

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law (Chapter 644 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0111210

Owner: City of St. Louis
Address: 1200 Market Street, St. Louis, MO 63103

Continuing Authority: City of St. Louis, St. Louis Airport Authority
Address: 10701 Lambert International Boulevard, St. Louis, MO 63145

Facility Name: St. Louis Lambert International Airport
Facility Address: 10701 Lambert International Boulevard, St. Louis, MO 63145

Legal Description: See following page(s)
UTM Coordinates: See following page(s)

Receiving Stream: See following page(s)
First Classified Stream and ID: See following page(s)
USGS Basin & Sub-watershed No.: See following page(s)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Airport; SIC # 4581 NAICS # 488119. This facility does not require a certified wastewater operator per 10 CSR 20-9.030 as this is a stormwater permit. Domestic wastewater is managed by sending to POTW.

This permit authorizes only wastewater or stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas.

January 1, 2022
Effective Date

March 31, 2026
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

Outfalls #001, #002, #003, #004, #005, #008, and #009 are historical outfalls removed from previous permits.

OUTFALL #006 – Stormwater

Located on the northern boundary of the facility, this outfall collects stormwater from areas of vehicle or aircraft maintenance, washing and fueling. This area includes two oil-water separators designed for containment that discharge to the surface under normal operating conditions and one hydrodynamic separator that treats and discharges stormwater. De-icing occurs in this area but must be collected into the above ground storage tank and discharged to the POTW. This area includes a livestock facility with a coated floor and drain system that is pumped out and hauled to a POTW.

Legal Description:	Land Grant 7, St. Louis County
UTM Coordinates:	X = 729296, Y = 4293317
Receiving Waterbody:	Tributary to Coldwater Creek
First Classified Waterbody and ID:	Coldwater Creek (C) Metropolitan No-Discharge WBID# 3960
USGS Basin & Sub-watershed No.:	Lower Missouri (10300200)
HUC 12 Watershed:	Metropolitan No-Discharge Coldwater Creek Watershed (10300200-0802)
Maximum Flow:	170 MGD (Based on 10 year 24 hour storm event)

OUTFALL #007 – Stormwater

Located on the western boundary of the facility, this outfall collects stormwater from areas of vehicle or aircraft maintenance, washing and fueling. The outfall includes a stormwater retention basin with energy diffusers

Legal Description:	Land Grant 2039, St. Louis County
UTM Coordinates:	X = 725517, Y = 4294272
Receiving Waterbody:	Tributary to Cowmire Creek
First Classified Waterbody and ID:	100K Extent-Remaining Streams (C) WBID# 3960
USGS Basin & Sub-watershed No.:	Lower Missouri (10300200)
HUC 12 Watershed:	Cowmire Creek –Missouri River (10300200-0801)
Maximum Flow:	24 MGD (Based on 10 year 24 hour storm event)

PERMITTED FEATURE #010

Formerly listed as Outfall #010. Eliminated in 2021 because no discharge is authorized and discharge of de-icing activities through this former outfall has ceased since previous permit.

UTM Coordinates:	X = 732180, Y = 4290198
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SM1 – Coldwater Creek Upstream Monitoring Location.

UTM Coordinates:	X = 727620, Y= 4291589
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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #006 Stormwater Only	TABLE A-1 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on January 1, 2022 and remain in effect until expiration of the permit. Discharges shall be controlled, limited and monitored by the facility as specified below:						
EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH- MARKS	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE		MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M						
PHYSICAL						
Flow	MGD	*		-	once/month	24 Hr total
Precipitation	inches	*		-	once/month	measured
CONVENTIONAL						
Chemical Oxygen Demand-TOTAL	mg/L	*		-	once/month	grab
Chemical Oxygen Demand-NET	mg/L	**		750	once/month	grab
Oil & Grease	mg/L	15		-	once/month	grab
pH [†]	SU	6.5 to 9.0		-	once/month	grab
Total Suspended Solids-TOTAL	mg/L	*		-	once/month	grab
Total Suspended Solids-NET	mg/L	*		200	once/month	grab
OTHER						
Chloride-TOTAL :	mg/L	*		-	once/month	grab
Chloride-NET :	mg/L	**		860	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>FEBRUARY 28, 2022</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #007 Stormwater Only	TABLE A-2 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					
The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on January 1, 2022 and remain in effect until expiration of the permit. Discharges shall be controlled, limited and monitored by the facility as specified below:						
EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH- MARKS	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE		MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M						
PHYSICAL						
Flow	MGD	*		-	once/month	24 Hr total
Precipitation	inches	*		-	once/month	measured
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	**		750	once/month	grab
Oil & Grease	mg/L	15		-	once/month	grab
pH †	SU	6.5 to 9.0		-	once/month	grab
Total Suspended Solids	mg/L	*		200	once/month	grab
OTHER						
Chloride :	mg/L	**		860	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE FEBRUARY 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring and reporting requirement only

** Monitoring and reporting requirement with benchmark. See Special Conditions for additional requirements.

† pH: the facility will report the minimum and maximum values; pH is not to be averaged.

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 The de-icing season is from November 1 through April 30; these parameters need only be sampled during this timeframe.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I standard conditions dated August 1, 2014, respectively, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

- Spills, Overflows, and Other Unauthorized Discharges.
 - Any spill, overflow, or other discharge(s) not specifically authorized above are unauthorized discharges.
 - Should an unauthorized discharge cause or permit any contaminants to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's 24 hour spill line at 573-634-2436.
- Electronic Discharge Monitoring Report (eDMR) Submission System. Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit), shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due.

C. SPECIAL CONDITIONS (CONTINUED)

3. Industrial Stormwater Pollution Prevention Plan (SWPPP).

The facility's SIC code or description is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) and hence shall implement a Stormwater Pollution Prevention Plan (SWPPP) which must be prepared and implemented upon permit effective date. The SWPPP must be kept on-site and should not be sent to the Department unless specifically requested. The SWPPP must be reviewed and updated annually or if site conditions affecting stormwater change. The facility shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf The purpose of the SWPPP and the Best Management Practices (BMPs) listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was ineffective at providing the necessary protections for which it was designed. Corrective action describes the steps the facility took to eliminate the deficiency.

The SWPPP must include:

- (a) A listing of specific contaminants and their control measures (or BMPs) and a narrative explaining how BMPs are implemented to control and minimize the amount of contaminants potentially entering stormwater.
- (b) A map with all outfalls and structural BMPs marked.
- (c) A schedule for at least once per month site inspections and brief written reports. The inspection report must include precipitation information for the entire period since last inspection, as well as observations and evaluations of BMP effectiveness. Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
 - (1) Operational deficiencies must be corrected within seven (7) calendar days.
 - (2) Minor structural deficiencies must be corrected within fourteen (14) calendar days.
 - (3) Major structural deficiencies (deficiencies projected to take longer than 14 days to correct) must be reported as an uploaded attachment through the eDMR system with the DMRs. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including proposed timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. If required by the Department, the facility shall work with the regional office to determine the best course of action. The facility should consider temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
 - (4) All actions taken to correct the deficiencies shall be included with the written report, including photographs, and kept with the SWPPP. Additionally, corrective action of major structural deficiencies shall be reported as an uploaded attachment through the eDMR system with the DMRs.
 - (5) BMP failure causing discharge through an unregistered outfall is considered an illicit discharge and must be reported in accordance with Standard Conditions Part I.
 - (6) Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to Department personnel upon request. Electronic versions of the documents and photographs are acceptable.
- (d) A provision for designating an individual to be responsible for environmental matters and a provision for providing training to all personnel involved in housekeeping, material handling (including but not limited to loading and unloading), storage, and staging of all operational, maintenance, storage, and cleaning areas. Proof of training shall be submitted upon request by the Department.
- (e) With approval from the permittee, an airport tenant, operating under an air transportation sector S consisting of SIC code (4512, 4513, 4522, 4581, 45XX), may obtain authorization for industrial stormwater discharges from the areas under the tenant's control. To ensure compliance, the permittee will establish lease agreements with approved tenants. Tenants may use consultants or other third-party providers to meet permit/lease requirements.

4. Site-wide minimum Best Management Practices (BMPs). At a minimum, the facility shall adhere to the following:

- (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, warehouse activities, and other areas, and thereby prevent the contamination of stormwater from these substances.
- (b) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
- (c) Store all paint, solvents, petroleum products and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. Spill records should be retained on-site.
- (d) Provide good housekeeping practices on the site to keep trash from entry into waters of the state.
- (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property.

C. SPECIAL CONDITIONS (CONTINUED)

- (f) Remove sediment from stormwater sediment pond(s) no less than every ten years, or more frequently dependent on the amount of sediment received. Sediment ponds shall be routinely inspected, and accumulated sediment shall be removed as prescribed in the engineering design. Records must be retained since last cleanout.
5. Stormwater Benchmarks. This permit stipulates pollutant benchmarks applicable to your stormwater discharges.
- (a) The benchmarks do not constitute direct numeric effluent limitations; therefore, a benchmark exceedance alone is not a permit violation. Benchmark monitoring and visual inspections shall be used to determine the overall effectiveness of the SWPPP and to assist you in knowing when additional corrective action may be necessary to protect water quality. If a sample exceeds a benchmark concentration you must review your SWPPP and your BMPs to determine what improvements or additional controls are needed to reduce the pollutant in your stormwater discharge(s).
 - (b) Any time a benchmark exceedance occurs, a Corrective Action Report (CAR) must be completed. A CAR is a document recording the efforts undertaken by the facility to improve BMPs to meet benchmarks in future samples. CARs must be retained with the SWPPP and be available to the Department upon request. If the efforts taken by the facility are not sufficient and subsequent exceedances of a benchmark occur, the facility must contact the Department if a benchmark value cannot be achieved. Failure to take corrective action to address a benchmark exceedance and failure to make measurable progress towards achieving the benchmarks is a permit violation.
6. The drainage area around any secondary containment area and the interior of any containment area shall be inspected monthly. Solids, sludges, and soluble debris shall not be allowed to accumulate in the secondary containment.
- (a) The interior of the secondary containment area shall be checked at least monthly for signs of leaks, spills, and releases of petroleum.
 - (b) All petroleum captured in the secondary containment area shall be expeditiously removed and the source of the petroleum determined. Leaks or otherwise compromised equipment or appurtenances shall be promptly addressed/repaired.
 - (c) Before releasing water accumulated in petroleum secondary containment areas, the water and area must be examined for hydrocarbon odor and presence of sheen to protect the general criteria found at 10 CSR 20-7.031(4).
 - (d) Unimpacted stormwater (i.e. free from hydrocarbon odor and presence of sheen), should be drained from the secondary containment as soon as reasonably possible after a precipitation event.
 - (e) If subparts (a) and (b) above were not followed, impacted stormwater shall not be discharged from the secondary containment and shall instead be managed in accordance with legally approved methods for disposal of process wastewater, such as being sent to an accepting wastewater treatment facility.
 - (f) If subparts (a) and (b) were followed, impacted stormwater can only be drained from the secondary containment after removal of all odor or sheen utilizing appropriate methods.
 - (g) The area surrounding the secondary containment must be free of signs of vegetative stress or other indication of petroleum discharge.
 - (h) The area below the outlet of the secondary containment area must be maintained to minimize soil washout, such as with stabilized vegetation, rip rap, or by releasing accumulated water slowly.
 - (i) Records of all inspections, testing, and/or treatment of water accumulated in secondary containment are maintained with the electronic SWPPP inspection records and shall be available on demand to the Department.
7. Oil/Water Separators. This site operates oil water separator tanks for the treatment of stormwater and falls under 10 CSR 26-2.010(2)(B). OWS, as disclosed, which are hereby authorized and shall be operated per manufacturer's specifications. The specifications and operating records must be made accessible to Department staff upon request. Oil water separator sludge is considered used oil; sludge must be disposed of in accordance with 10 CSR 25-11.279.
8. The livestock transportation facility will be inspected regularly when animals are present, in accordance with the Industrial SWPPP. Animal are not held outside. Animal waste must be addressed immediately upon discovery. Discharge of animal impacted wastewater or stormwater is prohibited.
9. This permit does not authorize discharge of de-icing materials or impacted runoff from de-icing areas. The facility now operates a de-icing collection system, which routes all impacted stormwater and wastewater to an aboveground storage tank prior to discharge to the sanitary sewer system.
10. This permit does not authorize discharge of cooling water or cooling system condensate. This water is collected and discharged to the sanitary sewer system, as well. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility is not considered an illicit discharge.

C. SPECIAL CONDITIONS (CONTINUED)

11. Aircraft Rescue and Fire Fighting equipment is tested using Aqueous Film Forming Foam (AFFF) annually as required by the Federal Aviation Administration (FAA). The AFFF system employs a closed loop testing system that captures and recycles foam. Discharge of foam violating general criteria conditions in 10 CSR 20-7.031(4)(B) is prohibited.
12. Training of the Airport's Aircraft Rescue and Fire Fighters (ARFF) for the AFFF system is conducted annually with potable water and no foam. This permit authorizes discharge of potable water used to test the fire suppression system. This test must be conducted in a manner to minimize the impact in Coldwater Creek, for example by only testing the system immediately following a rain event (where stormwater is still flowing and mixing with the test water) or by using an indirect discharge into the outfall, like using infiltration or ensuring test water release is as far removed as feasible from Coldwater Creek. Fire hydrant testing or flushing may be managed in the same manner to minimize discharge to Coldwater Creek. Discharge of chlorinated potable water could cause a fish kill; under no circumstances does this discharge allowance permit death or stress to aquatic life in the receiving stream.
13. Part of this facility is located in a metropolitan no-discharge area. Discharge of wastewater or contaminated stormwater to Coldwater Creek or its tributaries is prohibited unless specifically authorized within this permit or permit-exempted by rule.
14. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with RSMo 644.051.16 for permit shield, and the CWA §402(k) for toxic substances. This permit may be reopened and modified, or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under CWA §§301(b)(2)(C) and (D), §304(b)(2), and §307(a)(2), if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not already limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause, including determination new pollutants found in the discharge not identified in the application for the new or revised permit. The filing of a request by the facility for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.
15. All outfalls must be clearly marked in the field.
16. Report no discharge when a discharge does not occur during the report period. It is a violation of this permit to report no-discharge when a discharge has occurred.
17. This permit does not apply to pesticides and other commercial fertilizers that are applied in accordance with the manufacturer's instructions and are not directly applied to or directly runoff into waters of the state.
18. Changes in Discharges of Toxic Pollutant.
In addition to the reporting requirements under 40 CFR 122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
 - (a) An 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 following notification levels:
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile;
 - (3) Five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol;
 - (4) One milligram per liter (1 mg/L) for antimony;
 - (5) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - (6) The notification level established by the Department in accordance with 40 CFR 122.44(f).
 - (b) 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 following "notification levels":
 - (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
 - (4) The level established by the Director in accordance with 40 CFR 122.44(f).
19. Reporting of Non-Detects.
 - (a) Compliance analysis conducted by the facility or any contracted laboratory shall be conducted in such a way the precision and accuracy of the analyzed result can be enumerated. See sufficiently sensitive test method requirements in Standard Conditions Part I, §A, No. 4 regarding proper testing and detection limits used for sample analysis. For the purposes of this

C. SPECIAL CONDITIONS (CONTINUED)

- permit, the definitions in 40 CFR 136 apply; method detection limit (MDL) and laboratory established reporting limit (RL) are used interchangeably in this permit.
- (b) The facility shall not report a sample result as “non-detect” without also reporting the MDL. Reporting “non-detect” without also including the MDL will be considered failure to report, which is a violation of this permit.
 - (c) For the daily maximum, the facility shall report the highest value; if the highest value was a non-detect, use the less than “<” symbol and the laboratory’s highest method detection limit (MDL) or the highest reporting limit (RL); whichever is higher (e.g. <6).
 - (d) When calculating monthly averages, zero shall be used in place of any value(s) not detected. Where all data used in the average are below the MDL or RL, the highest MDL or RL shall be reported as “<#” for the average as indicated in item (c).
20. Failure to pay fees associated with this permit is a violation of the Missouri Clean Water Law (644.055 RSMo).
21. This permit does not authorize the placement of fill materials in flood plains, placement of solid materials into any waterway, the obstruction of stream flow, or changing the channel of a defined drainage course. The facility must contact the U.S. Army Corps of Engineers (Corps) to determine if a CWA §404 Department of Army permit or §401 water quality certification is required for the project.
22. Renewal Application Requirements.
- (a) This facility shall submit an appropriate and complete application to the Department no less than 180 days prior to the expiration date listed on page 1 of the permit.
 - (b) Application materials shall include complete Form A and Form C. If the form names have changed, then the facility should ensure they are submitting the correct forms as required by regulation.
 - (c) The facility may use the electronic submission system to submit the application to the Program, if available.
 - (d) This facility must submit all corrective action reports completed for the last permit term if a benchmark exceedance occurred.

D. LAND DISTURBANCE

The facility will not be required to procure a separate general permit (MO-RA000000) for land disturbance activities which discharge through outfalls authorized in this permit. This permit does not cover disturbance of contaminated soils unless the project is actively managed through a separate project with oversight by the Department’s Environmental Remediation Program. If land disturbance activities discharge to any location other than through a permitted outfall, a separate MORA general permit is required. The general permit does not cover disturbance of contaminated soils.

1. Minimum Best Management Practices (BMPs) for all land disturbance activities must prevent discharges from causing or contributing to an exceedance of water quality standards, including general criteria. All pollution prevention measures must be described in the required Land Disturbance SWPPP; at a minimum such measures must be designed, installed, implemented, and maintained to:
- (a) Control the discharge of stormwater volume and velocity at the facility to minimize soil erosion; including peak flow rate, to minimize erosion at outlets, and to minimize downstream channel and stream bank erosion.
 - (b) Installation of sediment controls necessary to prevent soil erosion at the project boundary must be complete prior to the start of all phases of land disturbance in areas where stormwater runoff may freely leave the site. For projects where perimeter controls are infeasible, other practices shall be implemented to minimize discharges to perimeter areas of the project.
 - (c) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property to comply with water quality criteria (narrative and numeric) and effluent limits or benchmarks contained in this permit.
 - (d) Minimize the amount of soil exposed during construction or land disturbance activity.
 - (e) Minimize the disturbance of steep slopes.
 - (f) Minimize sediment discharges from the project. Design, install, and maintain erosion and sediment controls addressing factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle size expected to be present on the project;
 - (g) Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal, and maximize stormwater infiltration and filtering, unless infeasible;
 - (h) Unless infeasible, preserve topsoil.
 - (i) Remove any sediment from perimeter controls per the manufacturer’s instructions or before it has accumulated to one-half of the above-ground height of any perimeter control.
 - (j) BMPs shall be maintained in effective operating condition with timely repairs made until final stabilization has been achieved.
 - (k) Minimize sediment trackout from the project.
 - (1) Restrict vehicle traffic to designated and controlled exit points.

D. LAND DISTURBANCE (CONTINUED)

- (2) Use stabilization techniques at all exit points onto paved roads.
 - (3) Remove all tracked out sediment within the same day or by the end of the next day if no forecast of rain.
 - (l) Store all paint, solvents, petroleum products, and petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) according to BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Materials exposed to precipitation shall be stored in watertight, structurally sound, closed containers. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. All containers shall be inspected for leaks or spillage during the inspection of BMPs. Any spills should be noted in the SWPPP.
 - (m) Provide good housekeeping practices on the site to keep trash from entry into waters of the state. Good housekeeping practices shall be maintained at all times to keep waste from entering waters of the state. Solid and hazardous waste management include providing trash containers and regular site cleanup for proper disposal of solid waste such as scrap building material, product/material shipping waste, food containers and cups, and providing containers and proper disposal of waste paints, solvents and cleaning compounds. The provision of portable toilets for proper disposal of sanitary sewage and the storage of construction materials should be kept away from drainage courses and low areas.
2. Each project that disturbs one or more acres or disturbs less than one acre as part of a larger common plan of development shall develop a Land Disturbance SWPPP which must be prepared and employed upon initiation of a project. The SWPPP shall incorporate site specific practices to best minimize soil exposure, soil erosion, and the discharge or runoff of pollutants from land disturbance activities. This facility is required to design, install, and maintain effective stormwater, erosion, and sediment controls to minimize pollutant discharges. The facility shall fully implement the provisions of the Land Disturbance SWPPP (or revised SWPPP) required under this part as a condition of this permit until a project achieves final stabilization. Either an electronic copy or a paper copy of the Land Disturbance SWPPP must be accessible and made available to Department personnel, upon request. This SWPPP must be kept on-site and should not be sent to the Department unless specifically requested. This SWPPP must be reviewed and updated every five years or as site conditions change, such as when temporary BMPs are utilized. The facility shall select, install, use, operate, and maintain appropriate and effective BMPs for the land disturbance project in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*, (Document number EPA 833-R-06-004 published by the United States Environmental Protection Agency (USEPA) May 2007). The land disturbance SWPPP must, at a minimum, incorporate the following:
- (a) Site Description: Nature of Disturbance Activity: Information must be of practical use to contractors and site construction workers to guide the installation and maintenance of BMPs. The SWPPP must describe the nature of the construction activity, including:
 - (1) The function of the project (e.g., remediation).
 - (2) List and describe all outfalls discharging stormwater subject to land disturbance. Additional stormwater outfalls must be added to this permit through permit modification.
 - (3) The intended sequence and timing of soil disturbance activities at the site.
 - (4) Estimates of the total area expected to be disturbed by excavation, grading, or other construction activities including off-site borrow and fill areas.
 - (5) Whether or not a §404 Department of Army permit or §401 water quality certification is required for the project.
 - (b) Site Map: A general map with enough detail to identify the location of the construction site and waters of the State within one mile of the site. Legible site map(s) showing the site boundaries and outfalls identifying:
 - (1) Direction(s) of stormwater flow, approximate slopes before, and anticipated slopes after grading activities.
 - (2) Areas of soil disturbance and undisturbed areas.
 - (3) Location and type of structural BMPs.
 - (4) Locations where stabilization practices are expected to occur.
 - (5) Locations of off-site material, waste, borrow, or equipment storage areas.
 - (6) Locations of all waters of the state (including wetlands).
 - (7) Locations where stormwater discharges to a surface water.
 - (8) Areas where final stabilization has been accomplished and no further permit requirements apply.
 - (c) Selection of Temporary and Permanent BMPs: The facility shall select appropriate BMPs for use, and list them in the SWPPP. The SWPPP shall include a description of both structural and operational BMPs used or intended for use.
 - (1) Incorporate effective erosion control practices specific to project conditions;
 - (2) The SWPPP shall require existing vegetation and trees to be preserved where practical.
 - (3) For surface waters of the state, the facility must:
 - i. Provide and maintain a 25-foot undisturbed natural buffer from any stream or property boundary;
 - ii. If less than 25 feet, provide and maintain an undisturbed natural buffer supplemented by erosion and sediment controls to achieve the sediment load reduction equivalent to a 25-foot undisturbed natural buffer; or
 - iii. If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment

D. LAND DISTURBANCE (CONTINUED)

controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

- iv. Where retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water. The ordinary high water mark of the water body, [33 CFR 328.3(c)(6)]; or the edge of the stream or river bank, bluff, or cliff, whichever is applicable.

