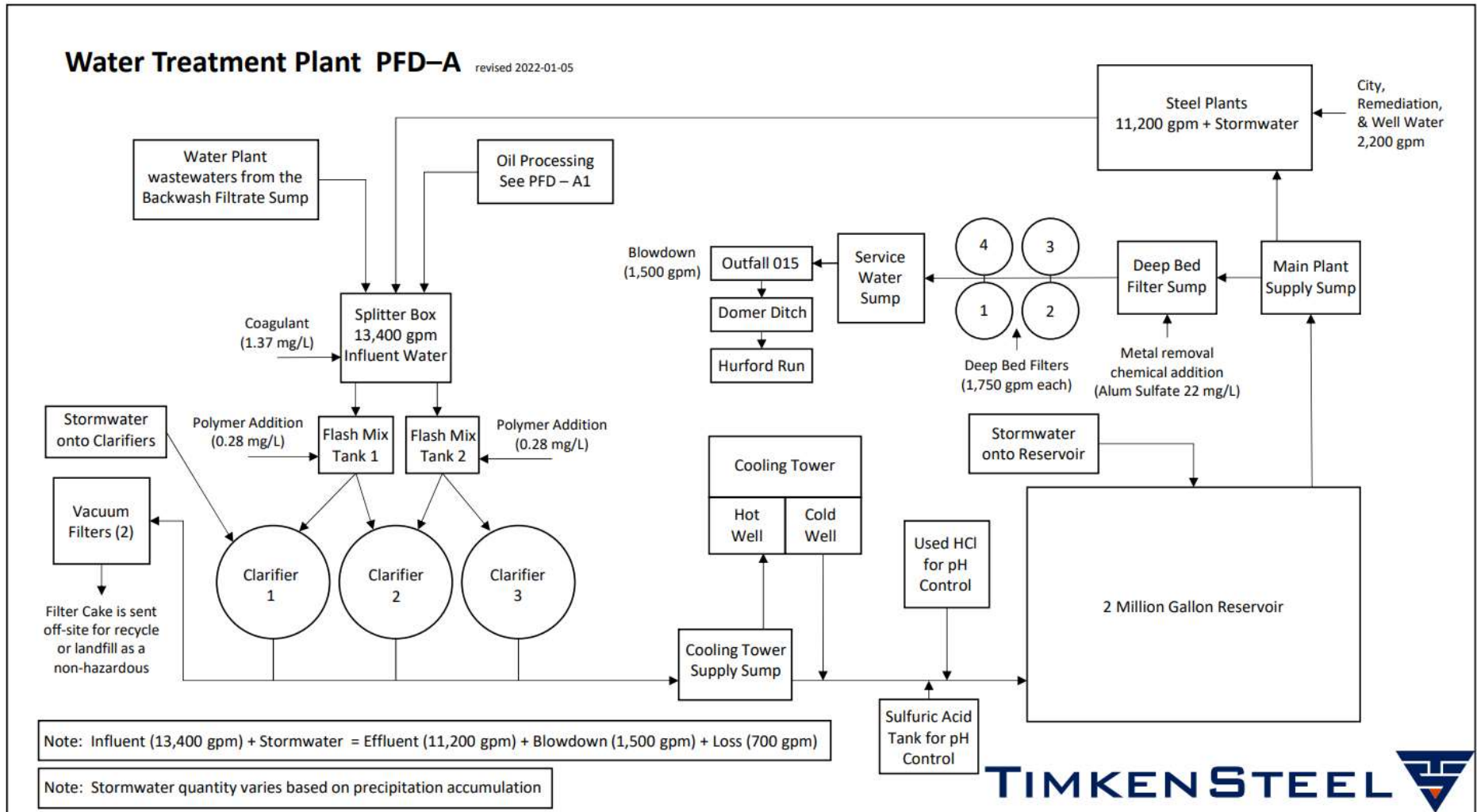


Figure 7. Oil Processing System

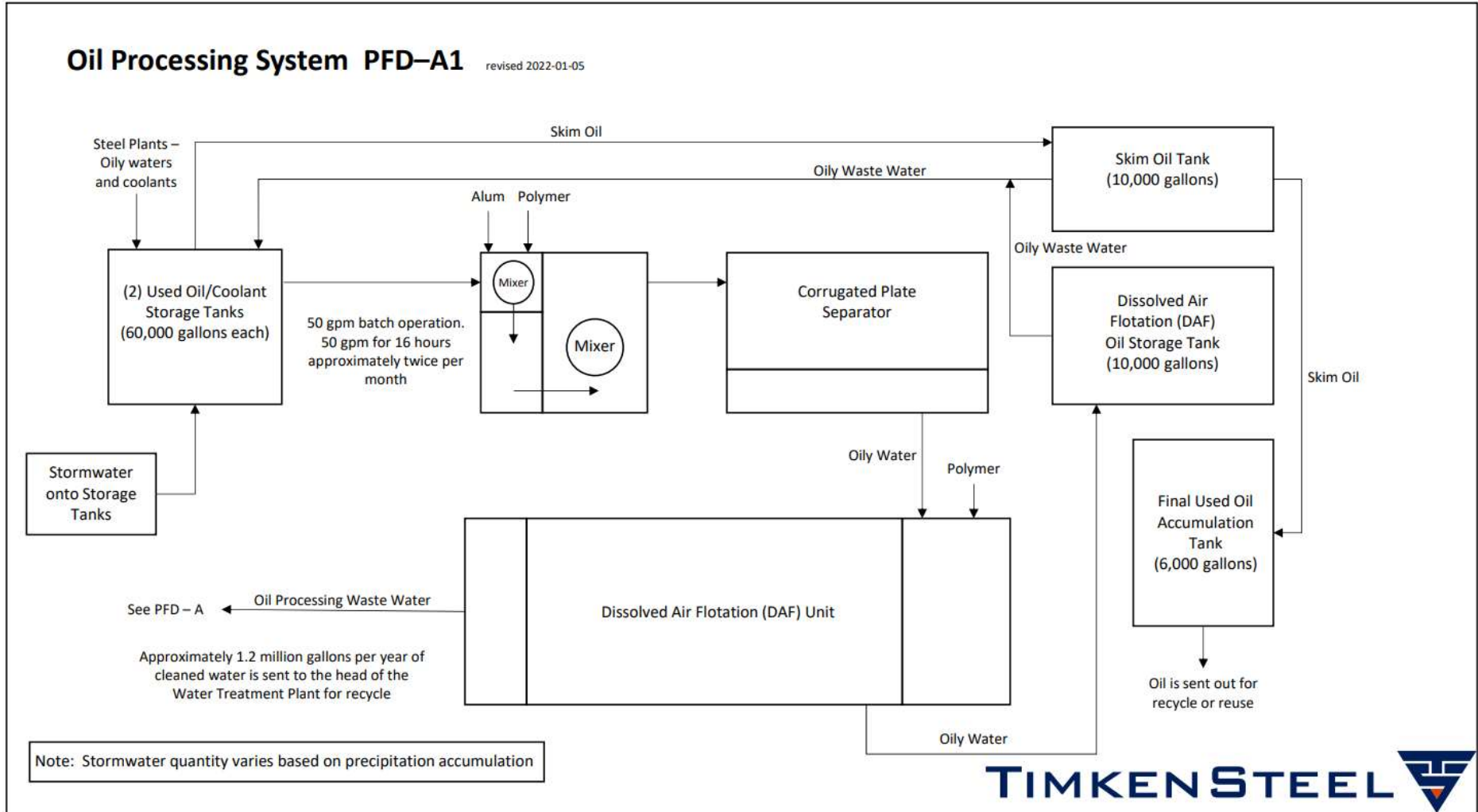


Table 1. Monitoring Station, Treatment Processes, and Flow Rate

Outfall	Wastewater Source	Treatment Utilized	Average Flow Rate (MGD)
3ID00021015	Process wastewater Non-contact cooling water Stormwater	Chemical Coagulation/Precipitation Settling Filtration Cooling	3.5 (Design)