(4) The SWPPP shall provide the following information for each BMP used at the site:

- i. Description of the BMP, including identifier if used.
- ii. Whether the BMP is temporary or permanent.
- iii. Site conditions required for effective use of the BMP. (maximum slope, etc)
- iv. BMP installation/construction procedures, including representative drawings.
- v. Operation and maintenance procedures for the BMP.
- vi. Where, in relation to other site features, the BMP is to be located. (GPS location may be used)
- vii. Timing of the BMP will be installed in relation to each phase of the land disturbance, and procedures to complete the project.
- viii. Provide a reason and date anytime temporary BMPs are removed before final stabilization has been achieved.
- ix. Site conditions required (ie. vegetation established) before removal of the BMP.

(d) Disturbed Areas:

- (1) For temporarily ceased soil disturbing activities on any portion of the project not resuming for a period exceeding 14 calendar days:

- i. The facility shall construct BMPs to establish interim stabilization; and
- ii. Stabilization must be initiated immediately and completed within 14 calendar days.

- (1) For permanently ceased soil disturbing activities on any portion of the project, final stabilization of disturbed areas must be initiated immediately and completed within 14 calendar days. Allowances to the 14 day completion period for temporary and final stabilization may be made due to weather and equipment malfunctions. The use of allowances shall be documented in the SWPPP.

- (2) Interim stabilization shall consist of well-established and maintained BMPs reasonably certain to protect waters of the state from sediment pollution over an extended period of time. This may require adding more BMPs to an area normally used during daily operations. These BMPs may include a combination of sediment basins, check dams, sediment fences, and/or mulch. The types of BMPs used must be suited to the area disturbed, taking into account the number of acres exposed, and the steepness of the slopes. If the slope of the area is greater than 4:1 (four feet horizontal to one foot vertical) or if the slope is greater than 3% and greater than 150 feet in length, then the facility shall establish interim stabilization within seven days of ceasing operations on interim areas.

- (3) If vegetative stabilization measures are being implemented, stabilization is considered "installed" when plants are sufficiently established. Two years of growing seasons may be required to ensure roots are fully established and vegetation and soils will not be washed away during high-precipitation storm events.

- (e) Installation: The facility shall ensure BMPs are properly installed at the locations and times specified in the SWPPP. Peripheral or border BMPs to control runoff from disturbed areas shall be installed or marked for preservation before general site clearing is started. Note, this requirement does not apply to earth disturbances related to initial site clearing for establishing entry, exit, and access of the site, which may require stormwater controls be installed immediately after the earth disturbance. For phased projects, BMPs shall be properly installed iteratively prior to construction activities. Stormwater discharges shall pass through an appropriate sediment control measure such as a sedimentation basin, sediment traps, or silt fences prior to leaving the land disturbance area.

- (f) Sedimentation Basins/Sediment Control: The SWPPP shall include a sedimentation basin for each drainage area if needed and must be sized to provide sufficient settling based on the expected soils at the site. The basin shall be sized to treat (at a minimum) a local 2-year, 24-hour storm based on the acreage served and infiltration expected at the site. A 2-year, 24-hour storm event can be determined for the project location using the *National Oceanic and Atmospheric Administration's National Weather Service Atlas 14* <https://hdsc.nws.noaa.gov/hdsc/pfds/> or other suitable resource. The areal projected runoff can be calculated using the rational equation <https://www.lmnoeng.com/Hydrology/rational.php> or other suitable source. Accumulated sediment shall be removed from the basin when the basin is 50% full or sooner. Sediments removed may be utilized on site as clean fill or, if determined to contain contaminated industrial sludges, dealt with alternatively. Utilize outlet structures with surficial discharge pipes for basins and impoundments unless infeasible. Discharges from the basin shall not cause scouring of the banks or bottom of the receiving stream. The SWPPP shall require the basin be maintained until final stabilization of the complete area served by the basin. Where use of a settling basin is infeasible, the SWPPP shall evaluate and specify other similarly effective BMPs to be employed to control erosion and sediment runoff. These similarly effective BMPs shall be selected from appropriate BMP guidance documents included in this permit. The BMPs must provide equivalent water quality protection to achieve compliance with this permit. The SWPPP shall require both temporary and permanent sedimentation basins to have a stabilized spillway to minimize the potential for erosion of the spillway or basin embankment.

- (g) Procedural BMPs: The SWPPP shall describe any operational, managerial, or procedural BMPs needed at the site. Procedural BMPs are activities or behaviors (not necessarily associated with structural BMPs) such as street sweeping, or good

D. LAND DISTURBANCE (CONTINUED)

housekeeping techniques. These procedural BMPs shall be described based on frequency required, interval between execution, precipitation expected, or other detailed site conditions or qualifying events shown to be applicable to each specific procedural BMP.

- (h) Roadways: Where applicable, upon installation of or connection to roadways, all efforts must be made to prevent the deposition of sediment onto roadways through the use of proper BMPs. Stormwater control inlets susceptible to receiving sediment shall have curb inlet protection. Curb inlet protection shall be cleaned as needed when sediment accumulates to approximately 50% or less of the total BMP height. Where stormwater will flow from a roadway, a sediment-catching BMP such as gravel berm or silt fence shall be provided.
- (i) Dewatering: Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, including hydroexcavation slurries, are prohibited unless managed by appropriate controls. The SWPPP shall include a description of any anticipated dewatering methods. The SWPPP shall call for specific BMPs designed to treat water pumped from trenches and excavations and in no case shall this water be pumped off-site without being treated by the specified BMPs.
- (j) Amending/Updating the SWPPP: The facility shall amend and update the SWPPP as appropriate during the term of the land disturbance activity. The facility shall amend the SWPPP at a minimum whenever the:
 - (1) Design, operation, or maintenance of BMPs is changed;
 - (2) Design of the project has changed and changes could significantly affect the quality of the stormwater discharges;
 - (3) Facility's inspections indicate deficiencies in the SWPPP or any BMP;
 - (4) Department notifies the facility in writing of deficiencies in the SWPPP;
 - (5) SWPPP is determined to be ineffective in minimizing or controlling erosion and sedimentation (e.g., there is visual evidence of excessive site erosion or excessive sediment deposits in streams or lakes); and/or
 - (6) Department determines violations of water quality criteria may occur or have occurred.
- (k) Designated Individuals: A named individual shall be designated by the facility as the lead for environmental matters, contact information must be included in the SWPPP. This individual shall have a thorough and demonstrable knowledge of the site's SWPPP and sediment and erosion control practices in general.
- (l) Inspections, Logs, and Reports: Qualified individuals shall conduct regularly scheduled inspections. These inspections shall be conducted by persons responsible for environmental matters at the site, or specifically trained by, and directly supervised by, the person responsible for environmental matters at the site. All installed BMPs and other pollution control measures for disturbed areas not finally stabilized, shall be inspected for proper installation, operation, and maintenance. All stormwater outfalls shall be inspected for evidence of erosion or sediment deposition. When practicable, the receiving stream shall also be inspected for 50 feet downstream of the outfall. Any structural, operational, or maintenance problems shall be noted in an inspection report and corrected as soon as practicable but no more than seven calendar days after the inspection. All BMPs must be inspected in accordance to one of the two schedules listed below, and any changes to the frequency of inspections, including switching between the options listed below, must be documented in the SWPPP:
 - (1) At least once every seven calendar days and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased during a normal work day and within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday; or
 - (2) Once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches of precipitation or greater, or the occurrence of runoff from snowmelt. To determine if a storm event of 0.25 inches or greater has occurred, either keep a properly maintained rain gauge on site, or obtain the storm event information from a weather station for the location.
 - (3) If inspections occur every 14 calendar days and there is a storm event at the site continuing for multiple days, and each day of the storm produces 0.25 inches or more of rain, the facility is required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.
 - (4) An individual must conduct an inspection within 24 hours once a storm event has produced 0.25 inches within a 24 hour period, even if the storm event is still continuing.
 - (5) The SWPPP must explain how the person responsible for erosion control will be notified when stormwater runoff occurs. If weather conditions prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (including pictures) and there must be a narrative explaining why the work cannot be accomplished within the seven day time period. The documentation must be filed with the regular inspection reports. The facility shall correct the problem as soon as weather conditions allow. Areas on-site finally stabilized must be inspected at least once per month.
 - (6) A log of each inspection and copy of the inspection report shall be kept readily accessible and must be available upon request by the Department. Electronic logs are acceptable. If inspection reports are kept off-site, the SWPPP must indicate where they are stored. The inspection report shall be signed (may sign electronically) by the person performing the inspection. The inspection report must include the following minimum information:
 - i. Inspector's name;
 - ii. Date of inspection, (time of inspection of each element is encouraged but not required);
 - iii. Frequency and duration of precipitation events (or daily NOAA data) since last inspection;

D. LAND DISTURBANCE (CONTINUED)

- iv. Observations relative to the effectiveness and condition of the BMPs;
 - v. Actions taken or necessary to correct the observed problem; and
 - vi. Listing of areas where land disturbance operations have permanently or temporarily stopped.
- (m) Notification to All Contractors: The facility shall be responsible for notifying each contractor or entity (including but not limited to utility crews, other airport departments, city employees or their agents, or other personnel) who will perform work which could impact stormwater runoff at the site. These notifications shall include notice of the existence of the SWPPP, or requirement to develop a SWPPP; and what actions or precautions shall be taken while on-site to minimize the potential for erosion and the potential for damaging any BMP. The facility is solely responsible to ensure timely correction of any damage to any established BMP and any subsequent water quality violation resulting from the damage.

E. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to §§621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: <https://ahc.mo.gov>

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0111210
LAMBERT-ST. LOUIS INTERNATIONAL AIRPORT

The Federal Water Pollution Control Act (Clean Water Act (CWA) §402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (§301 of the Clean Water Act). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal Clean Water Act and Missouri Clean Water Law 644 RSMo as amended). MSOPs may also cover underground injection, non-discharging facilities, and land application facilities. Permits are issued for a period of five (5) years unless otherwise specified for less.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.] a factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or operating permit) listed below. A factsheet is not an enforceable part of an operating permit.

PART I. FACILITY INFORMATION

Facility Type:	Industrial Stormwater: Airport; >1 MGD
SIC Code(s):	4581
NAICS Code(s):	488119
Application Date:	9/30/2020
Expiration Date:	3/31/2021
Last Inspection:	3/18-19/2021

FACILITY DESCRIPTION:

The City of St. Louis is the owner and operator of St. Louis Lambert International Airport, which is a primary commercial service airport that facilitates the provision of passenger and cargo air transport for the citizens of the greater St. Louis region. The Airport is a department of the City, a separate enterprise fund, and is operated on behalf of the City by the Airport Authority of the City. The Airport has 1,888 acres assigned to the airport. The City maintains airfield infrastructure and terminal facilities as well as airfield operations.

The City leases and permits properties to tenants and other permittees or users for a variety of businesses including airlines, aircraft and ground support equipment services, winter de-icing operations, hangar operations, ground transportation, bulk fuel storage, Jet-A hydrant system operations, fixed based operators (general aviation), aircraft maintenance, vehicle maintenance, restaurant concessions, retail stores, concrete batch plant operations, military and passenger aircraft manufacturing support, snow removal, contractor equipment storage, and air-to-ground cargo operations. Vehicle maintenance areas and bulk fueling facilities are covered under other permits. The facility operates thirteen oil-water separators (OWS). Ten are reported to discharge to the sanitary sewer with permission from the St. Louis Metropolitan Sewer District (MSD). The remaining three OWS discharge to Coldwater Creek and through Outfall #006; the OWSs are located near Lindbergh Tunnel, Charlie Pad, and near parking lot E. The facility is an airport with de-icing areas not subject to 40 CFR 449 because de-icing fluids are not discharged to waters of the state, but rather are released in controlled discharges to MSD. The airport authority and tenants of the airport work in partnership to implement permit requirements. Tenants of the airport facility include air passenger or cargo companies, fixed based operators and other parties who have contracts with the airport authority to conduct business operations on airport property and whose operations result in stormwater discharges associated with industrial activity. In order to qualify for coverage under this permit, the Airport requires tenants complete the following:

1. Develop a SWPPP for all regulated industrial activities and submit the SWPPP to the permittee
2. Conduct annual training of personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas
3. Implement BMPS at least as stringent as those required by this permit, and
4. Conduct monthly SWPPP inspections of BMPs and areas of regulated industrial activity.

The Airport has also recently added a livestock transportation service, but animals must be held, transported and loaded or unloaded inside buildings or otherwise protected from exposure to stormwater (direct or flow through these areas). The facility has a coated floor and drain system that is pumped out and hauled to a wastewater treatment facility. Animal are not held outside. Animals are small and carefully transferred, with the facility operations including an industrial services contractor and vacuum truck. Any animal

waste is immediately addressed. This permit does not authorize any discharge of stormwater or wastewater impacted by animal activities.

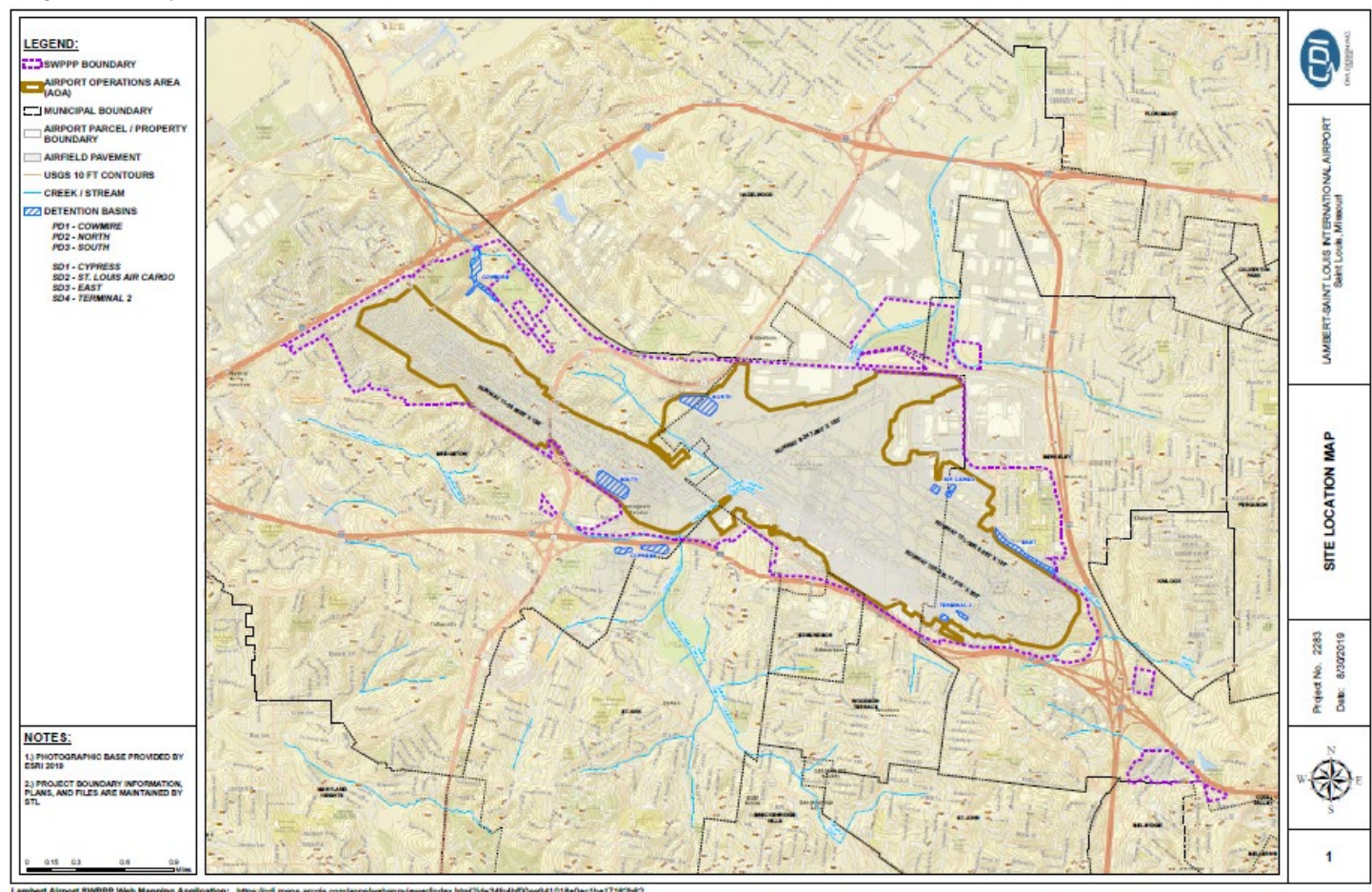
The facility also has cooling systems and cooling towers, but all condensate or cooling water is captured and discharged to the sanitary sewer system.

The facility has routine testing of the fire suppression system. The system and equipment is tested using potable water, but the best management practices minimize the impact on the runoff at this facility. The AFFF system and usage must also be tested annually. The facility has installed a closed loop testing system which captures the foam. Discharge of foam is prohibited. While water quality criteria for per- and polyfluoroalkyl substances (PFAS) have not yet been established, EPA and MoDNR are reviewing these substances and water quality standards for PFAS may be established in the future. As such, the Department recommends the facility conduct sampling during or immediately following AFFF system evaluations to determine the impact of AFFF on the stormwater runoff from this facility, specifically recommending sampling for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) using EPA Method 537.1.

PERMITTED FEATURES TABLE:

OUTFALL	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#006	Dependent on Precipitation	170 MGD	De-icing containment	Airport Stormwater (no de-icing)
#007	Dependent on Precipitation	24 MGD	Stormwater basin, energy diffuser	Airport Stormwater (no de-icing)

FACILITY MAP:



FACILITY PERFORMANCE HISTORY & COMMENTS:

The electronic discharge monitoring reports were reviewed for the last five years. Out of 105 data points, two exceedances of the chloride benchmarks were noted (or less than 2% of the data). Out of 159 data points, 5 exceedances of the TSS benchmark were noted. No exceedances of the COD benchmarks were noted. The facility now captures all de-icing water and discharges it to the sanitary sewer system, with permission from MSD. Minor fuel spills were reported, contained and addressed, implementing best

management practices established for this site. The fuel storage system and the piping (or fuel hydrant) system are continuously monitored for leaks. Leak alarms are investigated and, if a leak is found, repairs are required and contamination is remediated through the Department's Tanks Program.

The facility was inspected in 2016, with no violations noted. The 2021 inspection found that the salt storage area was not being properly maintained, allowing for salt exposure to stormwater. A Letter of Warning was issued for placing de-icing salt in a location where it is reasonably certain to cause pollution, but those issues have been corrected.

CONTINUING AUTHORITY:

The continuing authority for this facility is the City of St. Louis, a municipal government owner.

OTHER ENVIRONMENTAL PERMITS:

In accordance with 40 CFR 122.21(f)(6), the facility reported the following permits are currently held by this facility: Air IOP-OP2018-098, MSD Industrial Wastewater User Permit- 1036503400; the US ACE FUSRAP CERCLA Site also is within the facility perimeter; and legacy fuel releases with corrective actions are under the authority of the MDNR Tanks Remediation regulations. Additionally, numerous other operations on or near the airport have their own NPDES permits for activities not covered under this permit, such as bulk fuel storage or the Boeing operations.

PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#006	Coldwater Creek Metropolitan No-Discharge	C	3960	GEN, HHP, IRR, LWW, SCR, WBC-B, WWH (ALP)	0.0 mi	10300200-0802 Headwaters Coldwater Creek Metropolitan No-Discharge Watershed
#007	Tributary to 100K Extent- Remaining Stream	n/a	n/a	GEN	0.0 mi	10300200-0801 Lower Missouri Basin
#007	100K Extent-Remaining Stream	C	3960	GEN, HHP, IRR, LWW, SCR, WBC-B, WWH (ALP)	0.1 mi	

Classes are representations of hydrologic flow volume or lake basin size as defined in 10 CSR 20-7.031(1)(F). L1: Lakes with drinking water supply - wastewater discharges are not permitted to occur to L1 watersheds per 10 CSR 20-7.015(3)(C); L2: major reservoirs; L3: all other public and private lakes; P: permanent streams; C: streams which may cease flow in dry periods but maintain pools supporting aquatic life; E: streams which do not maintain surface flow; and W: wetland. Losing streams are defined in 10 CSR 20-7.031(1)(O) and are designated on the losing stream dataset or determined by the Department to lose 30% or more of flow to the subsurface.

WBID = Waterbody Identification: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 100K Extant-Remaining Streams or newer; data can be found as an ArcGIS shapefile on MSDIS at ftp://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip; New C streams described on the dataset per 10 CSR 20-7.031(2)(A)3. as 100K Extent Remaining Streams.