Table 2. Effluent Violations for Outfall 3ID00021015 (1/2018 - 12/2022)

Parameter	2018	2019	2020	2021	2022
Lead, Total (Pb)	1	0	0	0	0
Oil and Grease, Total	0	3	0	0	0
Total Suspended Solids	0	0	0	1	0
Zinc, Total (Zn)	2	0	0	0	1
Total	3	3	0	1	1

Table 3. Annual Effluent Flow Rates for Outfall 3ID00021015 (1/2018 - 12/2022)

Year	# obs.	Flow Rate (Million Gallons per Day)			
		Average	Median	95th Percentile	Maximum
2018	365	3.54	3.61	4.27	4.99
2019	365	3.08	3.25	4.17	5.44
2020	366	2.63	2.63	3.84	4.46
2021	365	2.10	1.83	4.55	5.67
2022	365	1.60	1.32	3.34	4.29

MGD = million gallons per day

Table 4. Outfall 3ID00021015 Effluent Characterization Based on NPDES Form 2C Data

Parameter	Units	Daily Maximum		30 Day Max.		Long-Term Avg.		Analyses
		Concentration	Mass (lbs/day)	Concentration	Mass (lbs/day)	Conc	Mass (lbs/day)	
Biochemical Oxygen Demand (BOD)	mg/L	<2.0	--	--	--	--	--	1
Chemical Oxygen Demand (COD)	mg/L	19	--	--	--	--	--	1
Total Organic Carbon (TOC)	mg/L	5.0	--	--	--	--	--	1
Total Suspended Solids	mg/L	9	157.25	3.8	--	1.16	--	57
Ammonia	mg/L	<0.20	--	--	--	--	--	1
Flow	MGD	5.672		4.331		2.571		396
Temperature (Winter)	°C	25.7		22.41		--		396
Temperature (Summer)	°C	29.2		26.49		--		396
pH (minimum)	S.U.	7.63	--	7.23	--	--	--	396
pH (maximum)	S.U.	7.84	--	7.49	--	--	--	396
Bromide	mg/L	<0.50	--	--	--	--	--	1
Chlorine, Total Residual	mg/L	0.06	--	--	--	--	--	1
Fluoride	mg/L	3	51.24	3	--	1.705	--	13
Nitrate+Nitrite	mg/L	<0.05	--	--	--	--	--	1
Total Organic Nitrogen	mg/L	0.44	--	--	--	--	--	1
Oil & Grease	mg/L	<5.8	--	--	--	--	--	57
Phosphorus	mg/L	<0.1	--	--	--	--	--	4
Sulfate	mg/L	250	--	--	--	--	--	1
Sulfide	mg/L	<3.0	--	--	--	--	--	1
Sulfite	mg/L	<5.0	--	--	--	--	--	1
Aluminum	µg/L	350	--	--	--	--	--	1
Barium	µg/L	<200	--	--	--	--	--	1
Boron	µg/L	260	--	--	--	--	--	1

Parameter	Units	Daily Maximum		30 Day Max.		Long-Term Avg.		Analyses
		Concentration	Mass (lbs/day)	Concentration	Mass (lbs/day)	Conc	Mass (lbs/day)	
Cobalt	µg/L	<10	--	--	--	--	--	1
Iron	µg/L	810	--	--	--	--	--	1
Magnesium	µg/L	41000	--	--	--	--	--	1
Molybdenum	µg/L	160	--	--	--	--	--	1
Manganese	µg/L	380	--	--	--	--	--	1
Tin	µg/L	<100	--	--	--	--	--	1
Titanium	µg/L	<50	--	--	--	--	--	1
Antimony	µg/L	<10	--	--	--	--	--	1
Arsenic	µg/L	<10	--	--	--	--	--	1
Beryllium	µg/L	<5.0	--	--	--	--	--	1
Cadmium	µg/L	<2.0	--	--	--	--	--	1
Chromium	µg/L	2.6	21.504	--	--	--	--	4
Copper	µg/L	16	438.084	16	--	--	--	13
Lead	µg/L	13	548.930	--	--	--	--	4
Mercury	µg/L	<0.2	--	--	--	--	--	1
Nickel	µg/L	33	655.564	--	--	--	--	4
Selenium	µg/L	4.2	177.347	--	--	--	--	4
Silver	µg/L	2.5	67.763	1.04	0.644	--	--	50
Thallium	µg/L	<10	--	--	--	--	--	1
Zinc	µg/L	380	1255.02	179	93.84	--	--	57
Cyanide	µg/L	<0.01	--	--	--	--	--	1
Phenols	µg/L	<0.04	--	--	--	--	--	1
Methylene Chloride	µg/L	37	--	--	--	--	--	1

Table 5. Outfall 31D00021015 Effluent Characterization Using DMR Data (1/2018 - 12/2022)

Parameter	Unit	Current Limits		# Obs.	Percentiles		Data Range
		30 Day	Daily		50th	95th	
Water Temperature	°C	Monitor		1826	22.2	27.6	10.8 - 32.3
Total Suspended Solids	kg/day	133	397	260	< 34.9	71.5	0 - 128
Total Suspended Solids	mg/L	10	30	260	< 2.2	8	0 - 40
Oil and Grease, Total	kg/day	31.8	133	260	< 31.6	< 31.6	0 - 581
Oil and Grease, Total	mg/L	--	10	260	< 4.8	< 4.8	0 - 62
Phosphorus, Total	mg/L	Monitor		19	< .1	.205	0 - .34
Fluoride, Total (F)	mg/L	Monitor		60	1.6	3.01	.71 - 3.4
Selenium, TR	µg/L	Monitor		31	< 2	7.1	0 - 15
Chromium, Total (Cr)	kg/day	1.43	4.23	20	< .00812	.0514	0 - .0615
Chromium, Total (Cr)	µg/L	108	319	20	< 2	4.22	0 - 4.5
Copper, Total (Cu)	kg/day	0.397	0.689	61	.0741	.207	.0171 - .333
Copper, Total (Cu)	µg/L	30	52	61	8.1	16	2.6 - 32
Lead, Total (Pb)	kg/day	0.42	2.13	20	.0699	.294	0 - .433
Lead, Total (Pb)	µg/L	32	161	20	7.25	25.1	0 - 26
Nickel, Total (Ni)	kg/day	2.27	6.08	20	.3	.565	.102 - .747
Nickel, Total (Ni)	µg/L	171	459	20	25.5	48.2	14 - 51
Silver, Total (Ag)	kg/day	0.366	0.656	155	< .00105	.0204	0 - .0358
Silver, Total (Ag)	µg/L	27.6	49.5	155	< .5	1.66	0 - 3.7
Zinc, Total (Zn)	kg/day	2.8	5.21	262	.639	2.87	0 - 4.54
Zinc, Total (Zn)	µg/L	211	393	262	75	220	0 - 500
Selenium, Total (Se)	µg/L	Monitor		4	--	--	< 2
Flow Rate	MGD	Monitor		1826	2.71	4.11	.001 - 5.67
Acute Toxicity, Ceriodaphnia dubia	TUa	Monitor		5	--	--	< .2
pH, Maximum	S.U.	--	9.0	1826	7.24	7.57	6.95 - 8.22
pH, Minimum	S.U.	--	6.5 ^m	1826	7.08	6.91*	6.53 - 7.7
Residue, Total Filterable	mg/L	Monitor		61	890	1100	650 - 1300
Total Toxic Organics	kg/day	--	3.25	60	0	.244	0 - .388
Total Toxic Organics	µg/L	--	245	60	0	17.2	0 - 37

* = For pH minimum and dissolved oxygen, 5th percentile shown in place of 95th percentile.