HUC: Hydrologic Unit Code; TMDLs and lake nutrient criteria are the two most common watershed based limits. <https://dnr.mo.gov/env/wpp/watersheds.htm> will have additional information about the watersheds in Missouri

Designated Uses:

10 CSR 20-7.031(1)(C)1.: **ALP** = Aquatic Life Protection (formerly AQL); current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: WWH = Warm Water Habitat; CLH = Cool Water Habitat; CDH = Cold Water Habitat; EAH = Ephemeral Aquatic Habitat; MAH = Modified Aquatic Habitat; LAH = Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-B3 for all habitat designations unless otherwise specified.

10 CSR 20-7.031(1)(C)2.: Recreation in and on the water

WBC = Whole Body Contact recreation where the entire body is capable of being submerged;

WBC-A = whole body contact recreation supporting swimming uses and has public access;

WBC-B = whole body contact recreation not included in WBC-A;

SCR = Secondary Contact Recreation (like fishing, wading, and boating)

10 CSR 20-7.031(1)(C)3. to 7.:

HHP (formerly HHF) = Human Health Protection as it relates to the consumption of fish and drinking of water;

IRR = irrigation for use on crops utilized for human or livestock consumption, includes aquifers per 10 CSR 20-7.031(6)(A);

LWW = Livestock and Wildlife Watering (current narrative use is defined as LWP = Livestock and Wildlife Protection), includes aquifers per 10 CSR 20-7.031(6)(A);

DWS = Drinking Water Supply, includes aquifers per 10 CSR 20-7.031(6)(A);

IND = industrial water supply

10 CSR 20-7.031(1)(C)8. to 11.: Wetlands (10 CSR 20-7.031 Tables A1-B3 currently does not have corresponding habitat use criteria for these defined uses): WSA = storm- and flood-water storage and attenuation; WHP = habitat for resident and migratory wildlife species; WRC = recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC = hydrologic cycle maintenance.

10 CSR 20-7.015(7) and 10 CSR 20-7.031(6): **GRW** = Groundwater

10 CSR 20-7.031(4): **GEN** = general criteria; acute toxicity criteria applicable to all waters even those lacking designated uses

n/a = not applicable

WATERS OF THE STATE DESIGNATIONS:

Waters of the state are divided into seven categories per 10 CSR 20-7.015(1)(B)1 through 7. The applicable water of the state category is listed below. Missouri's technology-based effluent regulations are found in [10 CSR 20-7.015] and are implemented in 10 CSR 20-7.015(2) through (8). When implementing technology regulations, considerations are made for the facility type, discharge type, and category of waters of the state. Effluent limitations may not be applicable to certain waters of the state, facility type, or discharge type. In these cases, effluent limitations may be based on a best professional judgment evaluation. The best professional judgment evaluation will take site specific conditions into consideration; including facility type, the receiving water body classification, and type of discharge. Stormwater discharges and land application sites are not directly subject to limitations found in 10 CSR 20-7.015, but may be subject to limitations determined by the best professional judgment evaluation. Effluent limitation derivations are discussed in PART IV: EFFLUENTS LIMITS DETERMINATIONS.

- ✓ Metropolitan No-Discharge areas and streams; identified in Table J of 10 CSR 20-7.031 and regulated per 10 CSR 20-7.031(7)
- ✓ All other waters; identified at 10 CSR 20-7.015(B)7 and 10 CSR 20-7.015(8)

EXISTING WATER QUALITY:

The receiving waterbody for Outfall #006 is a metropolitan no-discharge stream that becomes a 303(d) impaired waterbody approximately 8 miles downstream. This waterbody is impaired for chloride and *E. coli* and, as such, has water quality data associated with the impairment and TMDL. The USGS has data available for this stream. Please visit USGS.gov to download the applicable data.

303(D) LIST:

Section 303(d) of the federal Clean Water Act requires each state identify waters not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock, and wildlife. The 303(d) list helps state and federal agencies keep track of impaired waters not addressed by normal water pollution control programs. <http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm>

- ✓ Applicable; Coldwater Creek is listed on the 2006 Missouri CWA §303(d) list for chloride.
 - This facility is not authorized to discharge wastewater or impacted stormwater, as the discharge is to a metropolitan no-discharge segment of Coldwater Creek. Chloride is included in this permit for monitoring with a benchmark. If a TMDL is implemented for this pollutant, this facility may be subject to a wasteload allocation.

TOTAL MAXIMUM DAILY LOAD (TMDL):

A TMDL is a calculation of the maximum amount of a given pollutant a water body can absorb before its water quality is affected; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards. If a water body is determined to be impaired as listed on the §303(d) list, then a watershed management plan or TMDL for that watershed may be developed. The TMDL shall include the WLA calculation. <http://dnr.mo.gov/env/wpp/tmdl/>

- ✓ Applicable; Coldwater Creek is associated with the 2016 EPA approved TMDL for *E. coli*.
 - This facility is not authorized to discharge wastewater or impacted stormwater, as the discharge is to a metropolitan no-discharge segment of Coldwater Creek. Additionally, this facility is not expected to contribute *E. coli* to the impaired stream or watershed.

RECEIVING WATERBODY MONITORING REQUIREMENTS:

Receiving waterbody monitoring is authorized to calculate net discharge calculations for chloride, total suspended solids, and chemical oxygen demand. If upstream sampling is not conducted, the total reported and net reported sampling results will be the same, with no reduction to account for upstream contributors.

WATERBODY MIXING CONSIDERATIONS:

Mixing was not considered for Outfall #006 as the receiving waterbody is a metropolitan no-discharge stream. Mixing was not considered for stormwater for Outfall #007.

PART III. RATIONALE AND DERIVATION OF PERMIT CONDITIONS

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including: land application, discharges to a gaining stream, and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

- ✓ Not applicable; the facility does not discharge to a losing stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)].

ANTIBACKSLIDING:

Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(l)] require a reissued permit to be as stringent as the previous permit with some exceptions. Backsliding (a less stringent permit limitation) is only allowed under certain conditions.

- ✓ Limitations in this operating permit reissuance conform to the anti-backsliding provisions of CWA §402(o), and 40 CFR 122.44.
 - ✓ Material and substantial alterations or additions to the permitted facility occurred after permit issuance justify the application of a less stringent effluent limitation.
 - The facility has established a de-icing collection system, which captures de-icing materials and impacted runoff from de-icing activities. This wastewater is then discharged to the sanitary sewer system. As such, this permit does not authorize discharge of stormwater impacted by de-icing activities. Monitoring and the chloride benchmark remain to confirm efficacy of BMPs (collection systems), but monitoring of propylene glycol and acetate has been removed. Additionally, WET testing was removed as this sampling was also associated with the previous discharges of de-icing activities.

ANTIDEGRADATION REVIEW:

Process water discharges with new, altered, or expanding flows, the Department is to document, by means of antidegradation review, if the use of a water body's available assimilative capacity is justified. In accordance with Missouri's water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See <http://dnr.mo.gov/env/wpp/permits/antideg-implementation.htm>

- ✓ Not applicable; the facility has not submitted information proposing expanded or altered process water discharge; no further degradation proposed therefore no further review necessary.

This permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) which must include an alternative analysis (AA) of the BMPs. The SWPPP must be developed, implemented, updated, and maintained at the facility. Failure to implement and maintain the chosen alternative, is a permit violation. The AA is a structured evaluation of BMPs to determine which are reasonable and cost effective. Analysis should include practices designed to be 1) non-degrading, 2) less degrading, or 3) degrading water quality. The chosen BMP will be the most reasonable and cost effective while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The analysis must demonstrate why "no discharge" or "no exposure" are not feasible alternatives at the facility. Existing facilities with established SWPPPs and BMPs need not conduct an additional alternatives analysis unless new BMPs are established to address BMP failures or benchmark exceedances. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.015(9)(A)5 and 7.031(3). For stormwater discharges with new, altered, or expanding discharges, the stormwater BMP chosen for the facility, through the AA performed by the facility, must be implemented and maintained at the facility. Failure to implement and maintain the chosen BMP alternative is a permit violation; see SWPPP.

- ✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

BEST MANAGEMENT PRACTICES:

Minimum site-wide best management practices are established in this permit to ensure all facilities are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. While not all sites require a SWPPP because the SIC codes are specifically exempted in 40 CFR 122.26(b)(14), these best management practices are not specifically included for stormwater purposes. These practices are minimum requirements for all industrial sites to protect waters of the state. If the minimum best management practices are not followed, the facility may violate general criteria [10 CSR 20-7.031(4)]. Statutes are applicable to all permitted facilities in the state, therefore pollutants cannot be released unless in accordance with RSMo 644.011 and 644.016 (17).

COST ANALYSIS FOR COMPLIANCE (CAFCom):

Pursuant to 644.145 RSMo, when incorporating a new requirement for discharges from publicly owned facilities, or when enforcing provisions of this chapter or the CWA, pertaining to any portion of a publicly owned facility, the Department shall make a finding of affordability on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the CWA. This process is completed through a CAFCom. Permits not including new requirements may be deemed affordable.

- ✓ The Department is not required to make a "finding of affordability". Per Section 644.145.3, a "finding of affordability" is a statement as to whether or not an individual or household would be required to make unreasonable sacrifices in order to make the

projected monthly payments for services. While part of this facility is partially publicly-owned, the facility accomplishes capital improvements through an established budget for operation and maintenance and not through the issuance of utility bills to customers for services. Because of this, the Department cannot determine the “affordability” of the new permit requirements.

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:

This special condition reiterates the federal rules found in 40 CFR 122.44(f) for technology treatments and 122.42(a)(1) for all other toxic substances. In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as “...any pollutant listed as toxic under section 307(a)(1)” or, in the case of “sludge use or disposal practices,” any pollutant identified in regulations implementing section 405(d) of the CWA.” Section 307 of the clean water act then refers to those parameters listed in 40 CFR 401.15 and any other toxic parameter the Department determines is applicable for reporting under these rules in the permit. The facility should also consider any other toxic pollutant in the discharge as reportable under this condition and must report all increases to the Department as soon as discovered in the effluent. The Department may open the permit to implement any required effluent limits pursuant to CWA §402(k) where sufficient data was not supplied within the application but was supplied at a later date by either the permittee or other resource determined to be representative of the discharge, such as sampling by Department personnel.

COMPLIANCE AND ENFORCEMENT:

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

✓ Not applicable; the facility is not currently under Water Protection Program enforcement action.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:

Domestic wastewater is defined as wastewater (i.e., human sewage) originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, animal waste, process waste, and other similar waste.

✓ Not applicable; this facility discharges domestic wastewater to an off-site permitted wastewater treatment facility (POTW).

Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for productive use (i.e. fertilizer) and after having pathogens removed.

Additional information: <http://extension.missouri.edu/main/DisplayCategory.aspx?C=74> (WQ422 through WQ449).

✓ Not applicable; the facility does not manage domestic wastewater on-site.

EFFLUENT LIMITATIONS:

Effluent limitations derived and established for this permit are based on current operations of the facility and applied per 10 CSR 20-7.015(9)(A) as applicable. Any flow through the outfall is considered a discharge and must be sampled and reported as provided in the permit. Future permit action due to facility modification may contain new operating permit terms and conditions which supersede the terms and conditions, including effluent limitations, of this operating permit. Daily maximums and monthly averages are required per 40 CFR 122.45(d)(1) for continuous discharges (not from a POTW).

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all facilities to begin submitting discharge monitoring data and reports online.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a facility must first submit an eDMR Waiver Request Form: <http://dnr.mo.gov/forms/780-2692-f.pdf>. A request must be made for each facility. If more than one facility is owned or operated by a single entity, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is not transferable.

The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so and electronically submit the data to the EPA on behalf of the facility.

To assist the facility in entering data into the eDMR system, the permit describes limit sets designators in each table in Part A of the permit. The data entry personnel should use these identifiers to ensure data entry is being completed appropriately. For example, M for monthly, Q for quarterly, and others.

- ✓ The facility is currently using the eDMR data reporting system.

FEDERAL EFFLUENT LIMITATION GUIDELINE:

Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.

- ✓ The facility has an associated Effluent Limit Guideline (ELG) at 40 CFR 449 for de-icing activities at airports. While this facility conducts de-icing, any wastewater or impacted stormwater is captured by the de-icing collection system and is discharged to the sanitary sewer. Additionally, this facility is not authorized to discharge wastewater or impacted stormwater, as the discharge is to a metropolitan no-discharge segment of Coldwater Creek. As such, this facility does not have any direct discharges to waters of the state regulated under 40 CFR 449.

GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, 644.076.1 RSMo, as well as Part I §D – Administrative Requirements of Standard Conditions included in this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of §§644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission. See Part IV for specific determinations.

GROUNDWATER MONITORING:

Groundwater is a water of the state according to RSMo 644.016(27), is subject to regulations at 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6), and must be protected accordingly.

- ✓ This facility is not required to monitor groundwater for the water protection program.

LAND APPLICATION:

Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities to maintain a basin as no-discharge. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from RSMo 644.026.

- ✓ Not applicable; this permit does not authorize operation of a surficial land application system to disperse wastewater or sludge.
- ✓ This permit does not authorize land disposal or the application of hazardous waste.

LAND DISTURBANCE:

Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.

- ✓ Applicable; this permit provides coverage for land disturbance activities. These activities have SWPPP requirements and may be combined with the standard site SWPPP.
 - Land disturbance BMPs should be designed to control the expected peak discharges, the University of Missouri has design storm events for the 25 year 24 hour storm; these can be found at: http://ag3.agebb.missouri.edu/design_storm/comparison_reports/20191117_25yr_24hr_comparison_table.htm; to calculate peak discharges, the website <https://www.lmnoeng.com/Hydrology/rational.php> has the rational equation to calculate expected discharge volume from the peak storm events.

MAJOR WATER USER:

Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. All major water users are required by law to register water use annually (Missouri Revised Statutes Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). <https://dnr.mo.gov/pubs/pub2236.htm>

- ✓ Not applicable; this facility cannot withdraw water from the state in excess of 70 gpm/0.1 MGD.

NUTRIENT MONITORING:

Nutrient monitoring is required for facilities characteristically or expected to discharge nutrients (nitrogenous compounds and/or phosphorus) when the design flow is equal to or greater than 0.1 MGD per 10 CSR 20-7.015(9)(D)8. This requirement is applicable to all Missouri waterways.

- ✓ This is a stormwater only permit therefore not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C).

Water quality standards per 10 CSR 20-7.031(5)(N) describe nutrient criteria requirements assigned to lakes (which include reservoirs) in Missouri, equal to or greater than 10 acres during normal pool conditions. The Department's Nutrient Criteria Implementation Plan (NCIP) may be reviewed at: <https://dnr.mo.gov/env/wpp/rules/documents/nutrient-implementation-plan-final-072618.pdf> Discharges of wastewater in to lakes or lake watersheds designated as L1 (drinking water use) are prohibited per 10 CSR 20-7.015(3)(C).

- ✓ Not applicable; this facility does not discharge in a lake watershed or the lake is less than 10 acres.
- ✓ This is a stormwater only permit therefore not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C).

OIL/WATER SEPARATORS:

Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank.

- ✓ Applicable; the OWS, as disclosed by the facility, discharge to the MSD sanitary sewer or to outfall #006, and this outfall contains appropriate parameters as determined by the permit writer. Sludge generated by OWS is subject to Special Conditions. See SLUDGE – INDUSTRIAL below.

OPERATOR CERTIFICATION REQUIREMENTS:

Operators or supervisors of operations at regulated domestic wastewater treatment facilities shall be certified in accordance with 10 CSR 20-9 and any other applicable state law or regulation.

- ✓ Not applicable; this facility is not required to have a certified operator. This permit does not cover domestic wastewater or the domestic wastewater population equivalent (PE) is less than two hundred (200) individuals. Additionally, this facility is not owned or operated by a municipality, public sewer district, county, public water supply district, or private sewer company regulated by the Public Service Commission, or operated by a state or federal agency. Private entities are exempted from the population equivalent requirement unless the Department has reason to believe a certified operator is necessary.

PRETREATMENT:

This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publicly owned treatment works - POTW) is to ensure compliance with any effluent limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per RSMo 644.016 are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities.

- ✓ Applicable; this entity reported wastewater is discharged to a POTW and falls under a category requiring pretreatment requirements.

REASONABLE POTENTIAL (RP):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants which are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times; however, acute toxicity criteria may be exceeded by permit in zones of initial dilution, and chronic toxicity criteria may be exceeded by permit in mixing zones. If the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for the pollutant per 40 CFR Part 122.44(d)(1)(iii) and the most stringent limits per 10 CSR 20-7.031(9)(A). Permit writers may use mathematical reasonable potential analysis (RPA) using the Technical Support Document for Water Quality Based Toxics Control (TSD) methods (EPA/505/2-90-001) as found in Section 3.3.2, or may also use reasonable potential determinations (RPD) as provided in Sections 3.1.2, 3.1.3, and 3.2 of the TSD.

- ✓ A mathematical RPA was not conducted on the stormwater for this facility. This permit establishes permit limits and benchmarks for stormwater. The Department has determined stormwater is not a continuous discharge and is therefore not necessarily dependent on mathematical RPAs. However, the permit writer completed an RPD, a reasonable potential determination, using best professional judgment for all of the appropriate parameters in this permit. An RPD consists of reviewing application data and/or discharge monitoring data for the last five years and comparing those data to narrative or numeric water quality criteria.

RENEWAL REQUIREMENTS:

The renewal special condition permit requirement is designed to guide the facility to prepare and include all relevant and applicable information in accordance with 10 CSR 20-6.010(7)(A)-(C), and if applicable, federal regulations. The special condition may not include all requirements and requests for additional information may be made at the time of permit renewal under RSMo

644.051.13(5) and 40 CFR 122.21(h). Prior to submittal, the facility must review the entire submittal to confirm all required information and data is provided; it is the facility's responsibility to discern if additional information is required. Failure to fully disclose applicable information with the application or application addendums may result in a permit revocation per 10 CSR 20-6.010(8)(A) and may result in the forfeiture of permit shield protection authorized in RSMo 644.051.16.

SAMPLING FREQUENCY JUSTIFICATION:

Sampling and reporting frequency was generally retained from previous permit. Sampling frequency for these stormwater-only outfalls is monthly to monitor the adequacy of the BMPs and taking into account the volume of stormwater and activity at this facility.

SAMPLING TYPE JUSTIFICATION:

Sampling type was continued from the previous permit. The sampling types are representative of the discharges, and are protective of water quality. Discharges with altering effluent should have composite sampling; discharges with uniform effluent can have grab samples. Grab samples are usually appropriate for stormwater. Parameters which must have grab sampling are: pH, ammonia, *E. coli*, total residual chlorine, free available chlorine, hexavalent chromium, dissolved oxygen, total phosphorus, volatile organic compounds, and others. For further information on sampling and testing methods see 10 CSR 20-7.015(9)(D)2.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. SOC's are allowed under 40 CFR 122.47 and 10 CSR 20-7.031(11) providing certain conditions are met. An SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed in accordance with 40 CFR 125.3.
- For a newly constructed facility in most cases per RSMo 644.029. Newly constructed facilities must meet all applicable effluent limitations (technology and water quality) when discharge begins. New facilities are required to install the appropriate control technologies as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study associated with development of a site specific criterion. A facility is not prohibited from conducting these activities, but a SOC may not be specifically granted for conducting these activities.

In order to provide guidance in developing SOC's, and to attain a greater level of consistency, the Department issued a policy on development of SOC's on October 25, 2012. The policy provides guidance to permit writers on standard time frames for schedules for common activities, and guidance on factors to modify the length of the schedule.

✓ Not applicable; this permit does not contain a SOC.

SPILLS, OVERFLOWS, AND OTHER UNAUTHORIZED DISCHARGE REPORTING:

Per 260.505 RSMo, any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. <http://dnr.mo.gov/env/esp/spillbill.htm>

Any other spills, overflows, or unauthorized discharges reaching waters of the state must be reported to the regional office during normal business hours, or after normal business hours, to the Department's 24 hour Environmental Emergency Response spill line at 573-634-2436.

SLUDGE – INDUSTRIAL:

Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process or non-process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and any material derived from industrial sludge. Industrial sludge could also be derived from lagoon dredging or other similar maintenance activities.

✓ Applicable; oil and sludge collected from the oil-water separator must be properly managed for disposal or recycling.

STANDARD CONDITIONS:

The standard conditions Part I attached to this permit incorporate all sections of 10 CSR 20-6.010(8) and 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the facility to ascertain compliance with this permit, state regulations, state statutes, federal regulations, and the Clean Water Act. Standard Conditions Part III, if attached to this permit, incorporate requirements dealing with domestic wastewater, domestic sludge, and land application of domestic wastes.

STORMWATER PERMITTING: LIMITATIONS AND BENCHMARKS:

Because of the fleeting nature of stormwater discharges, the Department, under the direction of EPA guidance, has determined monthly averages are capricious measures of stormwater-only discharges. The *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001; 1991) §3.1 indicates most procedures within the document apply only to water quality based approaches, not end-of-pipe technology-based controls. Hence, stormwater-only outfalls will generally only contain a maximum daily limit (MDL), a benchmark, or a monitoring requirement as dictated by site specific conditions, the BMPs in place, the BMPs proposed, past performance of the facility, and the receiving water's current quality.

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer, if there is no RP for water quality excursions.

- ✓ Applicable, this facility has stormwater-only outfalls where benchmarks or limitations were deemed appropriate contaminant measures.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k), Best Management Practices (BMPs) must be used to control or abate the discharge of pollutants when: 1) Authorized under §304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under §402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002) published by the EPA in 2015 https://www.epa.gov/sites/production/files/2015-11/documents/swppp_guide_industrial_2015.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the facility should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. For further guidance, consult the antidegradation implementation procedure (<http://dnr.mo.gov/env/wpp/docs/AIP050212.pdf>).

Alternative Analysis (AA) evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The AA evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of AIP defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The AA evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure* (AIP), §II.B.

If parameter-specific numeric benchmark exceedances continue to occur and the facility feels there are no practicable or cost-effective BMPs which will sufficiently reduce a pollutant concentration in the discharge to the benchmark values established in the permit, the

facility can submit a request to re-evaluate the benchmark values. This request needs to include 1) a detailed explanation of why the facility is unable to comply with the permit conditions and unable to establish BMPs to achieve the benchmark values; 2) financial data of the company and documentation of cost associated with BMPs for review and 3) the SWPPP, which should contain adequate documentation of BMPs employed, failed BMPs, corrective actions, and all other required information. This will allow the Department to conduct a cost analysis on control measures and actions taken by the facility to determine cost-effectiveness of BMPs. The request shall be submitted in the form of an operating permit modification, which includes an appropriate fee; the application is found at: <https://dnr.mo.gov/forms/#WaterPollution>

- ✓ Applicable; a SWPPP shall be developed and implemented for this facility; see specific requirements in the SPECIAL CONDITIONS section of the permit.

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:

Please review Standard Conditions Part 1, §A, No. 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 unless alternates are approved by the Department and incorporated within this permit. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method quantifies the pollutant below the level of the applicable water quality criterion or; 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established. A facility is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to §§1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health based standards, or may otherwise adversely affect human health. If the director finds the injection activity may endanger USDWs, the Department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the facility shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: <http://dnr.mo.gov/forms/780-1774-f.pdf> Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

- ✓ Not applicable; the facility has not submitted materials indicating the facility will be performing UIC at this site.

VARIANCE:

Per the Missouri Clean Water Law §644.061.4, variances shall be granted for such period of time and under such terms and conditions as specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141. Thermal variances are regulated separately and are found under 644.

- ✓ Not applicable; this permit is not drafted under premise of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010; definitions], the WLA is the maximum amount of pollutant each discharger is allowed to discharge into the receiving stream without endangering water quality. Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. If one limit does not provide adequate protection for the receiving water, then the other must be used per 10 CSR 20-7.015(9)(A).

- ✓ Not applicable, this is a stormwater only permit therefore WLAs were not calculated. See section on stormwater permitting as applying WLAs to stormwater is not normally applicable per TSD §3.1.

WASTELOAD ALLOCATION (WLA) MODELING:

Facilities may submit site specific studies to better determine the site specific wasteload allocations applied in permits.

✓ Not applicable; a WLA study was either not submitted or determined not applicable by Department staff.

WATER QUALITY STANDARD REVISION:

In accordance with 644.058 RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

✓ This operating permit does not contain requirements for a water quality standard changing twenty-five percent or more since the previous operating permit.

PART IV. EFFLUENT LIMIT DETERMINATIONS

OUTFALLS #006 & #007 – STORMWATER OUTFALLS

STORMWATER LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH- MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	SAME	ONCE/MONTH	ONCE/MONTH	24 HR. ESTIMATE
PRECIPITATION	inches	*	-	SAME	ONCE/MONTH	ONCE/MONTH	24 HR. TOT
CONVENTIONAL							
COD (NET)	mg/L	**	750	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
OIL & GREASE	mg/L	15	-	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
pH †	SU	6.5-9.0	-	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
TSS (NET)	mg/L	*	200	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
OTHER							
ACETATE	mg/L	REMOVED					
CHLORIDE (NET)	mg/L	**	860	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
PROPYLENE GLYCOL	mg/L	REMOVED					
WET TEST – ACUTE (OUTFALL #006 ONLY)	TU _a	REMOVED					

- * monitoring and reporting requirement only
- ** monitoring with associated benchmark
- † report the minimum and maximum pH values; pH is not to be averaged

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow

In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to ensure compliance with permitted effluent limitations. If the facility is unable to obtain effluent flow, then it is the responsibility of the facility to inform the Department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD), monthly monitoring continued from previous permit.

Precipitation

Monitoring only requirement; measuring the amount of precipitation [(10 CSR 20-6.200(2)(C)1.E(VI)] during an event is necessary to ensure adequate stormwater management exists at the site. Knowing the amount of potential stormwater runoff can provide the facility a better understanding of any specific control measures be employed to ensure protection of water quality. The facility will provide the 24 hour accumulation value of precipitation from the day of sampling the other parameters.

CONVENTIONAL:

Chemical Oxygen Demand (COD)

Monitoring with 750 mg/L net daily maximum benchmark is continued from the previous permit using the permit writer's best professional judgment. There is no numeric water quality standard for COD; however, increased oxygen demand may impact instream water quality. COD is also a valuable indicator parameter. COD monitoring allows the facility to identify increases in COD may indicate materials/chemicals coming into contact with stormwater causing an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs. The original benchmark limit was based on the 95th percentile of the facility's winter (de-icing season) discharges. The previous permit noted exceedances of this benchmark, but a review of the current data does not find any COD exceedances in the most recent permit cycle, indicating that the improvement to the BMPs has been successful and needs to be maintained. Net calculations are allowed for outfall #006, so long as in-stream sampling is acquired at the same time as the facility sampling to determine upstream contributions at the time of sampling.

Oil & Grease

15 mg/L daily maximum; continued from previous permit. Oil and grease is considered a conventional pollutant. Oil and grease is a comprehensive test which measures for gasoline, diesel, crude oil, creosote, kerosene, heating oils, heavy fuel oils, lubricating oils, waxes, and some asphalt and pitch. The test can also detect some volatile organics such as benzene, toluene, ethylbenzene, or toluene, but these constituents are often lost during testing due to their boiling points. The facility uses and transports millions of gallons of jet fuel each month, with multiple fueling points across the facility. Oils and greases of different densities will possibly form sheen or unsightly bottom deposits at levels which vary from 10 mg/L. To protect the general criteria, it is the responsibility of the facility to visually observe the discharge and receiving waters for sheen or bottom deposits.

AQL Chronic: 10 mg/L per 10 CSR 20-7.031 Table A1

Set chronic standard equal to chronic WLA per TSD §5.4.2 (EPA/505/2-90-001); multiply by 1.5 to obtain acute limit.

10 mg/L * 1.5 = 15 mg/L

pH

6.0 to 9.0 SU continued from previous permit. Technology based limits [10 CSR 20-7.015(9)(I)1.] are applicable to this outfall. The permit writer has determined there is no reasonable potential to affect water quality, therefore technology limitations for wastewater are applied. pH is a fundamental water quality indicator. Additionally, metals leachability and ammonia availability in wastewater is dependent on pH. Limitations in this permit will protect against aquatic organism toxicity, downstream water quality issues, human health hazard contact, and negative physical changes in accordance with the general criteria at 10 CSR 20-7.031(4) and the Clean Water Act's (CWA) goal of 100% fishable and swimmable rivers and streams. The stormwater at the site is highly variable in pH, with one exceedance of 9.4 SU and the remaining samples between 7.13 – 9.0 SU, limitations are appropriate as the stormwater has the potential to violate water quality.

Total Suspended Solids (TSS)

Monitoring with a daily maximum benchmark of 200 mg/L. There is no numeric water quality standard for TSS; however, sediment discharges can negatively impact aquatic life habitat. TSS is also a valuable indicator parameter. TSS monitoring allows the facility to identify increases in TSS indicating uncontrolled materials leaving the site. Increased suspended solids in runoff can lead to decreased available oxygen for aquatic life and an increase of surface water temperatures in a receiving stream. Suspended solids can also be carriers of toxins, which can adsorb to the suspended particles; therefore, total suspended solids are a valuable indicator parameter for other pollution. The benchmark is achievable through proper operational and maintenance of BMPs and falls within the range of values implemented in other permits having similar industrial activities. Net calculations are allowed for outfall #006, so long as in-stream sampling is acquired at the same time as the facility sampling to determine upstream contributions at the time of sampling.

OTHER:

Acetate

Monitoring removed. Previous permit was monitoring only for this parameter as potassium acetate and sodium acetate have been used as de-icing agents. The ECOTOX database has several reports where *Ceriodaphnia dubia* were used to determine toxicity. Short term studies indicate the toxicity range between toxicity between 259 mg/L and 499 mg/L, but the results reported during the last permit cycle were between non-detect (detection limit of 5 mg/L) to 95 mg/L. The facility has established a de-icing materials collection system, which directs all de-icing runoff to the sanitary sewer system. As such, monitoring for this pollutant is removed, as no stormwater runoff or direct discharge of de-icing materials is authorized under this permit. Chloride and propylene glycol will remain to monitor the effectiveness of the de-icing collection system.

Chloride

Roadway pavement deicer; the previous permit required monitoring for chlorides. Sodium chloride and other chloride compounds may be used as, or mixed in with, pavement de-icer. Precipitation is not a continuous discharge per 122.45(d). The department is allowed latitude when permitting for precipitation discharges and may allow the permittee to discharge the in-stream standard,

mainly because, during storm events, the facility is not discharging at the low-flow stream conditions therefore the department is not required to hold stormwater to the more rigorous 7Q10 protection standard. Acute WQS: **860 mg/L** (<http://sl.sos.mo.gov/cmsimages/adrules/csr/previous/10csr/10csr0909/10c20-7.pdf>) will be used as the benchmark. Monthly monitoring continued, during de-icing season only. Outfall #006 will be allowed net benchmarks. The facility has established a de-icing materials collection system, which directs all de-icing runoff to the sanitary sewer system. Chloride and propylene glycol will remain to monitor the effectiveness of the de-icing collection system.

Propylene Glycol

Monitoring removed. Antifreeze; previous permit: monthly monitoring only; facility reported between 5 (detection limit) to 65 mg/L of this parameter in the previous five years. Short term toxicity of this parameter occurs at about 1,020 mg/L per the ECOTOX database. The facility has established a de-icing materials collection system, which directs all de-icing runoff to the sanitary sewer system. Chloride will remain to monitor the effectiveness of the de-icing collection system.

Whole Effluent Toxicity (WET) Test

Monitoring removed. The previous permit included WET testing to monitoring for impacts from the de-icing activities. All WET test results indicated passing results, or no toxicity, during the previous permit cycle. The facility has established a de-icing materials collection system, which directs all de-icing runoff to the sanitary sewer system. As such, monitoring for this pollutant is removed, as no stormwater runoff or direct discharge of de-icing materials is authorized under this permit. Chloride will remain to monitor the effectiveness of the de-icing collection system.

PART V. ADMINISTRATIVE REQUIREMENTS

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PERMIT SYNCHRONIZATION:

Permits are normally issued on a five-year term, but to achieve watershed synchronization some permits will need to be issued for less than the full five years as allowed by regulation. The intent is all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. <http://dnr.mo.gov/env/wpp/cpp/docs/watershed-based-management.pdf>. This will allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than two years old, such data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

✓ This permit will maintain synchronization by expiring the end of the 1st quarter, 2026.

PUBLIC NOTICE:

The Department shall give public notice a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in or with concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing. <http://dnr.mo.gov/env/wpp/permits/pn/index.html> The Department must issue public notice of a pending operating permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wishing to submit comments regarding this proposed operating permit, please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments. All comments must be in written form.

✓ The Public Notice period for this operating permit started October 22, 2021 and ended November 22, 2021. No comments were received.

DATE OF FACT SHEET: OCTOBER 1, 2021

COMPLETED BY:

HEATHER PETERS, ENVIRONMENTAL SUPERVISOR
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL UNIT
(573) 526-5449
heather.peters@dnr.mo.gov



STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions

Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.
2. **Monitoring Requirements.**
 - a. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
 - b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.
3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.
4. **Test Procedures.** The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is “sufficiently sensitive” when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility’s discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.
5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee’s sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
 - a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
 - b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
 - a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
 - i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
 - iii. The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
 - iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.
2. **Non-compliance Reporting.**
 - a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.



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- b. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
 - ii. Any upset which exceeds any effluent limitation in the permit.
 - iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.
 - c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.
3. **Anticipated Noncompliance.** The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.
 4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.
 5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.
 6. **Other Information.** 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 Department, it shall promptly submit such facts or information.
 7. **Discharge Monitoring Reports.**
 - a. Monitoring results shall be reported at the intervals specified in the permit.
 - b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
 - c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.
- b. Notice.
 - i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
 - ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
 - c. Prohibition of bypass.
 - i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 2. 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
 3. The permittee submitted notices as required under paragraph 2. b. of this section.
 - ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.
3. **Upset Requirements.**
 - a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
 - b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - ii. The permitted facility was at the time being properly operated; and
 - iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
 - iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
 - c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section C – Bypass/Upset Requirements

1. **Definitions.**
 - a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
 - b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes 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.
 - c. *Upset*: 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.
2. **Bypass Requirements.**
 - 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 2. b. and 2. c. of this section.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
 - a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 - b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement



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imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.
 - d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed \$10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than \$50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.
2. **Duty to Reapply.**
 - a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
 - b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission

for applications to be submitted later than the expiration date of the existing permit.)

- c. A permittee with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
3. **Need to Halt or Reduce Activity Not a Defense.** 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 the conditions of this permit.
 4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
 5. **Proper Operation and Maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the 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 the conditions of the permit.
 6. **Permit Actions.**
 - a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
 - i. Violations of any terms or conditions of this permit or the law;
 - ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
 - iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
 - iv. Any reason set forth in the Law or Regulations.
 - b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
 7. **Permit Transfer.**
 - a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
 - b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
 - c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.
 8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
 9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.



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REVISED
AUGUST 1, 2014

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.
11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), 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 the permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.
12. **Closure of Treatment Facilities.**
 - a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
 - b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.
13. **Signatory Requirement.**
 - a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
 - b. The Federal Clean Water Act provides 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 non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
 - c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.
14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

September 30, 2020

Missouri Dept. of Natural Resources
Attn: Heather Peters
Water Protection Program
1101 Riverside Drive
Jefferson City, MO 65102-0176

submitted via email: cleanwaterpermits@dnr.mo.gov

RE: Renewal Application – Missouri State Operating Permit MO-0111210

Ms. Peters,

The City of St. Louis owns and operates St. Louis Lambert International Airport® (Airport or STL). The St. Louis Airport Authority is the city department that manages the daily operations. The Airport Authority is made up of the Airport Commission, the Airport Director, and more than 500 full-time employees. The Airport is operating under Missouri State Operating Permit MO-0111210, which was effective January 1, 2018 and expires March 31, 2021. This letter and the attached Forms A and C are submitted to request a 5-year renewal of the permit.

The current permit reflects a collaborative effort with the Missouri Department of Natural Resources (Department) conducted over many years and multiple renewals. The Airport appreciates the previous efforts by the Department to develop a permit that is protective of water quality through innovative use of a Stormwater Pollution Prevention Plan (SWPPP) that implements adaptive management principles to ensure compliance with benchmark monitoring values.

The Airport continues to implement, inspect, monitor and maintain structural and non-structural best management practices (BMPs) that protect water quality and are tailored to the unique challenges of a major airport. Each year the Airport faces challenges associated with land disturbance projects and tenant activity. The current permit provides for a collaborative approach that has proved to be efficient and effective at managing these challenges while meeting the Airport's water quality goals. The Airport strives for continual improvement to achieve environmental excellence. The Environmental Health and Safety (EHS) staff work with all internal Airport Departments and tenants to emphasize these values in daily operations. Water quality monitoring results reported over this permit cycle and attached to Form C demonstrate the effectiveness of this approach.

During this renewal, the Airport would like to discuss removal of the no-discharge Outfall #010 from the permit to only documentation included in the fact sheet. The Airport has adjusted management of deicing waters to completely eliminate discharge. This year, St. Louis Metropolitan Sewer District increased the wastewater permit discharge limitations to the sanitary

sewer. The Airport does not propose to discharge to the surface from Outfall #010 in the future and understands that it would be considered a violation of Missouri Clean Water Law.

The only significant change to industrial activities since January 2018, is the ongoing upgrade of the Bulk Fuel Storage Farm owned by the Airport Authority and operated by Swissport SA Fuel Services, LLC under Missouri State Operating Permit MO-0127329. Major changes to this facility are under way. The primary objective of the New Fuel Storage Facility Project (Project), is to replace the current underground fuel storage facility, which has exceeded its service life, with a new three million gallon above ground fuel storage facility (MO-RA13532). The Project also includes the following:

- Construction of a new fuel transfer line (MO-RA16340);
- Construction of a new truck fill and hydrant cart test stand to support the Airside Fuel System (MO-RA15991);
- Concrete parking and containment for the storage of Jet A Fuel tanker trucks when not in use for airside fueling activities
 - Replacement of the existing underground oil water separator to treat and discharge containment water (Outfall 001 of MO-0127329);
- Construction of a new maintenance yard;
- Construction of two Jet-A fuel bulk loading racks; and
- Construction of a new valve vault at Concourse A.

The Project is ongoing, with construction of the new fuel storage facility and the transfer line well under way. Next steps include construction of the hydrant cart test stand and other fuel equipment and facilities. These facilities will be in the same location as those currently permitted under MO-0127329, including an oil water separator that discharges to Coldwater Creek.

I understand the Department completed efforts to synchronize permit expirations in the watershed to facilitate coordination of permitting decisions. As an economic hub for this region of the St. Louis metropolitan area, the Airport would like to take this opportunity to collaborate with the Department and other permittees on permits in the Coldwater Creek watershed; including the Bulk Fuel Storage Facility (MO-0127329), Boeing (MO-0004782), and GKN Aerospace (MO-0135950). Additionally, we would like to review the applicable or relevant appropriate requirements (ARARs) applied to the St. Louis Airport Site (SLAPS) in 1998. SLAPS is part of the Formerly Utilized Sites Remedial Action Program (FUSRAP).

We look forward to hearing from our Permit Writer and respectfully request the opportunity to review any draft changes prior to the public notice of MO-0111210. Our previous experience working with Pam Hackler was successful and we would be pleased to work with her again. Please contact me via phone at (314) 551-5035 or email at jmstrobels@flystl.com to arrange a meeting at your earliest convenience.

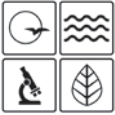
Sincerely, 
9/30/20

Jon Strobel
Airport EHS Manager

Attachments:

Application Form A – MO780-1479 Application for Nondomestic Permit, 1”-2000’ Scale Topographic Map, Description of Outfalls and List of Downstream Landowners

Application Form C – MO 780-1514 – Application for Discharge Permit – Manufacturing, Commercial, Mining, Silviculture Operations, Process Stormwater; Description of the Nature of the Business; Description of Operations, Activities, and Intermittent Discharges; Contract Laboratory Information; Discharge Monitoring Summary Tables, Location Map, Line Drawings, and BMP Diagram



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
**FORM A – APPLICATION FOR NONDOMESTIC PERMIT UNDER MISSOURI
CLEAN WATER LAW**

FOR AGENCY USE ONLY

CHECK NUMBER

DATE RECEIVED

FEE SUBMITTED

JET PAY CONFIRMATION NUMBER

**PLEASE READ ALL THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.
SUBMITTAL OF AN INCOMPLETE APPLICATION MAY RESULT IN THE APPLICATION BEING RETURNED.**

IF YOUR FACILITY IS ELIGIBLE FOR A NO EXPOSURE EXEMPTION:

Fill out the No Exposure Certification Form (Mo 780-2828): <https://dnr.mo.gov/forms/780-2828-f.pdf>

1. REASON FOR APPLICATION:

- ☒ a. This facility is now in operation under Missouri State Operating Permit (permit) MO – 0111210, is submitting an application for renewal, and there is no proposed increase in design wastewater flow. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.
- ☐ b. This facility is now in operation under permit MO – _____, is submitting an application for renewal, and there is a proposed increase in design wastewater flow. Antidegradation Review may be required. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.
- ☐ c. This is a facility submitting an application for a new permit (for a new facility). Antidegradation Review may be required. New permit fee is required.
- ☐ d. This facility is now in operation under Missouri State Operating Permit (permit) MO – _____ and is requesting a modification to the permit. Antidegradation Review may be required. Modification fee is required.

2. FACILITY

NAME Lambert-St.Louis International Airport		TELEPHONE NUMBER WITH AREA CODE	
ADDRESS (PHYSICAL) 10701 Lambert International Boulevard	CITY St. Louis	STATE MO	ZIP CODE 63145

3. OWNER

NAME City of St. Louis		TELEPHONE NUMBER WITH AREA CODE	
EMAIL ADDRESS			
ADDRESS (MAILING) 1200 Market Street	CITY St. Louis	STATE MO	ZIP CODE 63103

4. CONTINUING AUTHORITY

NAME St. Louis Airport Authority		TELEPHONE NUMBER WITH AREA CODE	
EMAIL ADDRESS			
ADDRESS (MAILING) 10701 Lambert International Boulevard	CITY St. Louis	STATE MO	ZIP CODE 63145

5. OPERATOR CERTIFICATION

NAME NOT APPLICABLE	CERTIFICATE NUMBER NOT APPLICABLE	TELEPHONE NUMBER WITH AREA CODE	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

6. FACILITY CONTACT

NAME Jon Strobel	TITLE EHS Manager	TELEPHONE NUMBER WITH AREA CODE (314) 551-5035
E-MAIL ADDRESS jmstrobel@flystl.com		

7. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary.

NAME SEE ATTACHED			
ADDRESS	CITY	STATE	ZIP CODE

8. ADDITIONAL FACILITY INFORMATION**8.1** Legal Description of Outfalls. (Attach additional sheets if necessary.) **SEE ATTACHED***For Universal Transverse Mercator (UTM), use Zone 15 North referenced to North American Datum 1983 (NAD83)*

001 _____¹/₄ _____¹/₄ Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): See Attached Northing (Y): _____
002 _____¹/₄ _____¹/₄ Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): See Attached Northing (Y): _____
003 _____¹/₄ _____¹/₄ Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): See Attached Northing (Y): _____
004 _____¹/₄ _____¹/₄ Sec _____ T _____ R _____ County
UTM Coordinates Easting (X): N/A Northing (Y): _____

8.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.