DMR = Discharge Monitoring Report

TR = Total Recoverable

w = weekly average

m = Minimum limit

Table 6. Projected Effluent Quality

Parameter	Units	Number of Samples	Number > MDL	PEQ Average	PEQ Maximum
Aluminum	µg/L	1	1	1584.1	2170
Boron	µg/L	1	1	1176.8	1612
Chlorine, Total Residual	mg/L	1	1	0.27	0.37
Chromium - TR	µg/L	20	9	3.6	5.8
Copper - TR	µg/L	61	61	14.9	21.6
Total Dissolved Solids	mg/L	61	61	1025.7	1162.3
Fluoride	mg/L	60	60	2.4	3.3
Iron - TR	µg/L	1	1	3666.1	5022
Lead - TR	µg/L	20	19	27.8	48.9
Magnesium	mg/L	1	1	185566	254200
Manganese - TR	µg/L	1	1	1719.9	2356
Molybdenum	µg/L	1	1	724.2	992
Nickel - TR	µg/L	20	20	40	54.8
Selenium - TR	µg/L	47	18	7.1	11.1
Silver	µg/L	155	62	1.2	1.9
Sulfates	mg/L	1	1	1131.5	1550
Zinc - TR	µg/L	262	248	170.2	251

MDL = analytical method detection limit

PEQ = projected effluent quality

TR = Total Recoverable

Table 7. Summary of Acute Toxicity Results for Outfall 3ID00021015

Date	<i>Ceriodaphnia Dubia</i>
	TU _a
7/10/2018	AA (0.2)
7/17/2019	AA (0.2)
7/13/2020	AA (0.2)
7/7/2021	AA (0.2)
7/6/2022	AA (0.2)

AA = non-detection; analytical method detection limit of 0.2 TU_a
 TU_a = acute toxicity unit

Table 8. Aquatic Life Use Attainment Table

Location	Study Year	River Mile	Use	Status	Causes	Sources
Hurford Run at Canton, Near Mouth	2003	0.10	WWH	Non	Water temperature Ammonia pH Other	Industrial point sources Channelization Urban runoff Agriculture
Nimishillen Creek at Canton @ Eighth St.	2005	14.17	WWH	Partial	Nutrients Flow alteration	Spills Septic systems
Nimishillen Creek Upstream Sherrick Run @ Bauhof Park	2005	11.10	WWH	Partial		Subsurface mining Municipal point sources

WWH = warmwater habitat

Note: Hurford Run confluence is at RM 11.56 of Nimishillen Creek

Table 9. Water Quality Criteria in the Study Area

Parameter	Units	Outside Mixing Zone Criteria				Inside Mixing Zone Maximum
		Average			Maximum Aquatic Life	
		Human Health	Agri-culture	Aquatic Life		
Aluminum	µg/L	--	--	--	--	--
Boron	µg/L	--	--	3900	33000	65000
Cadmium - TR	µg/L	--	50	6.4	18	36
Chlorine, Total Residual	mg/L	--	--	0.011	0.019	0.038
Chromium - TR	µg/L	--	100	230	4900	9800
Copper - TR	µg/L	1300	500	27	44	89
Total Dissolved Solids	mg/L	--	--	1500	--	--
Fluoride	mg/L	--	2	--	--	--
Iron - TR	µg/L	--	5000	--	--	--
Lead - TR	µg/L	--	100	30	580	1200
Magnesium	mg/L	--	--	--	--	--
Manganese - TR	µg/L	--	--	--	--	--
Molybdenum	µg/L	--	--	20000	190000	370000
Nickel - TR	µg/L	4600	200	150	1300	2600
Selenium - TR	µg/L	11000	50	5	62	120
Silver	µg/L	--	--	1.3	13	26
Sulfates	mg/L	--	--	--	--	--
Zinc - TR	µg/L	69000	25000	340	340	680

Table 10. Instream Conditions and Discharger Flow

Parameter	Units	Season	Value	Basis
Stream Flows				
1Q10	cfs	annual	0.0365	USGS StreamStats Delineation; Domer Ditch @ River Mile 0.08
7Q10	cfs	annual	0.0478	
Harmonic Mean	cfs	annual	0.41	
Mixing Assumption	%	average	100	WLA Procedure
		maximum	100	WLA Procedure
<i>Hardness, IMZ/OMZ</i>	mg/L	annual	340	Canton WRF Station 3PE00000901; 1/2018 - 12/2022; n=60; median value
<i>pH</i>	S.U.	summer	7.9	Canton WRF Station 3PE00000801; 1/2018 - 12/2022; n=20; 75th percentile
		winter	8.0	Canton WRF Station 3PE00000801; 1/2018 - 12/2022; n=14; 75th percentile
<i>Temperature</i>	°C	summer	21	Canton WRF Station 3PE00000801; 1/2018 - 12/2022; n=20; 75th percentile
		winter	9.0	Canton WRF Station 3PE00000801; 1/2018 - 12/2022; n=14; 75th percentile
<i>Metallus, Inc. flow</i>	cfs (mgd)	annual	5.4 (3.5)	NPDES Application (Design Flow)
Background Water Quality				
Aluminum	µg/L		0	*; 2006-12; n=16; 16<MDL
Boron	µg/L		0	No representative data available
Chlorine, Total Residual	mg/L		0	No representative data available
Chromium - TR	µg/L		0	*; 2006-12; n=16; 16<MDL
Copper - TR	µg/L		0.5	*; 2006-12; n=16; 13<MDL; median value
Total Dissolved Solids	mg/L		445	*; 2006-12; n=16; 0<MDL; median value
Fluoride	mg/L		0	No representative data available
Iron - TR	µg/L		446	*; 2006-12; n=16; 0<MDL; median value
Lead - TR	µg/L		0	*; 2006-12; n=16; 16<MDL
Magnesium	mg/L		17.5	*; 2006-12; n=16; 0<MDL; median value
Manganese - TR	µg/L		172.5	*; 2006-12; n=16; 0<MDL; median value
Molybdenum	µg/L		0	No representative data available
Nickel - TR	µg/L		0.5	*; 2006-12; n=16; 11<MDL; median value
Selenium - TR	µg/L		0	*; 2006-12; n=16; 16<MDL
Silver	µg/L		0	No representative data available
Sulfates	mg/L		70.1	*; 2006-12; n=16; 0<MDL; median value

Zinc – TR	µg/L		2.5	*; 2006-12; n=16; 14<MDL; median value
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Canton WRF = City of Canton Water Reclamation Facility

MDL = analytical method detection limit

USGS = United States Geological Survey

WLA = wasteload allocation

* Background stream data was not available for this specific site. Therefore, the WLA was calculated with background data from stations listed in Attachment 6.