Primary SIC 4581 and NAICS 488111 SIC _____ and NAICS _____
SIC _____ and NAICS _____

9. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION

- A. Is this permit for a manufacturing, commercial, mining, solid/hazardous waste, or silviculture facility? YES ☐ NO ☒
If yes, complete Form C.
- B. Is the facility considered a "Primary Industry" under EPA guidelines (40 CFR Part 122, Appendix A) : YES ☐ NO ☒
If yes, complete Forms C and D.
- C. Is wastewater land applied? YES ☐ NO ☒
If yes, complete Form I.
- D. Are sludge, biosolids, ash, or residuals generated, treated, stored, or land applied? YES ☐ NO ☒
If yes, complete Form R.
- E. Have you received or applied for any permit or construction approval under the CWA or any other environmental regulatory authority? YES ☐ NO ☒
If yes, please include a list of all permits or approvals for this facility.
- F. Do you use cooling water in your operations at this facility? YES ☒ NO ☐
If yes, please indicate the source of the water: Missouri American Water
- G. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

10. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please visit <http://dnr.mo.gov/env/wpp/edmr.htm> to access the Facility Participation Package.

- ☐ - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.
- ☒ - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.
- ☐ - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

11. FEES

Permit fees may be paid by attaching a check, or online by credit card or eCheck through the JetPay system. Use the URL provided to access JetPay and make an online payment: <https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/>

12. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)

Jon Strobel, Environmental Health and Safety Manager

TELEPHONE NUMBER WITH AREA CODE

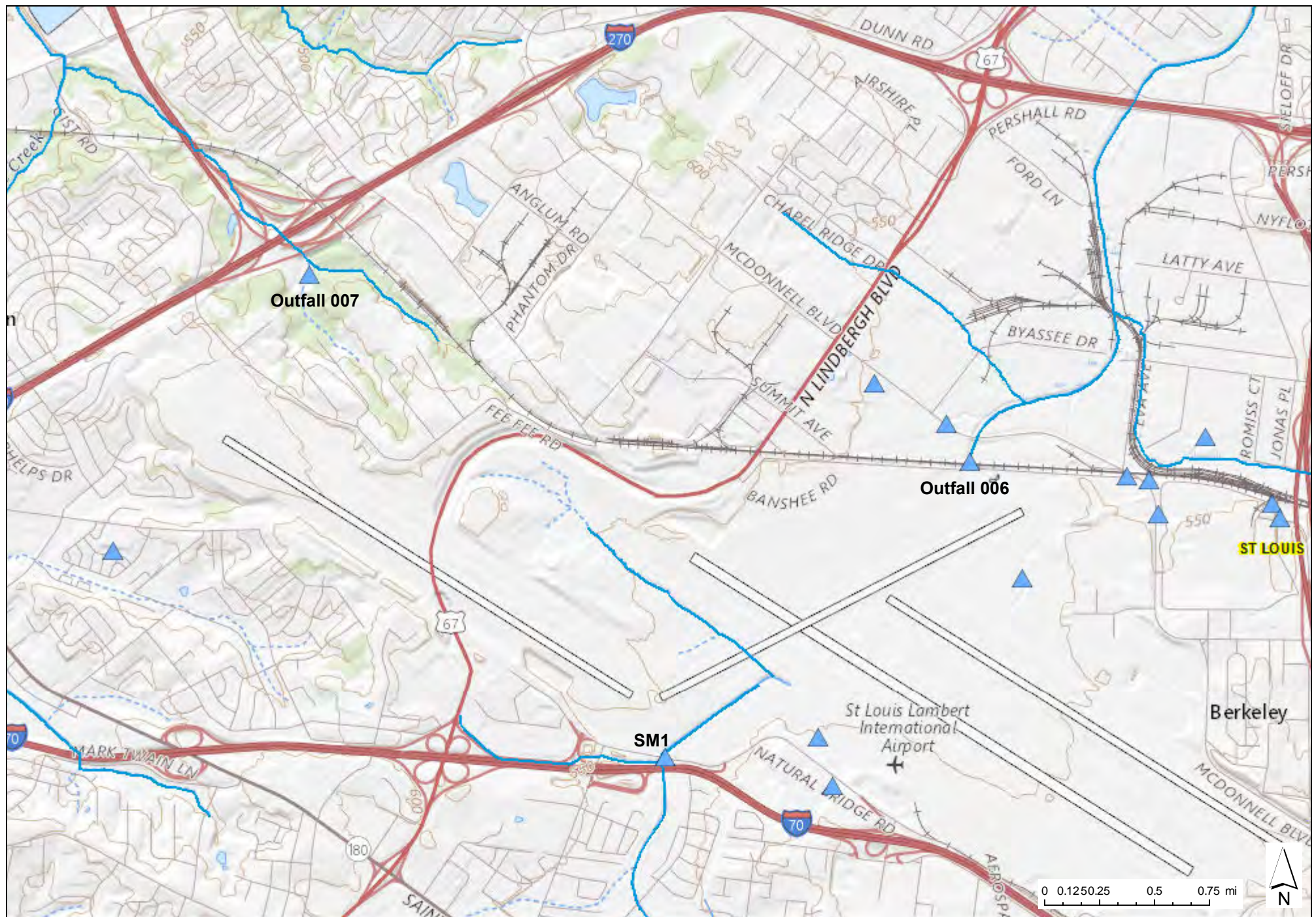
(314) 551-5035

SIGNATURE



DATE SIGNED

9/30/20



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Data, 8/18/2020, 12:18:43 PM 12:18:54 PM CDT



Disclaimer: Although this map has been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the department in the use of these data or related materials.

FORM A

SECTION 7: DOWNSTREAM LANDOWNERS

Downstream of Outfall 006:

GKN Aerospace (142 James S McDonnell Boulevard, Hazelwood, Missouri 63042) and other commercial and residential properties in Hazelwood, Missouri

Downstream of Outfall 007:

Primarily commercial properties located in Bridgeton, Missouri

Downstream of Outfall 010:

Primarily commercial properties located in Berkeley, Missouri

SECTION 8.1 LEGAL DESCRIPTION OF OUTFALLS

Outfall #006: SIC #4581, Stormwater - North Side; and De-icing

Legal Description: Land Grant 7, St. Louis County

UTM Coordinates: X = 729296, Y= 4293317

Outfall #007: SIC #4581 – Stormwater - West Side

Legal Description: Land Grant 2039, St. Louis County UTM

Coordinates: X = 725517, Y = 4294272

Outfall #010: SIC #4581 – No-discharge

Legal Description: Land Grant 2476, St. Louis County

UTM Coordinates: X = 732180, Y = 4290198

SM1: Upstream Monitoring Location

UTM Coordinates: X = 727620, Y = 4291589



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
**FORM C – APPLICATION FOR DISCHARGE PERMIT – MANUFACTURING, COMMERCIAL,
MINING, SILVICULTURE OPERATIONS, AND STORMWATER**

GENERAL INFORMATION (PLEASE SEE INSTRUCTIONS)

1.0 NAME OF FACILITY

St. Louis Lambert International Airport

1.1 THIS FACILITY IS OPERATING UNDER MISSOURI STATE OPERATING PERMIT (MSOP) NUMBER:

MO-0111210

1.2 IS THIS A NEW FACILITY? PROVIDE CONSTRUCTION PERMIT (CP) NUMBER IF APPLICABLE.

NOT APPLICABLE

1.3 Describe the nature of the business, in detail. Identify the goods and services provided by the business. Include descriptions of all raw, intermediate, final products, byproducts, or waste products used in the production or manufacturing process, stored outdoors, loaded or transferred and any other pertinent information for potential sources of wastewater or stormwater discharges.

[SEE ATTACHED](#)

FLOWS, TYPE, AND FREQUENCY

2.0 Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in item B. Construct a water balance on the line drawing by showing average and maximum flows between intakes, operations, treatment units, evaporation, public sewers, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

2.1 For each outfall (1) below, provide: (2) a description of all operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, stormwater runoff, and any other process or non-process wastewater, (3) the average flow and maximum flow (put max in parentheses) contributed by each operation and the sum of those operations, (4) the treatment received by the wastewater, and (5) the treatment type code. Continue on additional sheets if necessary.

1. OUTFALL NO.	2. OPERATION(S) CONTRIBUTING FLOW; INCLUDE ALL PROCESSES AND SUB PROCESSES AT EACH OUTFALL	3. AVERAGE FLOW AND (MAXIMUM FLOW), INCLUDE UNITS.	4. TREATMENT DESCRIPTION	5. TREATMENT CODES FROM TABLE A
	SEE ATTACHED			

Attach additional pages if necessary.

2.2 INTERMITTENT DISCHARGES

Except for stormwater runoff, leaks, or spills, are any of the discharges described in items 2.0 or 2.1 intermittent or seasonal?

☒ Yes (complete the following table)

☐ No (go to section 2.3)

1. OUTFALL NUMBER	2. OPERATION(S) CONTRIBUTING FLOW	3. FREQUENCY		4. FLOW				C. DURATION <i>(in days)</i>
				A. FLOW RATE <i>(in mgd)</i>		B. TOTAL VOLUME <i>(specify with units)</i>		
		A. DAYS PER WEEK <i>(specify average)</i>	B. MONTHS PER YEAR <i>(specify average)</i>	1. MAXIMUM DAILY	2. LONG TERM AVERAGE	4. LONG TERM DAILY	3. MAXIMUM AVERAGE	
	SEE ATTACHED LIST							

2.3 PRODUCTION

A. Does an effluent limitation guideline (ELG) promulgated by EPA under section 304 of the Clean Water Act apply to your facility? Indicate the part and subparts applicable.

☒ Yes 40 CFR 449 Subpart(s) ☐ No (go to section 2.5)

B. Are the limitations in the effluent guideline(s) expressed in terms of production (or other measure of operation)? Describe in C below.

☐ Yes (complete C.) ☒ No (go to section 2.5)

C. If you answered "yes" to B, list the quantity representing an actual measurement of your maximum level of production, expressed in the terms and units used in the applicable effluent guideline and indicate the affected outfalls.

A. OUTFALL(S)	B. QUANTITY PER DAY	C. UNITS OF MEASURE	D. OPERATION, PRODUCT, MATERIAL, ETC. (specify)
006			The facility is not subject to 40 CFR 449 because deicing fluids are not
			discharges to waters of the State. Deicing fluids are collected and
			discharge to the sanitary sewer collection system

2.4 IMPROVEMENTS

A. Are you required by any federal, state, or local authority to meet any implementation schedule for the construction, upgrading, or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ Yes (complete the following table) ☒ No (go to 2.6)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
			A. REQUIRED	B. PROJECTED

B. Optional: provide below or attach additional sheets describing water pollution control programs or other environmental projects which may affect discharges. Indicate whether each program is underway or planned, and indicate actual or planned schedules for construction. This may include proposed bmp projects for stormwater.

2.5 SLUDGE MANAGEMENT

Describe the removal of any industrial or domestic biosolids or sludges generated at your facility. Include names and contact information for any haulers used. Note the frequency, volume, and methods (incineration, landfilling, composting, etc) used. See Form A for additional forms which may need to be completed.

Not applicable

DATA COLLECTION AND REPORTING REQUIREMENTS FOR APPLICANTS

3.0 EFFLUENT (AND INTAKE) CHARACTERISTICS (SEE INSTRUCTIONS)

A. & B. See instructions before continuing – complete one Table 1 for **each outfall** (and intake) – annotate the outfall (intake) number or designation in the space provided. The facility is not required to complete intake data unless required by the department or rule.

C. Use the space below to list any pollutants listed in the instructions section 3.0 C. Table B which you know or have reason to believe is discharged or may be discharged from any outfall not listed in parts 3.0 A or B on Table 1. For every pollutant listed, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	3. OUTFALL(S)	4. ANALYTICAL RESULTS (INCLUDE UNITS)
Chloride	Road Salt		SEE ATTACHED
TSS	Land Disturbance		
Propylene Glycol	Aircraft Deicing Fluid		
Acetate	Airfield Pavement Deicers		

3.1 Whole Effluent Toxicity Testing

A. To your knowledge, have any Whole Effluent Toxicity (WET) tests been performed on the facility discharges (or on receiving waters in relation to your discharge) within the last three years?

☒ Yes (go to 3.1 B) ☐ No (go to 3.2)

3.1 B

Disclose wet testing conditions, including test duration (chronic or acute), the organisms tested, and the testing results. Provide any results of toxicity identification evaluations (TIE) or toxicity reduction evaluations (TRE) if applicable. Please indicate the conclusions of the test(s) including any pollutants identified as causing toxicity and steps the facility is taking to remedy the toxicity.

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3.2 CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported herein, above, or on Table 1 performed by a contract laboratory or consulting firm?

☒ Yes (list the name, address, telephone number, and pollutants analyzed by each laboratory or firm.) ☐ No (go to 4.0)

A. LAB NAME	B. ADDRESS	C. TELEPHONE (area code and number)	D. POLLUTANTS ANALYZED (list or group)
SEE ATTACHED LIST			

4.0 STORMWATER

4.1

Do you have industrial stormwater discharges from the site? If so, attach a site map outlining drainage areas served by each outfall. Indicate the following attributes within each drainage area: pavement or other impervious surfaces; buildings; outdoor storage areas; material loading and unloading areas; outdoor industrial activities; structural stormwater control measures; hazardous waste treatment, storage, and disposal units; and wells or springs in the area.

OUTFALL NUMBER	TOTAL AREA DRAINED (PROVIDE UNITS)	TYPES OF SURFACES (VEGETATED, STONE , PAVED, ETC)	BEST MANAGEMENT PRACTICES EMPLOYED; INCLUDE STRUCTURAL BMPs AND TREATMENT DESIGN FLOW FOR BMPs^ DESCRIBE HOW FLOW IS MEASURED
006	2,748 acres	Paving and Vegetation	Multiple Detention Basins (see Figure 4), Routine Facility Inspections, Good Housekeeping, SPCC Implementation, Minimize Exposure, Slope Stabilization
007	393 acres	Paving and Vegetation	Cowmire Detention Basin, Routine Facility Inspections, Good Housekeeping, SPCC Implementation, Minimize Exposure, Slope Stabilization, Stabilize Disturbed Areas
			^treatment design flow not available at time of drafting

4.2 STORMWATER FLOWS

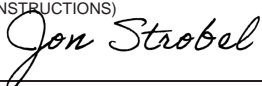
Provide the date of sampling with the flows, and how the flows were estimated.

Outfall 006 flows are continuously metered; Outfall 007 is estimated

SIGNATORY REQUIREMENTS

5.0 CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Jon Strobel, Environmental Health & Safety Manager	(314) 551-5035
SIGNATURE (SEE INSTRUCTIONS)	DATE SIGNED
	9/30/20

FORM C

SECTION 1.3 – Briefly describe the nature of your business:

The City of St. Louis (“City”) is the owner and operator of St. Louis Lambert International Airport® (“Airport” or “STL”), which is a primary commercial service airport that facilitates the provision of passenger and cargo air transport for the citizens of the greater St. Louis region. The Airport is a department of the City, a separate enterprise fund, and is operated on behalf of the City by the Airport Authority of the City.

Located eleven miles northwest of downtown St. Louis, the Airport sits at a focal point of the Interstate 70, Interstate 170, and Interstate 270 corridors. STL is comprised of 3,675 acres of which 1,888 acres are assigned to the airfield and the remaining 1,787 acres are outside the airfield security fence.

The St. Louis market is served by eleven airlines that offer scheduled passenger service to 70 non-stop destinations. Another four airlines provide dedicated cargo service. During calendar year 2019, those airlines transported 15.8 million total passengers and 158.9 million pounds of air cargo. Based on passenger volume STL is ranked 34th busiest airport in the United States. Annually, the Airport generates over \$4.0 billion in business revenues for the St. Louis MO-IL metropolitan statistical area. There are 6,500 direct on-airport jobs, which in turn support another 25,000 indirect off-airport jobs.

During 2020 the country’s aviation industry has experienced a severe drop in demand caused by the novel coronavirus (COVID-19) pandemic. In the first six months of 2020, passenger traffic at STL fell to one-third of that for the same period in 2019. Despite the contraction in passengers the Airport experienced a substantial increase in air cargo volume.

STL entered the pandemic operationally and financially strong with passenger traffic at the highest level since 2003. STL is anticipating passenger traffic will recover from the pandemic within a three to five year period. However, it is possible aviation activity will remain depressed, unpredictable, or display sluggish recovery and growth.

The City maintains airfield infrastructure and terminal facilities as well as airfield operations. The City leases and permits properties to tenants and other permittees or users for a variety of businesses including: airlines, aircraft and ground support equipment services, winter de-icing operations, hangar operations, ground transportation, bulk fuel storage, Jet-A hydrant system operations, fixed based operators (general aviation), aircraft maintenance, vehicle maintenance, restaurant concessions, retail stores, concrete batch plant operations, former Missouri Air National Guard base, military and passenger aircraft manufacturing support, snow removal, contractor equipment storage, and air-to-ground cargo operations. In general, STL tenants are responsible for their leasehold improvements as well as maintenance on leased spaces; certain STL tenants conduct de-icing during winter precipitation events and land disturbance activities to support facility refurbishment, repair and upgrades and occasionally as needed for pavement improvements and facility maintenance.

FORM C

SECTION 2.1, 1. Outfalls (List), 2. Operation(s) contributing flow: Include all processes and sub processed at each outfall, 3. Average flow and (maximum flow), include units, 4. Treatment Descriptions, 5. Treatment codes from table A

Section 2.2 Airport operations potentially contributing flow are “Intermittent” or “seasonal”. The Airport does not have continuous process flow water.

Outfall 006 Operations, Activities and Intermittent Discharges:

Airport Activities:

- Precipitation runoff from Airfield runways, taxiways, and ramp areas
- Precipitation runoff from Airport-owned vehicle and equipment facility outdoor parking areas
- Land disturbance for Airfield Improvement Projects
- Fire Department/Public Safety training activities
- Airport Operations Area (AOA) pavement de-icing, snow removal, and snow storage
- Storage of Airfield snow removal trucks and equipment (former MOANG permitted area)
- Public roadway de-icing and snow removal
- Condensate from air condition equipment
- Fire suppression and irrigation system maintenance

Tenant/Airline Activities:

- Pavement de-icing, snow removal, and snow storage
- Aircraft de-icing and anti-icing
- Condensate from air conditioning equipment
- Concrete Batch Plant operations and concrete truck wash pit
- Boiler blowdown with trace water treatment chemicals
- Potable water line leaks and fire main maintenance

Non-Airport/Offsite Sources

- Before entering Airport property, Coldwater Creek gathers runoff from upstream areas, including an interstate highway, residential areas, a golf course, various urban runoff sources, including gasoline stations, car rental facilities and other commercial activities.
- Subsurface utility installation, maintenance and repair, (cable, telecommunications, water, sewer and natural gas)

Treatment Code – 1-U Settling

Outfall 007 Operations, Activities and Intermittent Discharges:

Airport Activities:

- Land disturbance for airfield maintenance and improvement projects
- Urban runoff, including pavement de-icing and snow removal and snow storage

Tenant/Airline/Easement Holder Activities:

- Land disturbance for airfield improvement and utility maintenance, repair and installation projects

Non-Airport/Offsite Sources

- Upstream point and nonpoint source discharges from adjacent and upgradient landowners in the watershed including a Golf Course, public roads and highways
- Road construction and maintenance projects, including de-icing and anti-icing winter activities

Treatment Code – 1-U Settling

Outfall 010 Operations and Activities:

- No discharge occurs at this outfall. There is a de-icing collection system with storage in an above ground tank. Any discharge from the system is to sanitary sewer. Only a catastrophic tank failure or severe upset condition could result in a discharge from this potential source to this outfall.

Background/Upgradient (off-site sources)

- Land disturbance
- Roadways pavement deicing, snow removal, and snow storage
- Landscaping and turf management – golf course and public parks
- Hazelwood Logistics Center
- Urban runoff including pavement de-icers commercial and industrial runoff from point and nonpoint sources, snow removal, and snow storage
- Potential Illicit Discharges from the Sanitary Sewer to the Storm Drainage System and Sanitary and Combined Sewer Overflows – operated and maintained by the Metropolitan St. Louis Sewer District
- Subsurface utility installation, maintenance and repair (cable, telecommunications, water, sewer and natural gas)

FORM C

SECTION 3.20 – *CONTRACT ANALYSIS INFORMATION*

Current Contracted Laboratory and Subcontractors

Dates: 2018 – Present

PDC Laboratories – Prime Contract Laboratory

4314 W Crystal Lake Rd. A,

McHenry, IL 60050

(815) 344-4044

Analyzed Constituents:

Chloride, Oil and Grease, Chemical Oxygen Demand, Total Suspended Solids, Ethylene Glycol, Propylene Glycol, and Whole Effluent Toxicity (WET) Test.

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.