Table 11. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria

Parameter	Units	Outside Mixing Zone Criteria				Inside Mixing Zone Maximum
		Average			Maximum Aquatic Life	
		Human Health	Agri-culture	Aquatic Life		
Aluminum	µg/L	--	--	--	--	--
Boron	µg/L	--	--	3934	33222	65000
Cadmium - TR	µg/L	--	54	6.5	18	36
Chlorine, Total Residual	mg/L	--	--	0.011	0.019	0.038
Chromium - TR	µg/L	--	108	232	4933	9800
Copper - TR	µg/L	1398	538	27	44	89
Dissolved Solids	mg/L	--	--	1509	--	--
Fluoride	mg/L	--	2.2	--	--	--
Iron - TR	µg/L	--	5345	--	--	--
Lead - TR	µg/L	--	108	30	584	1200
Magnesium	mg/L	--	--	--	--	--
Manganese - TR	µg/L	--	--	--	--	--
Molybdenum	µg/L	--	--	20177	191281	370000
Nickel - TR	µg/L	4948	215	151	1309	2600
Selenium - TR	µg/L	11833	54	5	62	120
Silver	µg/L	--	--	1.3	13	26
Sulfates	mg/L	--	--	--	--	--
Zinc - TR	µg/L	74224	26893	343	342	680

Table 12. Parameter Assessment

Group 1:	Due to a lack of numeric criteria, the following parameters could not be evaluated at this time.		
	Aluminum Sulfates	Magnesium	Manganese - TR
Group 2:	PEQ < 25 percent of WQS or all data below minimum detection limit. WLA not required. No limit recommended; monitoring optional.		
	Chromium - TR	Molybdenum	
Group 3:	PEQ _{max} < 50 percent of maximum PEL and PEQ _{avg} < 50 percent of average PEL. No limit recommended; monitoring optional.		
	Boron	Nickel - TR	
Group 4:	PEQ _{max} ≥ 50 percent, but < 100 percent of the maximum PEL or PEQ _{avg} ≥ 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.		
	Copper - TR Zinc - TR	Total Dissolved Solids	Iron - TR
Group 5:	Maximum PEQ ≥ 100 percent of the maximum PEL or average PEQ ≥ 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.		

<u>Limits to Protect Numeric Water Quality Criteria</u>			
<i>Parameter</i>	<i>Units</i>	<i>Recommended Effluent Limits</i>	
		<i>Average</i>	<i>Maximum</i>
Chlorine, Total Residual	mg/L	0.011	0.019
Fluoride	mg/L	2.2	--
Lead - TR	µg/L	30	584
Selenium - TR	µg/L	5	62
Silver	µg/L	1.3	13

Lead - TR and Silver become Group 5 parameters based upon the loading test [OAC 3745-2-06(B)].

PEL = preliminary effluent limit
 PEQ = projected effluent quality
 WLA = wasteload allocation
 WQS = water quality standard

Table 13. Interim Effluent Limits for Outfall 3ID00021015

Parameter	Units	Concentration		Loading (kg/day) ^a		Basis ^b
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Water Temperature	°C	----- Monitor -----				M ^c
Flow Rate	MGD	----- Monitor -----				M ^c
Total Suspended Solids	mg/L	10	30	133	397	PD, ABS, BTJ
Oil and Grease	mg/L	--	10	31.8	133	ELG, WQS, BTJ
Phosphorus	mg/L	----- Monitor -----				BTJ
Fluoride ^e	mg/L	--	--	--	--	RP, WQS
Chromium	µg/L	108	319	1.43	4.23	WLA, ELG, AD
Copper ^e	µg/L	30	52	0.397	0.689	WLA
Lead ^e	µg/L	32	161	0.42	2.13	WLA, ELG, AD
Nickel ^e	µg/L	171	459	2.27	6.08	WLA, ELG, AD
Selenium ^e	µg/L	--	--	--	--	WLA
Silver ^e	µg/L	1.3	17	0.017	0.226	WLA
Zinc ^e	µg/L	211	393	2.80	5.21	WLA, ELG, AD
Total Toxic Organics	µg/L	--	245	--	3.25	ELG, AD
Chlorine, Total Residual ^e	mg/L	--	--	--	--	WLA
Mercury	ng/L	----- Monitor -----				BTJ
Total Filterable Residue (Total Dissolved Solids)	mg/L	----- Monitor -----				RP
Acute Toxicity <i>Ceriodaphnia dubia</i>	TU _a	----- Monitor -----				WET
Chronic Toxicity <i>Ceriodaphnia dubia</i>	TU _c	----- Monitor -----				WET
pH Minimum ^d	SU	----- Monitor -----				WQS
pH Maximum ^d	SU	----- Monitor -----				WQS
pH Range Excursion, Maximum Duration ^d	Minutes	--	60	--	--	CFR
pH Range Excursion, > 60 Minutes ^d	#/Day	--	0	--	--	CFR
pH Range Excursions, Monthly Total Duration ^d	Minutes	--	446	--	--	CFR

^a Effluent loadings based on a flow rate of 3.5 MGD.

^b **Definitions:** ABS = antibacksliding provisions in OAC 3745-33-05(F)
 BTJ = Best Technical Judgment
 CFR = 40 CFR 401.17- pH Effluent limitations under continuous monitoring
 ELG = Federal Effluent Limitation Guidelines, see Attachments 2-3
 M = BTJ of Permit Guidance 2: Determination of Sampling Frequency Formula for Industrial Waste Discharges

RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in permits (3745-33-07(A))

WET = Whole Effluent Toxicity (OAC 3745-33-07(B))

WQS = Ohio Water Quality Standards (OAC 3745-1)

WLA = Wasteload Allocation Procedures (OAC 3745-2)

- ° Monitoring of flow and other indicator parameters is specified to assist in the evaluation of effluent quality and treatment plant performance.
- ° The pH (Maximum/Minimum) shall be maintained within the range, 6.5 - 9.0 S.U. An “excursion” is an unintentional and temporary incident in which the pH value exceeds this range.
- ° 36-month compliance schedule recommended to meet new and/or revised Water Quality-Based Effluent Limits (WQBELs).

Table 14. Final Effluent Limits for Outfall 3ID00021015

Parameter	Units	Concentration		Loading (kg/day) ^a		Basis ^b
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Water Temperature	°C	----- Monitor -----				M ^c
Flow Rate	MGD	----- Monitor -----				M ^c
Total Suspended Solids	mg/L	10	30	133	397	PD, ABS, BTJ
Oil and Grease	mg/L	--	10	--	133	WQS, BTJ, ABS
Phosphorus	mg/L	----- Monitor -----				BTJ
Fluoride	mg/L	2.2	--	29.1	--	RP, WQS
Chromium	µg/L	108	319	1.43	4.23	WLA, ELG, AD
Copper	µg/L	27	44	0.36	0.58	WLA
Lead	µg/L	30	161	0.40	2.13	WLA, ELG, AD
Nickel	µg/L	151	459	2.00	6.08	WLA, ELG, AD
Selenium	µg/L	5	62	0.066	0.82	WLA
Silver	µg/L	1.3	13	0.017	0.17	WLA
Zinc	µg/L	211	342	2.80	4.53	WLA, ELG, AD
Total Toxic Organics	µg/L	--	245	--	3.25	ELG, AD
Chlorine, Total Residual	mg/L	--	0.019	--	--	WLA
Mercury	ng/L	----- Monitor -----				BTJ
Total Filterable Residue (Total Dissolved Solids)	mg/L	----- Monitor -----				RP
Acute Toxicity <i>Ceriodaphnia dubia</i>	TUa	----- Monitor -----				WET
Chronic Toxicity <i>Ceriodaphnia dubia</i>	TUc	----- Monitor -----				WET
pH Minimum ^d	SU	----- Monitor -----				WQS
pH Maximum ^d	SU	----- Monitor -----				WQS
pH Range Excursion, Maximum Duration ^d	Minutes	--	60	--	--	CFR
pH Range Excursion, > 60 Minutes ^d	#/Day	--	0	--	--	CFR
pH Range Excursions, Monthly Total Duration ^d	Minutes	--	446	--	--	CFR

^a Effluent loadings based on a flow rate of 3.5 MGD.