You may report some or all of this information on separate sheet (use *similar format*) instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS										THIS OUTFALL IS:		OUTFALL NO. 006	
3.0 PART A – You must provide the results of at least one analysis for every pollutant in Part A. Complete one table for each outfall or proposed outfall. See instructions.													
2. VALUES										3. UNITS (specify if blank)			
1. POLLUTANT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS				
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS							
A. Biochemical Oxygen Demand, 5-day (BOD ₅)													
B. Chemical Oxygen Demand (COD)													
C. Total Organic Carbon (TOC)													
D. Total Suspended Solids (TSS)													
E. Ammonia as N													
F. Flow	VALUE	349.14	VALUE					VALUE	80.28			mg/L	
G. Temperature (winter)	VALUE		VALUE					VALUE				°F	
H. Temperature (summer)	VALUE		VALUE					VALUE				°F	
I. pH	MINIMUM	7.1	MAXIMUM	9.4				AVERAGE	8.14			STANDARD UNITS (SU)	
3.0 PART B – Mark “X” in column 2A for each pollutant you know or have reason to believe is present. Mark “X” in column 2B for each pollutant you believe to be absent. If you mark Column 2A for any pollutant, you must provide the results for at least one analysis for the pollutant. Complete one table for each outfall (intake). Provide results for additional parameters not listed here in Part 3.0 C.													
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK “X”		3. VALUES						4. UNITS				
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS		
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS					
Subpart 1 – Conventional and Non-Conventional Pollutants													
A. Alkalinity (CaCO ₃)		X	MINIMUM					MINIMUM					
B. Bromide (24959-67-9)		X											
C. Chloride (16887-00-6)	X		**										
D. Chlorine, Total Residual		X											
E. Color		X											
F. Conductivity		X											
F. Cyanide, Amenable to Chlorination		X											

**** See attached monitoring data summaries**

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. VALUES						4. UNITS		
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants (Continued)											
G. <i>E. coli</i>		X									
H. Fluoride (16984-48-8)		X									
I. Nitrate plus Nitrate (as N)		X									
J. Kjeldahl, Total (as N)		X									
K. Nitrogen, Total Organic (as N)		X									
L. Oil and Grease	X		7.6				1.865		30	mg/L	
M. Phenols, Total		X									
N. Phosphorus (as P), Total (7723-14-0)		X									
O. Sulfate (as SO ⁴) (14808-79-8)		X									
P. Sulfide (as S)		X									
Q. Sulfite (as SO ³) (14265-45-3)		X									
R. Surfactants		X									
S. Trihalomethanes, Total		X									
Subpart 2 – Metals											
1M. Aluminum, Total Recoverable (7429-90-5)		X									
2M. Antimony, Total Recoverable (7440-36-9)		X									
3M. Arsenic, Total Recoverable (7440-38-2)		X									
4M. Barium, Total Recoverable (7440-39-3)		X									
5M. Beryllium, Total Recoverable (7440-41-7)		X									
6M. Boron, Total Recoverable (7440-42-8)		X									
7M. Cadmium, Total Recoverable (7440-43-9)		X									
8M. Chromium III Total Recoverable (16065-83-1)		X									
9M. Chromium VI, Dissolved (18540-29-9)		X									
10M. Cobalt, Total Recoverable (7440-48-4)		X									

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"		3. VALUES						4. UNITS			
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS	
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS				
Subpart 2 – Metals (Continued)												
11M. Copper, Total Recoverable (7440-50-8)		X										
12M. Iron, Total Recoverable (7439-89-6)		X										
13M. Lead, Total Recoverable (7439-92-1)		X										
14M. Magnesium, Total Recoverable (7439-95-4)		X										
15M. Manganese, Total Recoverable (7439-96-5)		X										
16M. Mercury, Total Recoverable (7439-97-6)		X										
17M. Methylmercury (22967926)		X										
18M. Molybdenum, Total Recoverable (7439-98-7)		X										
19M. Nickel, Total Recoverable (7440-02-0)		X										
20M. Selenium, Total Recoverable (7782-49-2)		X										
21M. Silver, Total Recoverable (7440-22-4)		X										
22M. Thallium, Total Recoverable (7440-28-0)		X										
23M. Tin, Total Recoverable (7440-31-5)		X										
24M. Titanium, Total Recoverable (7440-32-6)		X										
25M. Zinc, Total Recoverable (7440-66-6)		X										
Subpart 3 – Radioactivity												
1R. Alpha Total		X										
2R. Beta Total		X										
3R. Radium Total		X										
4R. Radium 226 plus 228 Total		X										

SEE INSTRUCTIONS; PLEASE PRINT OR TYPE.

You may report some or all of this information on separate sheet *(use similar format)* instead of completing these pages.

FORM C TABLE 1 FOR 3.0 - ITEMS A AND B

EFFLUENT (AND INTAKE) CHARACTERISTICS								THIS OUTFALL IS:		OUTFALL NO.	
3.0 PART A – You must provide the results of at least one analysis for every pollutant in Part A. Complete one table for each outfall or proposed outfall. See instructions.											
1. POLLUTANT	2. VALUES							3. UNITS <i>(specify if blank)</i>			
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS		
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS					
A. Biochemical Oxygen Demand, 5-day (BOD ₅)	<0.6						1	mg/			
B. Chemical Oxygen Demand (COD)								L			
C. Total Organic Carbon (TOC)	NA										
D. Total Suspended Solids (TSS)											
E. Ammonia as N	<0.13						1	mg/L			
F. Flow	VALUE		VALUE		VALUE			MILLIONS OF GALLONS PER DAY (MGD)			
G. Temperature <i>(winter)</i>	VALUE		VALUE		VALUE			°F			
H. Temperature <i>(summer)</i>	VALUE		VALUE		VALUE			°F			
I. pH	MINIMUM		MAXIMUM		AVERAGE			STANDARD UNITS (SU)			
3.0 PART B – Mark “X” in column 2A for each pollutant you know or have reason to believe is present. Mark “X” in column 2B for each pollutant you believe to be absent. If you mark Column 2A for any pollutant, you must provide the results for at least one analysis for the pollutant. Complete one table for each outfall (intake). Provide results for additional parameters not listed here in Part 3.0 C.											
1. POLLUTANT AND CAS NUMBER <i>(if available)</i>	2. MARK “X”		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUES		C. LONG TERM AVERAGE VALUES		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants											
A. Alkalinity (CaCO ₃)			MINIMUM		MINIMUM		MINIMUM				
B. Bromide (24959-67-9)											
C. Chloride (16887-00-6)											
D. Chlorine, Total Residual											
E. Color											
F. Conductivity											
F. Cyanide, Amenable to Chlorination											

1. POLLUTANT AND CAS NUMBER <i>(if available)</i>	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCENTRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 1 – Conventional and Non-Conventional Pollutants (Continued)											
G. <i>E. coli</i>											
H. Fluoride (16984-48-8)											
I. Nitrate plus Nitrate <i>(as N)</i>											
J. Kjeldahl, Total <i>(as N)</i>											
K. Nitrogen, Total Organic <i>(as N)</i>											
L. Oil and Grease											
M. Phenols, Total											
N. Phosphorus <i>(as P)</i> , Total (7723-14-0)											
O. Sulfate <i>(as SO⁴)</i> (14808-79-8)											
P. Sulfide <i>(as S)</i>											
Q. Sulfite <i>(as SO³)</i> (14265-45-3)											
R. Surfactants											
S. Trihalomethanes, Total											
Subpart 2 – Metals											
1M. Aluminum, Total Recoverable (7429-90-5)											
2M. Antimony, Total Recoverable (7440-36-9)											
3M. Arsenic, Total Recoverable (7440-38-2)											
4M. Barium, Total Recoverable (7440-39-3)											
5M. Beryllium, Total Recoverable (7440-41-7)											
6M. Boron, Total Recoverable (7440-42-8)											
7M. Cadmium, Total Recoverable (7440-43-9)											
8M. Chromium III Total Recoverable (16065-83-1)											
9M. Chromium VI, Dissolved (18540-29-9)											
10M. Cobalt, Total Recoverable (7440-48-4)											

1. POLLUTANT AND CAS NUMBER <i>(if available)</i>	2. MARK "X"		3. VALUES							4. UNITS	
	A. BELIEVED PRESENT	B. BELIEVED ABSENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE		C. LONG TERM AVERAGE VALUE		D. NO. OF ANALYSES	A. CONCEN- TRATION	B. MASS
			CONCENTRATION	MASS	CONCENTRATION	MASS	CONCENTRATION	MASS			
Subpart 2 – Metals (Continued)											
11M. Copper, Total Recoverable (7440-50-8)											
12M. Iron, Total Recoverable (7439-89-6)											
13M. Lead, Total Recoverable (7439-92-1)											
14M. Magnesium, Total Recoverable (7439-95-4)											
15M. Manganese, Total Recoverable (7439-96-5)											
16M. Mercury, Total Recoverable (7439-97-6)											
17M. Methylmercury (22967926)											
18M. Molybdenum, Total Recoverable (7439-98-7)											
19M. Nickel, Total Recoverable (7440-02-0)											
20M. Selenium, Total Recoverable (7782-49-2)											
21M. Silver, Total Recoverable (7440-22-4)											
22M. Thallium, Total Recoverable (7440-28-0)											
23M. Tin, Total Recoverable (7440-31-5)											
24M. Titanium, Total Recoverable (7440-32-6)											
25M. Zinc, Total Recoverable (7440-66-6)											
Subpart 3 – Radioactivity											
1R. Alpha Total											
2R. Beta Total											
3R. Radium Total											
4R. Radium 226 plus 228 Total											

Monthly Parameters without Net Limits

Month	Outfall 006			Outfall 007				
	Flow MGD	Oil & Grease mg/L	pH SU	Flow MGD	Oil & Grease mg/L	pH SU	COD mg/L	TSS mg/L
7/31/2020	25.06	1.4	8.4	1.32	1.4	8.4	4	76
06/30/2020	25.29	1.4	8.2	0.98	1.4	8	3.1	45
05/31/2020	39.05	1.4	8.2	0.93	1.4	8.3	41	160
04/30/2020	38.75	1.4	8.2	1.57	1.4	8.3	18	5.2
03/31/2020	47.78	1.4	8.1	0.49	1.4	8.1	10	2.5
02/29/2020	21.6	1.4	8	0.036	1.3	7.9	22	4
01/31/2020	250.89	2.7	8.2	1.86	2.9	8.1	40	170
12/31/2019	80	3	8	0.49	3.6	7.9	9.3	6
11/30/2019	30.18	7.6	7.9	1.4221	7.2	8.1	29	4.8
10/31/2019	30.06	1.4	8.09	4.609	1.4	7.9	15	26
09/30/2019	23.29	1.4	8	0.49	1.4	8	57	140
08/31/2019	17.7	1.4	8.2	0.036	1.4	7.7	35	63
07/31/2019	349.14	1.4	8.1	0.0648	1.4	8.1	97	28
06/30/2019	22.04	1.4	7.9	0.036	1.4	8	4	17
05/31/2019	24.94	5	7.9	0.0648	5.1	7.8	5	9.2
04/30/2019	34.57	5	8.1	0.0648	5	7.9	5	8.4
03/31/2019	27.24	1.27	7.6	0.0504	1.32	7.8	23.5	17.8
02/28/2019	106.55	1.54	8.3	0.0648	1.45	8.2	25.2	136
01/31/2019	20.4	1.16	8	0.0306	1.16	7.6	9.81	19.9
12/31/2018	478.4	1.32	7.6	0.0504	1.22	8	10.5	1.22
11/30/2018	35.77	1.36	8	0.0504	1.36	7.8	17.7	25.9
10/31/2018	20.13	1.16	8.1	0.0288	1.6	8	10.1	27.1
09/30/2018	277.9	1.16	8	0.0576	1.16	7.7	37.7	160
08/31/2018	30.01	1.16	8.2	0.0576	1.16	8	31.9	59.8
07/31/2018	23	1.16	8	0.0432	3.22	7.9	19.4	38.9
06/30/2018	74.8	1.16	8.5	0.0432	1.16	8.2	22.7	241
05/31/2018	165.1	1.16	8.3	0.0504	1.16	7.9	33.6	54.8
04/30/2018	20.89	1.16	8.4	0.036	1.16	8.1	3	8.6
03/31/2018	43.8	1.16	8.4	0.0432	1.16	8.3	32	44.2
02/28/2018	24.6	1.56	8.6	0.0288	1.16	8.4	34.9	11.7
01/31/2018	24.7	1.16	9.4	0.0288	1.16	9	61.4	33

Deicing Season Parameters

Month	Outfall 006		Outfall 007		
	Acetate mg/L	Propylene glycol mg/L	Acetate mg/L	Propylene glycol mg/L	Chloride mg/L
04/30/2020	5	20	5	20	140
03/31/2020	5	20	5	20	150
02/29/2020	5	20	5	20	300
01/31/2020	5	20	5	20	12
12/31/2019	5	20	5	20	120
11/30/2019	20	20	5	20	130
04/30/2019	5	20	5	20	80
03/31/2019	5	1.9	5	0.279	28.7
02/28/2019	5	0.279	5	0.279	17.4
01/31/2019	5	11.2	5	11.2	81.6
12/31/2018	5	7.6	5	1.22	10.5
11/30/2018	30.2	2.79	31	2.79	70.4
04/30/2018	5	0.279	5	0.279	115
03/31/2018	5	0.279	5	0.279	18.8
02/28/2018	5	2.94	5	0.279	62.6
01/31/2018	5	14.7	5	0.279	53.9

Month	Parameters with Net Limits Outfall 006					
	Net COD mg/L	Total mg/L	Net TSS mg/L	Total mg/L	Net Chloride mg/L	Total mg/L
7/31/2020	5	13	<4	1.6	NS	NS
6/30/2020	5	22	<4	3.2	NS	NS
05/31/2020	5	23	22.83	26	NS	NS
04/30/2020	29.84	72	<4	14	73.2	160
03/31/2020	8.08	18	3.95	5.5	121.2	270
02/29/2020	4	4	2.17*	4.4	130	130
01/31/2020	6	16	25.76	58	10	30
12/31/2019	15.18	22	<4	2	80.8*	180*
11/30/2019	59.24	120	<4	20	289.2	500
10/31/2019	4	4	<4	1.2	NS	NS
09/30/2019	15.82	71	44.8	330	NS	NS
08/31/2019	4	4	<4	58	NS	NS
07/31/2019	30	30	54	54	NS	NS
06/30/2019	12.5	28	21	21	NS	NS
05/31/2019	5	6.3	8.53	12	NS	NS
04/30/2019	16	16	70	70	74.6	180
03/31/2019	23.32	38.2	0.7	18.6	0.26	136
02/28/2019	3	7.52	1.75	240	0.26	80.1
01/31/2019	3	25.1	0.35	5.7	70.28	136
12/31/2018	5	4.26	0.7	9.4	9.02	54.4
11/30/2018	11.85	30.2	17.41	26.4	30.2	30.2
10/31/2018	14.35	35	34.39	38.3	NS	NS
09/30/2018	18.24	33.8	106	153	NS	NS
08/31/2018	3	33.5	0.35	66.3	NS	NS
07/31/2018	3	24.8	0.35	12.2	NS	NS
06/30/2018	3	23.6	0.35	72.3	NS	NS
05/31/2018	3	30.7	25.48	38.5	NS	NS
04/30/2018	31.09	50.5	0.35	4.8	0.26	105
03/31/2018	3	38.7	75.28	172	21.71	38.2
02/28/2018	24.71	33.7	15.51	20.6	45.04	112
01/31/2018	66.81	75.3	0.35	22.6	193.81	257

NS = Not Sampled - deicing season parameter

*data corrected for eDMR entry error



12065 LEBANON RD.
MT. JULIET, TN 37122

(800) 767-5859

WWW.ENVSCI.COM

March 13, 2019

Mr. Jonathan Strobel
St. Louis Lambert International Airport- Outfall 006
Airport Office Building (AOB)
11495 Navaid Rd.
St. Louis, MO 63145

Biomonitoring Results

Pace National Identification #: L1074482-01 (effluent), -02 (upstream)

Attached are the results for toxicity test performed: March 1-3, 2019

A summary of the findings is presented below:

Test Species	<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Test Concentrations	(Upstream Control), 6.25%, 12.5%, 25%, 50%, 100%	(Upstream Control), 6.25%, 12.5%, 25%, 50%, 100%
Permit Limit (100% AEC (Pass/Fail)	100% AEC (Pass/Fail)
Test Endpoint	48-hr LC50	48-hr LC50
Test Result Effluent	PASS (>100%)	PASS (>100%)
Test Result Upstream	PASS (>100%)	PASS (>100%)
Next Test Date	Please contact lab to schedule next test date	
Comments	St. Louis Lambert International Airport (Outfall 006) Effluent successfully meets permit requirements for the period.	

If you have any questions or comments concerning the enclosed report, please do not hesitate to contact us.



Aquatic Biology Lab
(615) 758-5858 ext. 7549
(615) 758-5858 ext. 7544

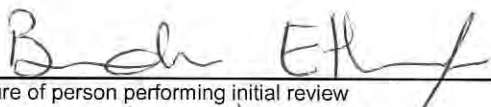
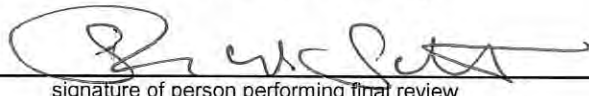
TOXICITY TEST REPORT SHEET

- 1). Facility/Discharger St. Louis Lambert International Airport- Outfall 006
- 2). Contact Person Mr. Jonathan Strobel
phone (facility) 314.551.5035
email 1 jmstrobel@flystl.com
email 2 kmichalova@flystl.com
email 3 kjmccoy@flystl.com
- 3). Permit # or Project ID MO-0111210
- 4). Report Address
Airport Office Building (AOB)
11495 Navaid Rd.
St. Louis, MO 63145
- 5). Receiving Stream Coldwater Creek
- 6). Laboratory Name Pace National
- 7). Laboratory Contact Shain W. Schmitt, Sr. Aquatic Biologist
(phone) 615.773.7549
- 8). Outfall(s) Tested St. Louis Lambert International Airport- Outfall 006 (Upstream used as diluent)
- 9). Test Species

#1 <i>Ceriodaphnia dubia</i>	#2 <i>Pimephales promelas</i>
------------------------------	-------------------------------
- 10). Species Age

#1 Neonates, <24-hr	#2 11 days old
---------------------	----------------
- 11). Test Conditions (Static or Static-Renewal?)

#1 Static	#2 Static
-----------	-----------
- 12). Dilution Water Type (synthetic, receiving stream) Upstream
- 13). Aeration? (Before/During Test) none
- 14). Dechlorination? none
- 15). Original Chlorine Level <0.2 mg/L (effluent sample); <0.2 mg/L (upstream sample)
- 16). Report prepared by Amy M. Eggleston, Biologist

 signature of person performing initial review	3-26-19 date
Brandon Etheridge name (typed or printed)	Sr. Biologist title
 signature of person performing final review	3-26-19 date
Shain W. Schmitt name (typed or printed)	Sr. Aquatic Biologist title

SAMPLING SUMMARY

Sample	Sample Type Grab or Composite	Volume Collected	Sample Collection		Flow Rate (at collection)	Sample Temperature (when received at lab)
			Begin (MM/DD/Time)	End (MM/DD/Time)		
Effluent	grab	1 gallon		2/28/2019 @ 9:55		1.6 deg C
Upstream	grab	1 gallon		2/28/2019 @ 9:20		1.6 deg C

Comments: (Effluent) Outfall 006 and (Upstream sample)

TEST PERFORMANCE

Species #1

***Ceriodaphnia dubia* (water flea)**
3/1/2019 @ 13:14 to 3/3/2019 @ 12:26

Species Age

< 24 hrs old

Organism Source

Pace National, in-house cultures

Acclimation Procedure

cultured in Moderately Hard SDW at 25 deg C

Test Duration

48 hours

Feeding Regime

Fed YCT and *Selenastrum* while holding prior to the test. Newly released young have food available a minimum of 2 hrs prior to use in the test. For 96-hr tests, 0.15mL each of YCT and *Selenastrum* are added 2 hrs prior to test solution renewal at 48 hrs.

Type of Test Chamber

polystyrene cup

Volume of Test Chamber

30 mL

Volume of Solution Used Per Test Chamber

15 mL

Number of Test Organisms Per Test Chamber

five (5)

Number of Replicates Per Treatment

four (4)

Species #2

***Pimephales promelas* (fathead minnow)**
3/1/2019 @ 13:00 to 3/3/2019 @ 12:26

Species Age

11 days old

Hatch Date

2/18/2019

Pace National Lot

021819HD

Organism Source

Aquatic Bio Systems - Fort Collins, CO

Acclimation Procedure

acclimated in 20% DMW at 25 deg C for about 2 hrs

Test Duration

48 hours

Feeding Regime

Artemia nauplii are made available while holding prior to the test. For 96 hr tests, minnows are fed 0.15mL -0.2mL *Artemia* nauplii concentrate 2 hrs prior to test solution renewal at 48 hrs.

Type of Test Chamber

polypropylene beaker

Volume of Test Chamber

500 mL

Volume of Solution Used Per Test Chamber

250 mL

Number of Test Organisms Per Test Chamber

ten (10)

Number of Replicates Per Treatment

two (2)

ADDITIONAL TOXICITY TEST INFORMATION

Copies of all bench sheets and statistical calculations and printouts obtained during the test are attached in the Appendix.

Methods/Instrumentation used in chemical analysis:

Dissolved Oxygen: YSI 5000 DO Meter/Probe (serial #01L0435)

pH: Beckman 390pH/Temp/mV/ISE Meter

pH/RDO/Conductivity: Thermo Scientific Orion VersaStar (serial #V 02105)

Water Bath: Lindberg/Blue, Model WB1140A-1 (serial #S01M-580360-SM)

Temperature: Thermometers calibrated to NIST certified thermometer

Alkalinity: Lachat

Hardness: Lachat

Total Residual Chlorine: Hach Pocket Colorimeter, Model #46770-00 (serial #971000112186)

Environmental Chambers: 25 degrees C + 1.0 degree - Thermo-Kool

Environmental Chambers (for Colorado tests): 20 degrees C ± 1.0 degree - Thermo Scientific Model 3759

Light Quality: Ambient Lab Illumination

Light Intensity: 50-100 ft-c - VWR Traceable Dual-Range Light Meter- Model 62344-944 (S/N 181399747)

Photoperiod: 16 hours light, 8 hours dark

Drying: Overnight at greater than 60 degrees Celsius in a Fisher Scientific Isotemp Oven, Model 655F

Mean Dry Weight: Determined using Mettler Toledo Balance, AT261 Delta Range

Reference Weights (Set #1): Class 1, TREOMNER, Inc., serial number 85035

Reference Weights (Set #2): Class 1, TREOMNER, Inc., serial number 67812

EPA Acute Manual Edition and Date: EPA-821-02-012 October 2002, Fifth Edition

EPA Chronic Manual Edition and Date: EPA-821-R-02-013 October 2002, Fourth Edition

This method is performed only by Assistant Biologists, Biologists, and Senior Biologists that have experience with aquatic toxicity testing. Laboratory Technicians, Chemists, and any other laboratory personnel that are not experienced with toxicity testing will not handle test organisms during a toxicity evaluation. Lab Techs, Chemists, and others may assist (under supervision) with the gathering of data during the evaluation (pH, DO, conductivity, alkalinity, hardness, etc.), but will not be allowed to do any work with the test organisms themselves. The following analysts have met Technical Training Qualifications and their initials (in parenthesis) can be found on the bench sheets in this report: **Brandon Etheridge (BE); Shain W. Schmitt (SWS); Adam Macomber (AM); Amy Eggleston (AME); Brittnie Boyd (BB); Melissa Holwerda (MH); Cody Medley (CM); Meaghan Robinson (MLR); Clarissa Moore (CGM); Nadiar Yakob (NY); Joel Soto (JSV); Matthew Lockhart (MIL)**

Indicate below any other relevant information that may aid in the evaluation of this report. Include any deviations from EPA Methodology that were necessary for these tests as well as any sample manipulations which were performed, such as aeration, dechlorination with sodium thiosulfate (etc) and the justification for such manipulations or deviations. Attach additional pages as needed.