^b Definitions: ABS = antibacksliding provisions in OAC 3745-33-05(F)
 BTJ = Best Technical Judgment
 CFR = 40 CFR 401.17- pH Effluent limitations under continuous monitoring
 ELG = Federal Effluent Limitation Guidelines, see Attachments 2-3

M = BTJ of Permit Guidance 2: Determination of Sampling Frequency Formula for Industrial Waste Discharges
RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in permits (3745-33-07(A))
WET = Whole Effluent Toxicity (OAC 3745-33-07(B))
WQS = Ohio Water Quality Standards (OAC 3745-1)
WLA = Wasteload Allocation Procedures (OAC 3745-2)

- ° Monitoring of flow and other indicator parameters is specified to assist in the evaluation of effluent quality and treatment plant performance.
- d The pH (Maximum/Minimum) shall be maintained within the range, 6.5 - 9.0 S.U. An “excursion” is an unintentional and temporary incident in which the pH value exceeds this range.

Attachment 1. Production Rates (2010 - 2021)

Plant	Production Values													Daily Average (5 days per week - 260 days)
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Yearly Average	
<u>Harrison</u>														
Tap Tons	554,370	679,505	495,082	462,233	584,503	415,157	356,361	553,055	552,593	306,147	175,222	52,823	432,254.25	1,662.52
Cast Tons	502,674	610,955	458,357	433,449	544,402	379,190	327,247	505,784	531,617	297,551	168,309	50,795	400,860.82	1,541.77
Ingot Tons	3,552	3,764	3,853	1,624	3,338	1,819	351	2,474	2,579	663	0	0	2,001.42	7.70
Rolled Tons Billet Mill Tons	112,261	157,379	92,292	76,899	103,382	94,183	92,206	118,895	102,626	85,750	58,901	84,988	98,313.49	378.13
Rolled Tons Bar Mill Tons	465,126	564,862	498,209	458,596	555,791	447,099	437,711	564,411	487,176	407,067	279,612	403,447	464,092.26	1,784.97
Refiner Tons	506,226	614,719	462,210	435,073	547,740	381,009	327,598	508,258	534,196	298,214	168,309	50,795	402,862.24	1,549.47
<u>Faircrest</u>														
Tap Tons	919,227	1,065,602	842,345	726,396	931,085	580,272	579,713	925,140	1,020,700	758,889	540,065	966,239	821,306.08	3,158.87
Cast Tons	-	-	-	-	10,192	133,209	234,330	523,317	600,803	489,733	333,468	640,428	370,685.00	1,425.71
Ingot Tons	873,761	1,016,588	807,642	698,233	879,220	426,302	322,194	364,327	364,970	217,093	168,709	257,308	533,028.92	2,050.11
Rolled Tons - (Bloom Mill Tons)	787,965	931,118	725,528	613,692	771,778	478,510	461,281	766,259	813,813	523,862	374,484	483,388	644,306.50	2,478.10
Rolled Tons	563,943	655,454	483,042	439,184	556,623	269,214	258,658	540,193	609,869	392,042	274,750	339,608	448,548.33	1,725.19
Refiner Tons	873,761	1,016,588	807,642	698,233	889,412	559,511	556,524	887,644	965,773	706,826	502,177	897,736	780,152.25	3,000.59
<u>Gambrinus</u>														
Pierce Tons	280,163	354,448	270,271	241,657	271,835	173,734	135,857	204,212	234,411	137,668	117,958	162,870	215,423.67	828.55
Cold Draw Tons	16,079	19,080	19,803	5,772	5,020	3,940	2,285	2,352	2,799	760	592	78	6,546.67	25.18
Phosphate Tons	13,920	16,987	17,102	5,281	4,260	3,390	1,787	1,546	1,789	519	323	372	5,606.33	21.56
Wash Tons	18,774	21,695	23,845	7,847	2,936	44	123	87	78	27	66	0	6,293.50	24.21
Water Blasted Tons	-	-	934	6,107	69,343	44,532	36,880	49,436	51,373	36,046	34,474	25,082	35,420.70	136.23
Pickled Tons	201,458	286,513	232,837	151,034	36,511	868	444	73	717	319	212	157	75,928.58	292.03
Quenched Tons	76,965	94,260	84,323	76,268	105,454	38,032	24,658	66,631	111,217	54,944	27,090	38,749	66,549.25	255.96

Attachment 2. Applicable Federal Effluent Limitation Guidelines

Process wastewaters generated at Metallus, Inc. Corporation’s Faircrest, Gambinus, and Harrison Steel plants are subject to the federal Effluent Limitation Guidelines (ELGs) found in the following sections of “40 CFR 420 - *Iron and Steel Manufacturing Point Source Category*” and “40 CFR 433 - *Metal Finishing Point Source Category*”: 420.52, 420.53, 420.54, 420.62, 420.63, 420.64, 420.72(a)(1), 420.72(b)(1), 420.72(b)(2), 420.72(d), 420.74(a)(2), 420.74(b)(1), 420.74(b)(2), 420.102(a)(1), 420.112(a), 420.134(b), 433.13 and 433.14. The specific criteria for the respective subcategories are listed below.

40 CFR 420 – Iron and Steel Manufacturing Point Source Category

Subpart E, Vacuum Degassing Subcategory

40 CFR 420.52 – Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT)

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.0156	0.00521
pH	6.0 – 9.0 S.U.	

Subpart E, Vacuum Degassing Subcategory

40 CFR 420.53 – Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT)

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469
pH	6.0 – 9.0 S.U.	

Subpart E, Vacuum Degassing Subcategory

40 CFR 420.54 – New Source Performance Standards (NSPS)

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.00730	0.00261
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469
pH	6.0 – 9.0 S.U.	

Subpart F, Continuous Casting Subcategory

40 CFR 420.62 – Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT)

<i>Parameter</i>	<i>Loading Limits</i>
------------------	-----------------------

	<i>(kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.0780	0.0260
Oil & Grease	0.0234	0.0078
pH	6.0 – 9.0 S.U.	

Subpart F, Continuous Casting Subcategory

40 CFR 420.63 – Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT)

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

Subpart F, Continuous Casting Subcategory

40 CFR 420.64 – New Source Performance Standards (NSPS)

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.00730	0.00261
Oil and Grease	0.00313	0.00104
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469
pH	6.0 – 9.0 S.U.	

Subpart G, Hot Forming Subcategory

40 CFR 420.72(a)(1) - Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT), Primary mills, carbon and specialty, without scarfing

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.150	0.0561
Oil & Grease	0.0374	--
pH	6.0 – 9.0 S.U.	

Subpart G, Hot Forming Subcategory

40 CFR 420.72(b)(1) - Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT), Section mills, Carbon

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.357	0.134
Oil & Grease	0.0894	--
pH	6.0 – 9.0 S.U.	

Subpart G, Hot Forming Subcategory

40 CFR 420.72(b)(2) - Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT), Section Mills, Specialty

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.224	0.0841
Oil & Grease	0.0561	--
pH	6.0 – 9.0 S.U.	

Subpart G, Hot Forming Subcategory

40 CFR 420.72(d) – Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT), Pipe and tube mills, carbon and specialty

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.212	0.0795
Oil and Grease	0.0530	--
pH	6.0 – 9.0 S.U.	

Subpart G, Hot Forming Subcategory

40 CFR 420.74(a)(2) – New source performance standards (NSPS), Primary mills, carbon and specialty, with scarfing

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.0234	0.00876
Oil and Grease	0.00584	--
pH	6.0 – 9.0 S.U.	

Subpart G, Hot Forming Subcategory

40 CFR 420.74(b)(1) – New Source Performance Standards, Section Mills, Carbon

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.0334	0.00125
Oil and Grease	0.00834	--
pH	6.0 – 9.0 S.U.	

Subpart G, Hot Forming Subcategory

40 CFR 420.74(b)(2) – New Source Performance Standards, Section Mills, Specialty

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.0217	0.00813
Oil and Grease	0.00542	--
pH	6.0 – 9.0 S.U.	

Subpart J, Cold Forming Subcategory

Cold Drawing (40 CFR 420.102(a)(1)) – Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT), Cold worked pipe and tube mills,
Using water

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.00125	0.000626
Oil & Grease	0.000522	0.000209
Chromium	0.0000209	0.0000084
Lead	0.0000094	0.0000031
Nickel	0.0000188	0.0000063
Zinc	0.0000063	0.0000021
pH	6.0 – 9.0 S.U.	

Subpart J, Cold Forming Subcategory

Cold Drawing (40 CFR 420.112(a)) – Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT), Batch

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.0730	0.0313

Oil & Grease	0.0313	0.0104
pH	6.0 – 9.0 S.U.	

Subpart M, Other Operations Subcategory

40 CFR 420.134(b) – New Source Performance Standards (NSPS), Forging operations

<i>Parameter</i>	<i>Loading Limits (kg/1,000 kg of product)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Total Suspended Solids	0.0123	0.00508
Oil & Grease	0.00746	0.00446
pH	6.0 – 9.0 S.U.	

40 CFR 433 – Metal Finishing Point Source Category

Subpart A, Metal Finishing Subcategory

40 CFR 433.13 – Effluent limitations representing the degree of effluent reduction attainable by applying the best practicable control technology currently available (BPT)

<i>Parameter</i>	<i>Loading Limits (mg/L)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Cadmium (Total)	0.69	0.26
Chromium (Total)	2.77	1.71
Copper (Total)	3.38	2.07
Lead (Total)	0.69	0.43
Nickel (Total)	3.98	2.38
Silver (Total)	0.43	0.24
Zinc (Total)	2.61	1.48
Cyanide (Total)	1.20	0.65
Total Toxic Organics (TTO)	2.13	--
Oil & Grease	52	26
Total Suspended Solids	60	31
pH	6.0 – 9.0 S.U.	

40 CFR 433.14 – Effluent limitations representing the degree of effluent reduction attainable by applying the best available technology economically achievable (BAT)

<i>Parameter</i>	<i>Loading Limits (mg/L)</i>	
	<i>Daily Maximum</i>	<i>30-day Average</i>
Cadmium (Total)	0.69	0.26
Chromium (Total)	2.77	1.71
Copper (Total)	3.38	2.07
Lead (Total)	0.69	0.43
Nickel (Total)	3.98	2.38
Silver (Total)	0.43	0.24
Zinc (Total)	2.61	1.48
Cyanide (Total)	1.20	0.65
Total Toxic Organics (TTO)	2.13	--

Attachment 3. Calculation of Loading Limits for Outfall 3ID00021015 Using Effluent Limitation Guidelines

The production rates and applicable Effluent Limitation Guidelines (ELG) of each regulated operation at Metallus, Inc.-Canton are summarized in the tables below. The 3-year weighted average production rates were utilized to represent the anticipated production for the proposed permit renewal period:

Harrison Steel Plant					
Operation	Effluent Limitation Guideline(s)	Weighted Average Production (kkg/day)	Production (kkg/day) 2019	Production (kkg/day) 2020	Production (kkg/day) 2021
Vacuum Degassing	420.52, 420.53	1,747.2	1,882	1,760	1,600
Continuous Casting	420.62, 420.63	1,747.3	1,882	1,760	1,600
Hot Forming (Billet Mill)	420.72(a)(1)	1,623.5	1,772	1,487	1,612
Hot Forming (Horizontal-Vertical Mill)	420.72(b)(1) & 420.72(b)(2)	1,623.7	1,772	1,487	1,612
Hot Forming (Precision Sizing Mill)	420.72(b)(1) & 420.72(b)(2)	1,623.7	1,772	1,487	1,612

Faircrest Steel Plant					
Operation	Effluent Limitation Guideline(s)	Weighted Average Production (kkg/day)	Production (kkg/day) 2019	Production (kkg/day) 2020	Production (kkg/day) 2021
Vacuum Degassing	420.54	2873.5	2,777	2,752	3,091
Continuous Casting	420.64	2631.0	2,767	2,728	2,398
Hot Forming (Primary Mill)	420.74(a)(2)	2096.4	2,117	2,073	2,099
Hot Forming (Section Mill)	420.74(b)(1) & 420.74(b)(2)	1468.8	1,547	1,456	1,404
Forging	420.134(b)	501.1	588	499	416

Gambrinus Steel Plant					
Operation	Effluent Limitation Guideline(s)	Weighted Average Production (kkg/day)	Production (kkg/day) 2019	Production (kkg/day) 2020	Production (kkg/day) 2021
Hot Forming (Pipe & Tube Mills)	420.72(d)	371.5	348	354	412
Cold Drawing	420.102(a)(1) & 420.112(a)	2.4	2.4	2.4	2.4
Operation	Effluent Limitation Guideline(s)	Flow Rate (gallons/day)			
Thermal Quench	433.13 & 433.14	500942.14	2,045,414	1,715,677	1,927,107

Notes:

- Values for each year are weighted by days of operation.
- Harrison Melt Shop indefinitely idled March 31, 2021.
- Gambrinus No. 4 tube mill closed March 2021.

Loading Limitations at Outfall 3ID00021015

The loading limitations, based on each of the Iron and Steel Manufacturing ELGs listed in Attachment 2, are calculated using the following equation:

$$Loading \left(\frac{kg}{day} \right) = ELG \left(\frac{kg}{1,000 kg} \right) * Production \left(\frac{1000 kg}{day} \right)$$

An example of the calculation of the daily maximum allowable loading from Harrison Steel Plant's vacuum degassing for lead is as follows:

$$Lead Loading (Harrison VacuumDegassing) = 0.0000939 * 1,747.2 kg = 0.164 \frac{kg}{day}$$

The loading limit based on the Metal Finishing ELG is:

$$Loading \left(\frac{kg}{day} \right) = ELG \left(\frac{mg}{L} \right) * ELG Flow \left(\frac{gals.}{day} \right) * \frac{1 kg}{10^6 mg} * \frac{3.785 L}{gal}$$

An example of the calculation of the daily maximum allowable loading from Gambrinus Steel Plant's quenching operation for lead is as follows:

$$Loading \left(\frac{kg}{day} \right) = 0.69 \left(\frac{mg}{L} \right) * 500942.14 \left(\frac{gals.}{day} \right) * \frac{1 kg}{10^6 mg} * \frac{3.785 L}{gal} = 1.308 \frac{kg}{day}$$

The ELG loadings for total suspended solids (TSS), oil and grease (O&G), lead, zinc, etc. for each plant, as well as the total ELG loading applied at the final outfall for Metallus, Inc. - Canton, are listed below. In the case of O&G, a number of the ELGs are only based on the Daily Maximum. Consequently, the 30-day Average calculations do not account for all regulated sources and, therefore, are not used in derivation of effluent limits.