< no deviations to report >

Toxicity Test Results

Results of a Ceriodaphnia dubia 48-hour static acute
(Genus) (Species) (Type/Duration)

Conducted 3/1/2019 to 3/3/2019

Using Effluent from Outfall:

St. Louis Lambert International Airport- Outfall 006
(Upstream used as diluent)

Test Solution	Percent Surviving (time intervals used - days)								# of Young	
	0	1	2	3	4	5	6	7	Total	Mean
Control	100	100	100						not applicable	
100% Upstream	100	100	100						not applicable	
6.25% Effluent	100	100	100						not applicable	
12.5% Effluent	100	100	100						not applicable	
25% Effluent	100	100	100						not applicable	
50% Effluent	100	100	100						not applicable	
100% Effluent	100	100	100						not applicable	

Permit Limit: 100% AEC
(Pass/Fail)

LC₅₀ Value: > 100%

Statistical methods used to determine LC50:

Confidence Limits
Upper Limit:
Lower Limit:

no statistical analysis needed

INTERPRETATION OF RESULTS

Ceriodaphnia dubia (water flea) - **No acute toxicity was demonstrated.** The WET test will be considered a failure if mortality observed in the effluent concentrations equal to or less than the AEC is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the receiving-water control sample. Permittee successfully meets permit requirements for the period (PASS test).

Toxicity Test Results

Results of a Pimephales promelas 48-hour static acute
(Genus) (Species) (Type/Duration)

Conducted 3/1/2019 to 3/3/2019

Using Effluent from Outfall:

St. Louis Lambert International Airport- Outfall 006
(Upstream used as diluent)

Test Solution	Percent Surviving (time intervals used - days)								Dry Weight (mg/L)	
	0	1	2	3	4	5	6	7	Total	Mean
Control	100	100	100						not applicable	
100% Upstream	100	100	100						not applicable	
6.25% Effluent	100	100	100						not applicable	
12.5% Effluent	100	100	100						not applicable	
25% Effluent	100	100	100						not applicable	
50% Effluent	100	100	100						not applicable	
100% Effluent	100	100	100						not applicable	

Permit Limit: 100% AEC
(Pass/Fail)

LC₅₀ Value: > 100%

Statistical methods used to determine LC50:

Confidence Limits

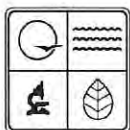
Upper Limit:

Lower Limit:

no statistical analysis needed

INTERPRETATION OF RESULTS

Pimephales promelas (fathead minnow) - **No acute toxicity was demonstrated.** The WET test will be considered a failure if mortality observed in the effluent concentrations equal to or less than the AEC is significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the receiving-water control sample. Permittee successfully meets permit requirements for the period (PASS test).



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

WHOLE EFFLUENT TOXICITY (WET) TEST REPORT

(TO BE ATTACHED TO WET TESTS FOR SUBMISSION TO THE REGULATORY AUTHORITY)

PART A – TO BE COMPLETED IN FULL BY PERMITTEE

FACILITY NAME		DATE AND TIME COLLECTED	
PERMIT NUMBER		EFFLUENT _____ UPSTREAM _____	
COLLECTOR'S NAME		PERMIT OUTFALL NUMBER	
RECEIVING STREAM COLLECTION SITE AND DESCRIPTION			
PERMIT ALLOWABLE EFFLUENT CONCENTRATION (AEC)		EFFLUENT SAMPLE TYPE (CHECK ONE) <input type="checkbox"/> 24 HR COMPOSITE <input type="checkbox"/> GRAB <input type="checkbox"/> OTHER _____	
SAMPLE NUMBER EFFLUENT _____ UPSTREAM _____		UPSTREAM SAMPLE TYPE (CHECK ONE) <input type="checkbox"/> 24 HR COMPOSITE <input type="checkbox"/> GRAB <input type="checkbox"/> OTHER _____	
PERMITTED EFFLUENT DAILY MAXIMUM LIMITATION FOR CHLORINE _____ mg/L		PERMITTED EFFLUENT DAILY MAXIMUM LIMITATION FOR AMMONIA _____ mg/L	

PART B – TO BE COMPLETED IN FULL BY PERFORMING LABORATORY

PERFORMING LABORATORY Pace National		TEST TYPE 48-hour acute	
FINAL REPORT NUMBER L1074482-01 (effluent) -02 (upstream)		TEST DURATION 48 hours	
DATE OF LAST REFERENCE TOXICANT TESTING 02/06/2019		TEST METHOD EPA Method 2002.0 and Method 2000.0	
DATE AND TIME SAMPLES RECEIVED AT LABORATORY 3/1/2019 @ 8:45		TEST START DATE AND TIME 3/1/2019 @ 13:00	TEST END DATE AND TIME 3/2/2019 @ 12:26
SAMPLE DECHLORINATED PRIOR TO ANALYSIS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO EFFLUENT <0.2 UPSTREAM <0.2		TEST ORGANISM #1 AND AGE Ceriodaphnia dubia < 24hrs old	
SAMPLE FILTERED ¹ PRIOR TO ANALYSIS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO EFFLUENT _____ UPSTREAM _____		TEST ORGANISM #2 AND AGE Pimephales promelas 11 days old	
FILTER MESH SIEVE SIZE 2		90 PERCENT OR GREATER SURVIVAL IN SYNTHETIC CONTROL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	DILUTION WATER USED TO ACHIEVE AEC Upstream sample
SAMPLE AERATED DURING TESTING? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		EFFLUENT ORGANISM #1 PERCENT MORTALITY AT AEC 0%	EFFLUENT ORGANISM #2 PERCENT MORTALITY AT AEC 10%
pH ADJUSTED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO EFFLUENT 8.1 UPSTREAM 7.9		UPSTREAM ORGANISM #1 PERCENT MORTALITY 0%	UPSTREAM ORGANISM #2 PERCENT MORTALITY 10%
		TEST RESULT AT AEC FOR ORGANISM #1 <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL	TEST RESULT AT AEC FOR ORGANISM #2 <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL

PART A – TO BE COMPLETED IN FULL BY PERMITTEE

PARAMETER	RESULT	METHOD	WHEN ANALYZED
Temperature °C	24.1 to 26.0 degrees	SOP 350323	daily
pH Standard Units	8.1 (initial)	SM4500H+B	at test initiation
Conductance µMohs	2183 (initial)	SOP 350328	at test initiation
Dissolved Oxygen mg/L	7.5(initial)	SM4500OG	at test initiation
Total Residual Chlorine mg/L	<0.2	SOP 350321	at test initiation
Unionized Ammonia mg/L	not tested	350.1	not tested
* Total Alkalinity mg/L	293	2320 B-2011	03/6/19 18:46
* Total Hardness mg/L	466	EPA 130.1	03/5/19 17:52

* Recommended by EPA guidance, not a required analysis.

¹ Samples shall only be filtered if indigenous organisms are present that may be confused with, or attack the test organisms.

² Filters shall have a sieve size of 60 microns or greater.

WHOLE EFFLUENT TOXICITY (WET) TEST REPORT (Continued)

(TO BE ATTACHED TO WET TESTS FOR SUBMISSION TO THE REGULATORY AUTHORITY)

MINIMUM REQUIRED ANALYTICAL RESULTS FOR THE 100 PERCENT UPSTREAM SAMPLE³

PARAMETER	RESULT	METHOD	WHEN ANALYZED
Temperature °C	24.5 to 25.5 degrees	SOP 350323	daily
pH Standard Units	7.9(initial)	SM4500H+B	at test initiation
Conductance µMols	1390 (initial)	SOP 350328	at test initiation
Dissolved Oxygen mg/L	8.8 (initial)	SM4500OG	at test initiation
Total Residual Chlorine mg/L	<0.2	SOP 350321	at test initiation
Unionized Ammonia mg/L	not tested	350.1	not tested
* Total Alkalinity mg/L	203	2320 B-2011	03/6/19 18:02
* Total Hardness mg/L	376	EPA 130.1	03/5/19 17:53

* Recommended by EPA guidance, not a required analysis.

PRELIMINARY TEST ACCEPTABILITY MATRIX (FOR USE BY PERMITTEE IN DETERMINING TEST VALIDITY)**MINIMUM REQUIRED ANALYTICAL RESULTS FOR THE 100 PERCENT UPSTREAM SAMPLE³****PERMIT ALLOWABLE EFFLUENT CONCENTRATION, or AEC:** As indicated on permit. Test is invalid otherwise.**EFFLUENT SAMPLE TYPE:** As indicated on permit. Test is invalid otherwise.**TEST TYPE:** Acute Static Non-Renewal Test or other as indicated on permit. Test is invalid otherwise.**TEST DURATION:** Forty-eight hours or as indicated on permit. Test is invalid otherwise.**TEST ORGANISMS:** As indicated on permit. Test is invalid otherwise.**DILUTION WATER USED TO ACHIEVE AEC:** Upstream receiving water required if available.**TEST METHOD:** The only acceptable method is the **most current edition** of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, or other as specifically assigned by EPA for determining National Pollutant Discharge Elimination System, or NPDES, compliance. Test is invalid otherwise.**TEST START DATE AND TIME:** Unless otherwise specified in writing by EPA, if >36 hours lapse between collection and initiation, test is invalid.**FILTER MESH SIEVE SIZE:** Unless otherwise specified in writing by EPA, if sieve size is smaller than 60 microns, test is invalid.**90 PERCENT OR GREATER SURVIVAL IN LABORATORY CONTROL(S) (Y/N):** If no, test is invalid.

PARAMETER	RESULT	NOTES	WHEN ANALYZED
Temperature °C	0 – 6	Unless received by the laboratory on the same day as collected, values outside this range invalidate the test.	Upon receipt.

³ Where no upstream control is available, enter results from laboratory or synthetic control.

APPENDIX

Datasheet printed by: BE

Control Water (Tank ID & Date Prepared): G 022519

Control Water (Begin Use Date): 03-01-19

Client: **Lambert - St. Louis International Airport**

Test Start Date: 03-01-19

Fac ID or NPDES #: **MO-0111210**

Thermometer Serial #: 18050064

ESC Sample #: L1074482-01-02

Measurements taken directly in test chamber. Temperatures recorded in degrees Celsius.

(Effluent), (upstream)

		Analyst: <u>ML</u>	Analyst: <u>ML</u>	Analyst: <u>MY</u>
		0 hrs	24 hrs	48 hrs
Effluent Conc (%)				
DMW CONTROL	Fathead Minnow	26.0 °C	24.8 °C	24.6 °C
Upstream Control	Fathead Minnow	25.5 °C	24.8 °C	24.9 °C
6.25% Effluent	Fathead Minnow	25.4 °C	24.8 °C	24.6 °C
12.5% Effluent	Fathead Minnow	26.0 °C	24.8 °C	24.8 °C
25% Effluent	Fathead Minnow	26.0 °C	24.8 °C	24.8 °C
50% Effluent	Fathead Minnow	26.0 °C	25.0 °C	24.6 °C
100% Effluent	Fathead Minnow	26.0 °C	24.1 °C	24.8 °C

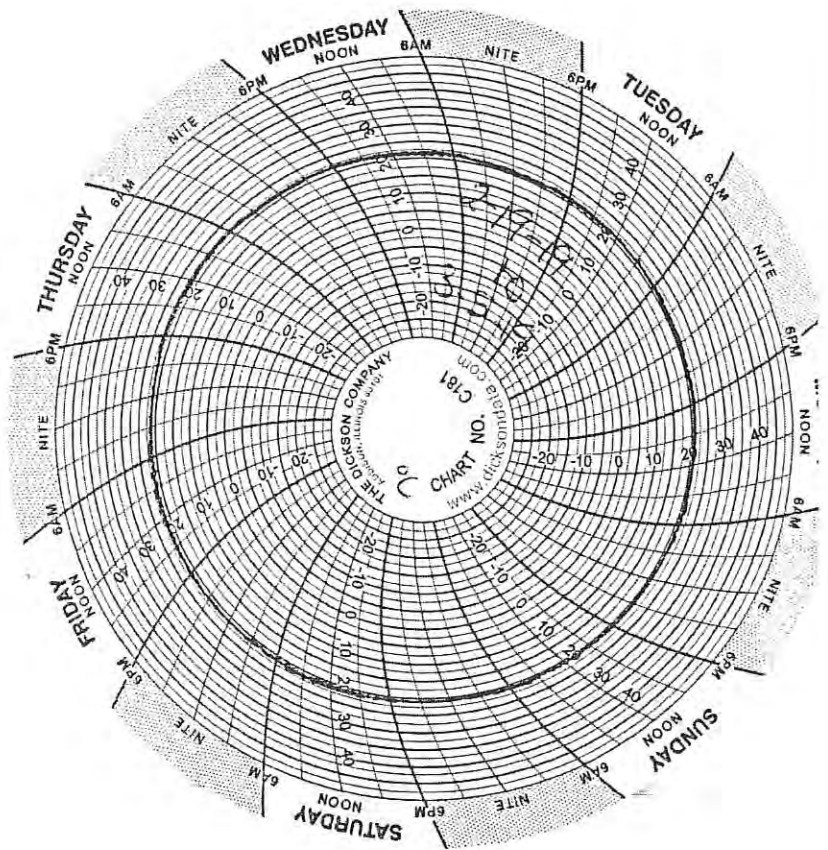
DMW CONTROL	Ceriodaphnia	25.5 °C	25.1 °C	24.6 °C
Upstream Control	Ceriodaphnia	24.8 °C	25.1 °C	24.5 °C
6.25% Effluent	Ceriodaphnia	24.9 °C	24.6 °C	24.4 °C
12.5% Effluent	Ceriodaphnia	25.4 °C	24.6 °C	24.6 °C
25% Effluent	Ceriodaphnia	25.6 °C	24.9 °C	24.5 °C
50% Effluent	Ceriodaphnia	25.8 °C	24.8 °C	24.5 °C
100% Effluent	Ceriodaphnia	26.0 °C	24.5 °C	24.6 °C

Client ID: **Lambert - St. Louis International Airport**

Chart Devices Used in
Thermo-Kool Walk-in Incubator:

Dickson (small chart)

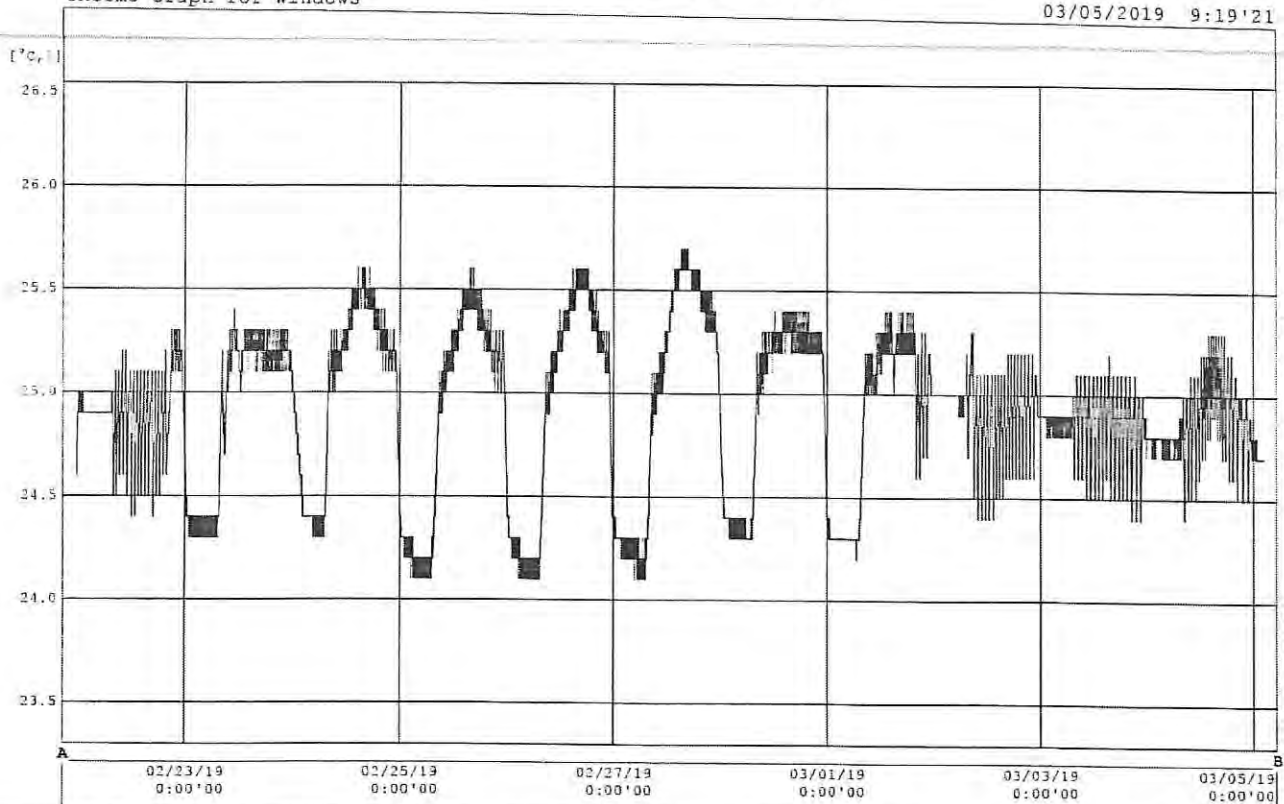
Moneywell (large chart)



Two weeks from 2-19-19 to 3-5-19

Thermo Graph for Windows

03/05/2019 9:19'21



ch	Name	Intvl.	Sample	Cur.A	Cur.B	A<->B	High	Low	Avg.	Unit
1	Ch1	2min.	8000	----	----	----	25.7	24.1	24.9	°C
2	Ch2	2min.	8000	----	----	----	25.7	24.1	24.9	°C
Cur.A Date : 02/21/2019 20:20'52										
Cur.B Date : 03/05/2019 5:23'09										
diff. A-B : 11 09:02'17.000										
Data Range 02/21/2019 20:20'52-03/05/2019 5:23'09										
Calc.Range 02/21/2019 23:32'50-03/05/2019 2:11'11										

NOTATIONS USED BY ANALYSTS DURING TOXICITY EVALUATIONS

***Ceriodaphnia dubia* (water flea)**

#	numbers on the Reproduction bench sheets (chronic) indicate the number of live young produced
@	this indicates movement of daphnid has become impaired either by actual algal growth on the organisms, or has become entrapped in substances found in the effluent sample, or has been covered in stalked cilia
ME	(molted embryo) often a stressed or poor condition female will abort all or some of a brood in response to a toxin, insufficient nutrition, or just an inability to sustain a certain level of reproduction
P	(pale) this is a noticeable reduction in coloration compared to that which is normal for the individual's age
SS	(small size) this observation is made in comparison to other individuals of the same brood or age group and generally represents a difference of at least 2X size difference
ES	(erratic swimming) this represents a locomotor behavior typified by unsustained swimming with the daphnid periodically "resting" on the bottom of the test vessel; this condition is often observed prior to a daphnid becoming totally immotile
I	(immotility) this denotes a total lack of motility; daphnid is on the bottom of the test vessel and is confirmed as living; daphnids are frequently dead within a short time
LIT	(lost in transfer) organism was lost during transfer process; stats are adjusted to represent this dilution as having one less organism
NL	(not loaded) organism was not loaded at test initiation; stats are adjusted to represent this dilution having one less organism
NT	(not transferred) organism was not present at the time of the next transfer; stats are adjusted to represent this dilution having one less organism loaded at the initiation of testing
X	(dead) dead daphnid is on bottom of test vessel and is confirmed dead by observation of no appendage movement and no visible heartbeat

***Pimephales promelas* (fathead minnow)**

#	numbers indicate the number of live organisms remaining
BS	(bent spine) fish appear to have a curved spine
LR	(loss of reflex) fish are alive, but slow to react to gentle prodding
NL	(not loaded) organism was not loaded at test initiation; stats are adjusted to represent this dilution having one less organism
TS	(top swimmers) fish appear to congregate only at the surface of the test solution (sometimes attributed to low dissolved oxygen levels)
SS	(small size) this observation is made in comparison to other individuals of the same age group and generally represents a difference of at least 2X size difference

ACUTE TOXICITY TEST DATA SHEET - Ceriodaphnia dubia (water flea) and Pimephales promelas (fathead minnow)

Client **Lambert - St. Louis International Airport**

Fac ID or NPDES # **MO-0111210**

Template Name:	<i>Violet/Venus</i>
ESC Sample #:	<i>4074482-01-02</i>

Begin	<i>3-1-2019</i>	Time	<i>13:00</i>
End	<i>3-3-19</i>	Time	<i>12:26</i>

Test Duration: 48 hours
Dilution Water: Upstream

(upstream)