Harrison Steel Plant ELGs									
	TSS		O&G		Lead		Zinc		
Vacuum Degassing (40 CFR 420.52 and 420.53)									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.0156	0.00521	--	--	0.0000939	0.0000313	0.000141	0.0000469	
Limits (kg/day)	27.256946	9.1031212	0	0	0.16406585	0.05468862	0.2463609	0.08194556	
Continuous Casting (40 CFR 420.62 and 420.63)									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.078	0.026	0.0234	0.0078	0.0000939	0.0000313	0.000141	0.0000469	
Limits (kg/day)	136.292	45.430667	40.8876	13.6292	0.1640746	0.05469153	0.246374	0.08194993	
Hot Forming (40 CFR 420.72(a)(1)) - Billet Mill									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.15	0.0561	0.0374	--	--	--	--	--	
Limits (kg/day)	243.522	91.077228	60.718152	0	0	0	0	0	
Hot Forming (40 CFR 420.72(b)(1)) - Carbon H-V Mill									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.357	0.134	0.0894	--	--	--	--	--	
Limits (kg/day)	260.84633	97.908708	65.321183	0	0	0	0	0	
Hot Forming 40 CFR 420.72(b)(2) - Specialty H-V Mill									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.224	0.0841	0.0561	--	--	--	--	--	
Limits (kg/day)	200.03902	75.103935	50.099058	0	0	0	0	0	
Hot Forming (40 CFR 420.72(b)(1)) - Carbon PSM									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.357	0.134	0.0894	--	--	--	--	--	
Limits (kg/day)	260.84633	97.908708	65.321183	0	0	0	0	0	
Hot Forming 40 CFR 420.72(b)(2) - Specialty PSM									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.224	0.0841	0.0561	--	--	--	--	--	
Limits (kg/day)	200.03902	75.103935	50.099058	0	0	0	0	0	
ELG Loading Limits (Harrison)									
	TSS		O&G		Lead		Zinc		
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
Limits (kg/day)	1328.8417	491.6363	332.44623	13.6292	0.32814045	0.10938015	0.4927349	0.1638955	

Faircrest Steel Plant ELGs									
	TSS		O&G		Lead		Zinc		
Vacuum Degassing (40 CFR 420.54)									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.0073	0.00261	--	--	0.0000939	0.0000313	0.000141	0.0000469	
Limits (kg/day)	20.976201	7.4997102	0	0	0.26981716	0.08993905	0.4051568	0.13476491	
Continuous Casting (40 CFR 420.64)									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.0073	0.00261	0.00313	0.00104	0.0000939	0.0000313	0.000141	0.0000469	
Limits (kg/day)	19.206555	6.8670012	8.23513937	2.7362763	0.24705418	0.08235139	0.3709759	0.12339554	
Forging (40 CFR 420.134(b))									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.0123	0.00508	0.00746	0.00446	--	--	--	--	
Limits (kg/day)	6.1640765	2.5458137	3.73853748	2.2351042	0	0	0	0	
Primary Mills with scarfing (40 CFR 420.74(a)(2))									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.0234	0.00876	0.00584	--	--	--	--	--	
Limits (kg/day)	49.056845	18.36487	12.2432467	0	0	0	0	0	
Section Mill - section mills, carbon (40 CFR 420.74(b)(1))									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.0334	0.0125	0.00834	--	--	--	--	--	
Limits (kg/day)	12.264326	4.5899423	3.06240948	0	0	0	0	0	
Section Mill - section mills, specialty (40 CFR 420.74(b)(2))									
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
ELG (kg/kkg product)	0.0217	0.00813	0.00542	--	--	--	--	--	
Limits (kg/day)	23.904419	8.9558954	5.9705969	0	0	0	0	0	
ELG Loading Limits (Faircrest)									
	TSS		O&G		Lead		Zinc		
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	
Limits (kg/day)	131.57242	48.823233	33.2499299	4.9713805	0.51687134	0.17229045	0.7761327	0.25816045	

Gambrinus Steel Plant ELGs								
Hot Forming (40 CFR 420.72(d))								
TSS		O&G		Lead		Zinc		
	Max	Avg	Max	Avg	Max	Avg	Max	Avg
ELG (kg/kkg product)	0.212	0.0795	0.053	-	-	-	-	-
Limits (kg/day)	78.75588	29.533455	19.68897	0	0	0	0	0
Metal Finishing (40 CFR 433.14)								
TSS		O&G		Lead		Zinc		
	Max	Avg	Max	Avg	Max	Avg	Max	Avg
ELG (mg/L)	-	-	-	-	0.69	0.43	2.61	1.48
Limits (kg/day)	0	0	0	0	1.30828554	0.81530838	4.94873226	2.80617768
Cadmium		Chromium		Copper		Nickel		
	Max	Avg	Max	Avg	Max	Avg	Max	Avg
ELG (mg/L)	0.69	0.26	2.77	1.71	3.38	2.07	3.98	2.38
Limits (kg/day)	1.30828554	0.49297716	5.25210282	3.24227286	6.40870308	3.92485662	7.54634268	4.51263708
Silver		Cyanide		TTO				
	Max	Avg	Max	Avg	Max	Avg		
ELG (mg/L)	0.43	0.24	1.2	0.65	2.13	-		
Limits (kg/day)	0.81530838	0.45505584	2.2752792	1.2324429	4.03862058	0		
Cold Drawing (40 CFR 420.102(a)(1))								
TSS		O&G		Lead		Zinc		
	Max	Avg	Max	Avg	Max	Avg	Max	Avg
ELG (mg/L)	0.00125	0.000626	0.000522	0.000209	0.0000209	0.0000084	0.0000094	0.0000031
Limits (kg/day)	0.003	0.0015024	0.0012528	0.0005016	0.00005016	0.00002016	0.00002256	0.00000744
Nickel		Zinc						
	Max	Avg	Max	Avg				
ELG (mg/L)	0.0000188	0.0000063	0.000021	0.0000063				
Limits (kg/day)	0.00004512	0.00001512	0.0000504	0.00001512				
Cold Drawing (40 CFR 420.112(a))								
TSS		O&G		Lead		Zinc		
	Max	Avg	Max	Avg	Max	Avg	Max	Avg
ELG (kg/kkg product)	0.073	0.0313	0.0313	0.0104	0	0	0	0
Limits (kg/day)	0.1752	0.07512	0.07512	0.02496	0	0	0	0
ELG Loading Limits (Gambrinus)								
TSS		O&G		Lead		Zinc		
	Max	Avg	Max	Avg	Max	Avg	Max	Avg

Limits (kg/day)	78.93408	29.6100774	19.7653428	0.0254616	1.3083081	0.81531582	4.94878266	2.8061928
	Cadmium		Chromium		Copper		Nickel	
	Max	Avg	Max	Avg	Max	Avg	Max	Avg
Limits (kg/day)	1.30828554	0.49297716	5.25215298	3.24229302	6.40870308	3.92485662	7.5463878	4.5126522
	Silver		Cyanide					
	Max	Avg	Max	Avg				
Limits (kg/day)	0.81530838	0.45505584	2.2752792	1.2324429				

Gambrinus Steel Plant TTO Limit Concentration
ELG = 2.13 mg/L (max)
Total Flow = 3,500,000 gpd (95th percentile of monthly avg)
40 CFR 433 Flow = 500942.14 gpd
Ratio = 0.143126326
New limit = 0.304859074 mg/L (4.03862058 kg)

Total ELG Loading Limits (kg/day) for Metallus, Inc. -Canton Outfall 3ID00021015							
TSS		Oil & Grease		Lead		Zinc	
Daily Max	30-Day Avg.	Daily Max	30-Day Avg.	Daily Max	30-Day Avg.	Daily Max	30-Day Avg.
1539.348	570.0696	385.4615	18.62604	2.15332	1.096986	6.21765	3.228249
Cadmium		Chromium		Copper		Nickel	
Daily Max	30-Day Avg.	Daily Max	30-Day Avg.	Daily Max	30-Day Avg.	Daily Max	30-Day Avg.
1.308286	0.492977	5.252153	3.242293	6.408703	3.924857	7.546388	4.512652
Silver		Cyanide		TTO			
Daily Max	30-Day Avg.	Daily Max	30-Day Avg.	Daily Max.	30-Day Avg.		
0.815308	0.455056	2.275279	1.232443	4.039	--		

Attachment 4. Implementation of Limits

Technical Basis for Effluent Limitations at Outfall 3ID00021015												
Parameter	WQS-based				ELG-based				Previous Permit (3ID00021*MD)			
	Concentration (µg/L)		Load (kg/day)		Concentration (µg/L)		Load (kg/day)		Concentration (µg/L)		Load (kg/day)	
	30-day Avg.	Daily Max.	30-day Avg.	Daily Max.	30-day Avg.	Daily Max.	30-day Avg.	Daily Max.	30-day Avg.	Daily Max.	30-day Avg.	Daily Max.
TSS	10,000	30,000	132.475	397.425	43032.241	116199.144	570.070	1539.348	10,000	30,000	133	397
Oil and Grease	--	10,000	--	132.475	1406.004 (*)	29096.924	18.626 (*)	385.462	--	10000	31.8 (*)	133
Cadmium	6.5	18	0.086	0.238	37.213	98.757	0.493	1.308	--	--	--	--
Chromium	108	4,933	1.431	65.350	244.748	396.464	3.242	5.252	108	319	1.43	4.23
Copper	27	44	0.358	0.583	296.271	483.767	3.925	6.409	30	52	0.397	0.689
Cyanide (Total)	--	--	--	--	93.032	171.752	1.232	2.275	--	--	--	--
Fluoride	2200	--	29.145	--	--	--	--	--	--	--	--	--
Lead	30	584	0.397	7.737	82.807	162.545	1.097	2.153	32	161	0.42	2.13
Nickel	151	1,309	2.000	17.341	340.642	569.646	4.513	7.546	171	459	2.27	6.08
Selenium	5	62	0.066	0.821	--	--	--	--	--	--	--	--
Silver	1.3	13	0.017	0.172	34.350	61.544	0.455	0.815	1.3	17	0.017	0.226
Zinc	343	342	4.531	4.531	243.687	469.345	3.228	6.218	211	393	2.8	5.21
TTO	--	--	--	--	--	304.859	--	4.039	--	245	--	3.25

Values in **bold**, represent the most stringent limit to be applied in the renewed permit.

(*) - Values do not account for all regulated sources and, therefore, are not used in derivation of effluent limits.

Attachment 5. List of Approved Cooling/Treatment Additives

Additives Approved by Ohio EPA

Betzdearborn DCL30
Betzdearborn IEC2
Continuum AT3246
Corrshield NT4201
Depositrol BL5302
Depositrol BL5400
Depositrol PY5206
Flogard MS6201
Flogard MS6205
Flogard MS6206
Floguard MS6201
Foamtrol AF3561
Gengard GN7004
Gengard GN7210
Gengard GN8020
Gengard GN8113
Hypersperse MDC714
Inhibitor AZ8104
Kleen MCT405
Kleen MCT882
Solus AP24
Spectrus BD1500
Spectrus NX108
Spectrus NX1100
Spectrus OX1200
Steamate NA2160

Additives Pending Approval by Ohio EPA

Cortrol IS3000
Foamtrol AF3566
Hydrated Lime
Inhibitor ECP8130
Klaraid CDP1348
Klaraid CDP1368
Klaraid PC2700
Klaraid PC2710
Liquid Alum
Polyfloc AP1138
Spectrus NX1102

Attachment 6. List of STORET Stations for Background Data

Station #	Location	River Mile	Drainage Area (mi²)	Use Designation	Attainment Status
302089	McDowell Ditch Upstream Glenwood Street at Price Park	3.12	11.7	Modified Warmwater Habitat	Unknown (Full at RM 1.9)
302090	West Branch Nimishillen Creek at Bridge Park	5.3	18.6	Warmwater Habitat	Unknown (Non between RM 4.5- 9.3)
302091	McDowell Ditch at 38 th Street	0.48	18.7	Modified Warmwater Habitat	Unknown (Full at RM 1.9)
R07G02	Middle Branch Nimishillen Creek North of Louisville at State Route 44	13.64	4.1	Modified Warmwater Habitat	Unknown (RM 14.17 = Partial) (RM 10.4 = Non)
R07P01	Sherrick Run at Allen Road	0.10	10.4	Warmwater Habitat	Non
R07S53	E. Branch Nimishillen Creek at Louisville at State Route 153	6.36	18.9	Warmwater Habitat	Partial (RM 6.36)
R07S55	Tributary to East Branch Nimishillen Creek (RM 2.75) at mouth	0.03	3.9	Warmwater Habitat	Unknown
R07W23	Tributary to East Branch Nimishillen Creek (RM 4.67) South of Louisville at State Route 44	0.22	9.5	Warmwater Habitat	Non

RM = River Mile

STORET = US EPA STORage and RETrieval database for environmental data.

Addendum 1. Acronyms

ABS	Anti-backsliding
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BPJ	Best professional judgment
BPT	Best Practicable Control Technology Currently Available
BTJ	Best technical judgment
CFR	Code of Federal Regulations
CONSWLA	Conservative substance wasteload allocation
CWA	Clean Water Act
CWIS	Cooling water intake structure
DMR	Discharge Monitoring Report
DMT	Dissolved metal translator
ELG	Federal effluent limitation guideline
gpm	Gallons per minute
IMZM	Inside mixing zone maximum
MDL	Analytical method detection limit
MGD	Million gallons per day
NPDES	National Pollutant Discharge Elimination System
NSPS	New source performance standards
OAC	Ohio Administrative Code
Ohio EPA	Ohio Environmental Protection Agency
ORC	Ohio Revised Code
ORSANCO	Ohio River Valley Water Sanitation Commission
PEL	Preliminary effluent limit
PEQ	Projected effluent quality
PMP	Pollution Minimization Program
PPE	Plant performance evaluation
SIC	Standard Industrial Classification
TBEL	Technology-based effluent limit
TMDL	Total Daily Maximum Load
TRE	Toxicity reduction evaluation
TU	Toxicity unit
U.S. EPA	United States Environmental Protection Agency
WET	Whole effluent toxicity
WLA	Wasteload allocation
WQBEL	Water-quality-based effluent limit
WQS	Water Quality Standards