Effluent in Percent (%)	# OF LIVE C. dubia				# OF LIVE Minnows				pH (std. units)				Dissolved Oxygen (mg/L)				Conductivity (umhos/cm)			
	Replicate Position		0 hrs		24 hrs		48 hrs		0 hrs		24 hrs		0 hrs		24 hrs		0 hrs		24 hrs	
	A:	B:	A:	B:	A:	B:	A:	B:	initial	C. dubia	minnow	initial	initial	C. dubia	minnow	initial	initial	C. dubia	minnow	initial
20% DMW CONTROL	A: 1	5	5	5	10	10	10	10	7.3	8.0	7.9	8.1	9.0	7.6	274	2555	274	274	274	274
	B: 2	5	5	5	10	10	10	10												
	C: 5	5	5	5	10	10	10	10												
	D: 5	5	5	5	10	10	10	10												
Control Upstream	A: 2	5	5	5	10	10	10	10	7.9	8.5	8.4	8.8	8.5	7.5	1396	1396	1396	1396	1396	1396
	B: 1	5	5	5	10	10	10	10												
	C: 4	5	5	5	10	10	10	10												
	D: 6	5	5	5	10	10	10	10												
6.25% Effluent	A: 2	5	5	5	10	10	10	10	8.0	8.5	8.4	9.1	8.5	7.6	1466	1466	1466	1466	1466	1466
	B: 1	5	5	5	10	10	10	10												
	C: 6	5	5	5	10	10	10	10												
	D: 5	5	5	5	10	10	10	10												
12.5% Effluent	A: 3	5	5	5	10	10	10	10												
	B: 6	5	5	5	10	10	10	10												
	C: 2	5	5	5	10	10	10	10												
	D: 1	5	5	5	10	10	10	10												
25% Effluent	A: 4	5	5	5	10	10	10	10												
	B: 2	5	5	5	10	10	10	10												
	C: 5	5	5	5	10	10	10	10												
	D: 6	5	5	5	10	10	10	10												
50% Effluent	A: 5	5	5	5	10	10	10	10												
	B: 4	5	5	5	10	10	10	10												
	C: 3	5	5	5	10	10	10	10												
	D: 4	5	5	5	10	10	10	10												
Checked By:	MIL/BE				MIL/BE				MIL/BE				MIL/BE				MIL/BE			
	Time 13:14				Time 10:09				Time 12:26				Time 12:20				Time 12:20			
Biologist:	MIL/BE				MIL/BE				MIL/BE				MIL/BE				MIL/BE			
Time	13:14				10:09				12:26				12:20				12:20			
Initial Readings By:	MIL/BE				MIL/BE				MIL/BE				MIL/BE				MIL/BE			
Final Readings By:	MIL/BE				MIL/BE				MIL/BE				MIL/BE				MIL/BE			
	Time 13:14				Time 10:09				Time 12:26				Time 12:20				Time 12:20			
Final Readings By:	MIL/BE				MIL/BE				MIL/BE				MIL/BE				MIL/BE			
	Time 13:14				Time 10:09				Time 12:26				Time 12:20				Time 12:20			

ACUTE TOXICITY TEST DATA SHEET - Ceriodaphnia dubia (water flea) and Pimephales promelas (fathead minnow)

Client **Lambert - St. Louis International Airport**

Begin	3-1-2019	Time	13:00
End	3-3-19	Time	12:26

Fac ID or NPDES # **MO-0111210**

Test Duration: 48 hours

Dilution Water: Upstream

Template Name:	Violet/Venus
ESC Sample #:	4074482-01, 02

(upstream)

Effluent in Percent (%)	Replicate Position		# OF LIVE C. dubia		# OF LIVE Minnows		pH (std. units)		Dissolved Oxygen (mg/L)		Conductivity (umhos/cm)	
	0 hrs	24 hrs	48 hrs	0 hrs	24 hrs	48 hrs	0 hrs	final	0 hrs	final	0 hrs	final
100% Effluent	A: 6	5	5	10	10	10	8.0	8.3	7.3	8.1	2523	2681
	B: 5	5	5	10	10	10						
	C: 1	5	5									
	D: 3	5	5									
Checked By:	Biologist: JGE	Time: 13:21	12:23	Biologist: MFL	Time: 13:00	12:26	Initial Readings By: MFL 13:43					
							Final Readings By: MFL 13:08					

Total Cl2 (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)
< 0.2	34	55
< 0.2	293	466
< 0.2	203	376

20% DMW CONTROL

100% Effluent

100% Upstream

Data divided by a slash mark (/) indicates that a duplicate was run on that parameter.

C. dubia are < 24 hrs old; C. dubia were harvested from tray 022617 AD1/AD2 on 02/28/19 @ 16:39 to 03/01/19 @ 09:36.

Minnows are 11 days old at test initiation and were taken from ESC Lot # 021819HD.

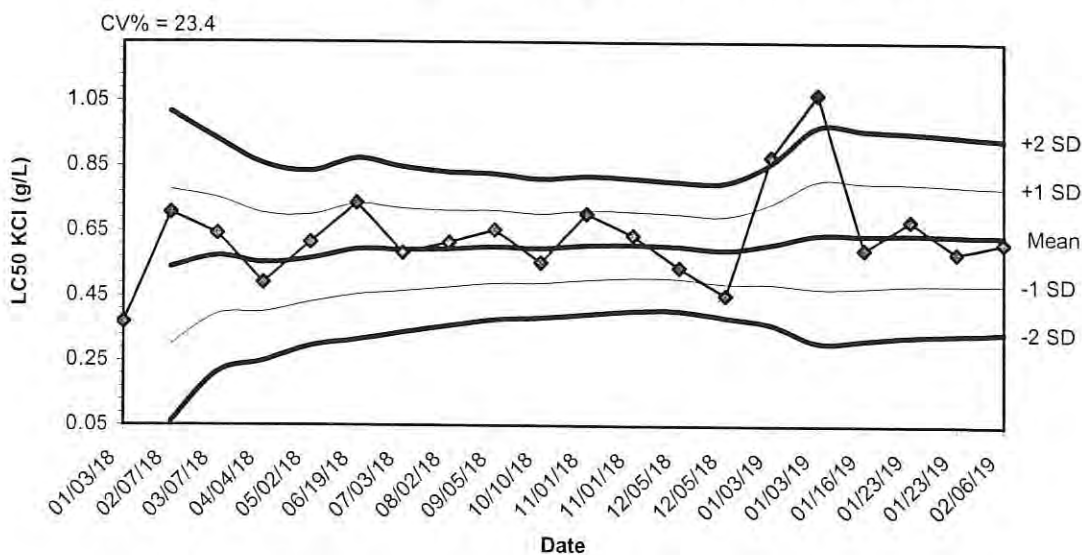
Minnows were last fed before the test 03/01/19 @ 08:12, C. dubia were last fed before the test 03/01/19 @ 09:55.

Diluted with Upstream

Comments:



Control Chart for February 2019 Acute C. dubia Reference Toxicant



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
01/03/18	0.3693					
02/07/18	0.7071	0.5382	0.2993	0.0605	0.7771	1.0159
03/07/18	0.6429	0.5731	0.3937	0.2143	0.7525	0.9319
04/04/18	0.4910	0.5526	0.4005	0.2483	0.7047	0.8568
05/02/18	0.6156	0.5652	0.4305	0.2957	0.6999	0.8346
06/19/18	0.7368	0.5938	0.4544	0.3150	0.7332	0.8726
07/03/18	0.5835	0.5923	0.4650	0.3377	0.7196	0.8469
08/02/18	0.6156	0.5952	0.4771	0.3589	0.7134	0.8315
09/05/18	0.6547	0.6018	0.4896	0.3773	0.7141	0.8264
10/10/18	0.5535	0.5970	0.4900	0.3831	0.7040	0.8109
11/01/18	0.7040	0.6067	0.5003	0.3938	0.7132	0.8197
11/01/18	0.6373	0.6093	0.5074	0.4055	0.7112	0.8131
12/05/18	0.5391	0.6039	0.5044	0.4049	0.7034	0.8028
12/05/18	0.4531	0.5931	0.4894	0.3857	0.6968	0.8006
01/03/19	0.8801	0.6122	0.4878	0.3634	0.7367	0.8611
01/03/19	1.0710	0.6409	0.4748	0.3086	0.8071	0.9732
01/16/19	0.5946	0.6382	0.4769	0.3157	0.7994	0.9607
01/23/19	0.6830	0.6407	0.4839	0.3271	0.7975	0.9543
01/23/19	0.5840	0.6377	0.4848	0.3318	0.7906	0.9436
02/06/19	0.6156	0.6366	0.4877	0.3387	0.7855	0.9345

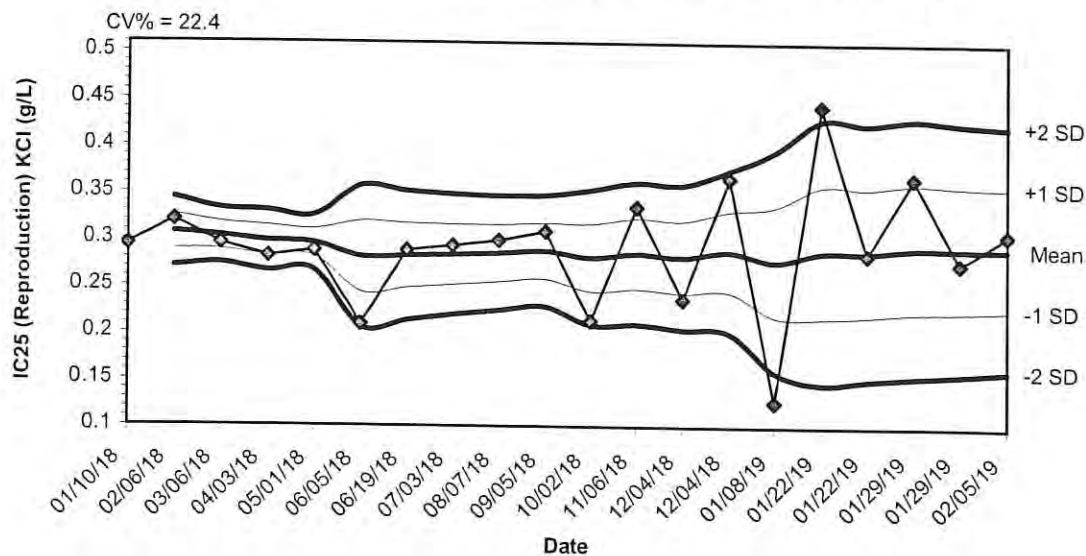


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February 2019 Reference Toxicant Test

Control Chart for February 2019 Chronic C. dubia Reference Toxicant



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
01/10/18	0.2944					
02/06/18	0.3203	0.3074	0.2890	0.2707	0.3257	0.3440
03/06/18	0.2956	0.3034	0.2888	0.2742	0.3181	0.3327
04/03/18	0.2819	0.2981	0.2820	0.2659	0.3141	0.3302
05/01/18	0.2879	0.2960	0.2814	0.2667	0.3107	0.3253
06/05/18	0.2093	0.2816	0.2438	0.2061	0.3193	0.3571
06/19/18	0.2882	0.2825	0.2480	0.2134	0.3171	0.3516
07/03/18	0.2935	0.2839	0.2517	0.2194	0.3161	0.3483
08/07/18	0.2994	0.2856	0.2550	0.2244	0.3162	0.3468
09/05/18	0.3091	0.2880	0.2582	0.2284	0.3177	0.3475
10/02/18	0.2133	0.2812	0.2451	0.2089	0.3173	0.3534
11/06/18	0.3355	0.2857	0.2479	0.2100	0.3235	0.3614
12/04/18	0.2369	0.2819	0.2433	0.2046	0.3206	0.3593
12/04/18	0.3662	0.2880	0.2445	0.2011	0.3314	0.3749
01/08/19	0.1269	0.2772	0.2182	0.1592	0.3362	0.3953
01/22/19	0.4433	0.2876	0.2171	0.1466	0.3581	0.4287
01/22/19	0.2852	0.2875	0.2192	0.1509	0.3558	0.4240
01/29/19	0.3669	0.2919	0.2230	0.1542	0.3607	0.4296
01/29/19	0.2759	0.2910	0.2240	0.1570	0.3580	0.4250
02/05/19	0.3074	0.2919	0.2265	0.1612	0.3572	0.4225

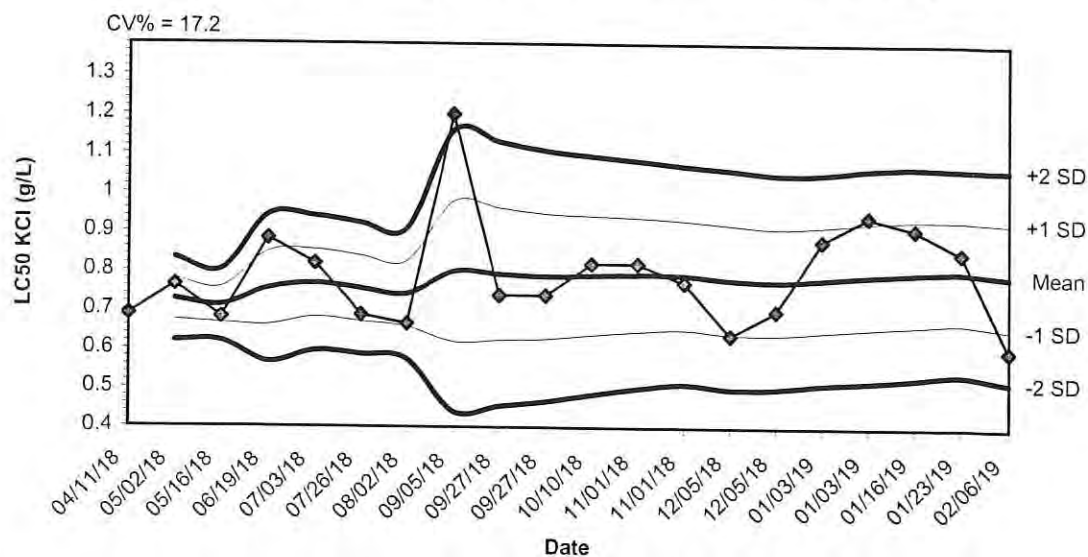


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February 2019 Reference Toxicant Test

Control Chart for February 2019 Acute Minnow Reference Toxicant



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
04/11/18	0.6892					
05/02/18	0.7647	0.7270	0.6736	0.6202	0.7803	0.8337
05/16/18	0.6817	0.7119	0.6660	0.6200	0.7578	0.8037
06/19/18	0.8842	0.7550	0.6610	0.5670	0.8489	0.9429
07/03/18	0.8196	0.7679	0.6815	0.5952	0.8542	0.9406
07/26/18	0.6875	0.7545	0.6706	0.5866	0.8384	0.9223
08/02/18	0.6657	0.7418	0.6582	0.5745	0.8254	0.9091
09/05/18	1.2000	0.7991	0.6195	0.4400	0.9786	1.1582
09/27/18	0.7387	0.7924	0.6232	0.4540	0.9615	1.1307
09/27/18	0.7387	0.7870	0.6266	0.4662	0.9474	1.1078
10/10/18	0.8196	0.7900	0.6375	0.4850	0.9424	1.0949
11/01/18	0.8196	0.7924	0.6468	0.5012	0.9381	1.0837
11/01/18	0.7715	0.7908	0.6513	0.5117	0.9304	1.0699
12/05/18	0.6375	0.7799	0.6397	0.4995	0.9201	1.0603
12/05/18	0.7000	0.7745	0.6379	0.5012	0.9112	1.0479
01/03/19	0.8785	0.7810	0.6465	0.5119	0.9156	1.0502
01/03/19	0.9415	0.7905	0.6545	0.5185	0.9265	1.0624
01/16/19	0.9094	0.7971	0.6622	0.5274	0.9319	1.0668
01/23/19	0.8485	0.7998	0.6682	0.5366	0.9314	1.0630
02/06/19	0.6000	0.7898	0.6542	0.5185	0.9255	1.0611

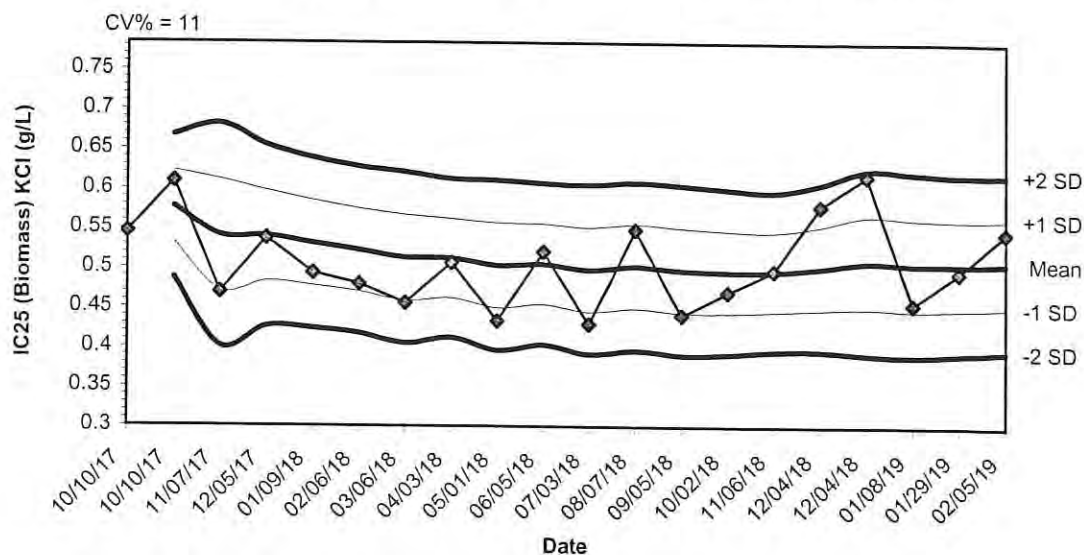


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February 2019 Reference Toxicant Test

Control Chart for February 2019 Chronic Minnow Reference Toxicant



Dates	Values	Mean	-1 SD	-2 SD	+1 SD	+2 SD
10/10/17	0.5459					
10/10/17	0.6094	0.5777	0.5327	0.4878	0.6226	0.6675
11/07/17	0.4694	0.5416	0.4715	0.4014	0.6117	0.6818
12/05/17	0.5379	0.5407	0.4834	0.4261	0.5979	0.6552
01/09/18	0.4941	0.5313	0.4776	0.4238	0.5851	0.6389
02/06/18	0.4800	0.5228	0.4703	0.4178	0.5753	0.6277
03/06/18	0.4562	0.5133	0.4592	0.4050	0.5674	0.6215
04/03/18	0.5069	0.5125	0.4623	0.4122	0.5626	0.6128
05/01/18	0.4335	0.5037	0.4499	0.3961	0.5575	0.6113
06/05/18	0.5210	0.5054	0.4544	0.4034	0.5564	0.6074
07/03/18	0.4300	0.4986	0.4451	0.3916	0.5520	0.6055
08/07/18	0.5491	0.5028	0.4498	0.3967	0.5558	0.6088
09/05/18	0.4410	0.4980	0.4444	0.3909	0.5516	0.6052
10/02/18	0.4705	0.4961	0.4441	0.3921	0.5481	0.6001
11/06/18	0.4976	0.4962	0.4461	0.3959	0.5463	0.5964
12/04/18	0.5790	0.5013	0.4487	0.3960	0.5540	0.6067
12/04/18	0.6174	0.5082	0.4499	0.3917	0.5664	0.6246
01/08/19	0.4553	0.5052	0.4474	0.3895	0.5631	0.6209
01/29/19	0.4956	0.5047	0.4485	0.3922	0.5610	0.6173
02/05/19	0.5462	0.5068	0.4512	0.3957	0.5624	0.6179



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February 2019 Reference Toxicant Test

March 08, 2019

Lambert International Aprt

Sample Delivery Group: L1074482
Samples Received: 03/01/2019
Project Number:
Description: Lambert Acute Biomonitoring
Site: MO-0111210
Report To: Jonathan Strobel
Airport Office Building (AOB)
11495 Navaid Rd.
St. Louis, MO 63145

Entire Report Reviewed By:



Rodney Shinbaum
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	<div>¹Cp</div>
Tc: Table of Contents	2	
Ss: Sample Summary	3	<div>²Tc</div>
Cn: Case Narrative	4	
Sr: Sample Results	5	<div>³Ss</div>
OUTFALL 006 L1074482-01	5	
UPSTREAM L1074482-02	6	<div>⁴Cn</div>
Qc: Quality Control Summary	7	<div>⁵Sr</div>
Wet Chemistry by Method 130.1	7	
Wet Chemistry by Method 310.2	8	<div>⁶Qc</div>
Gl: Glossary of Terms	9	<div>⁷Gl</div>
Al: Accreditations & Locations	10	<div>⁸Al</div>
Sc: Sample Chain of Custody	11	<div>⁹Sc</div>



OUTFALL 006 L1074482-01 WW

Collected by
Jarron HewittCollected date/time
02/28/19 09:55Received date/time
03/01/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Aquatic Toxicity by Method 2000	WG1246430	1	03/01/19 13:00	03/01/19 13:00	SWS	Mt. Juliet, TN
Aquatic Toxicity by Method 2002	WG1246430	1	03/01/19 13:14	03/01/19 13:14	SWS	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG1244444	5	03/05/19 17:52	03/05/19 17:52	JER	Mt. Juliet, TN
Wet Chemistry by Method 310.2	WG1245581	5	03/06/19 18:46	03/06/19 18:46	JER	Mt. Juliet, TN

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc

UPSTREAM L1074482-02 WW

Collected by
Jarron HewittCollected date/time
02/28/19 09:20Received date/time
03/01/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Aquatic Toxicity by Method 2000	WG1246430	1	03/01/19 13:00	03/01/19 13:00	SWS	Mt. Juliet, TN
Aquatic Toxicity by Method 2002	WG1246430	1	03/01/19 13:14	03/01/19 13:14	SWS	Mt. Juliet, TN
Wet Chemistry by Method 130.1	WG1244444	5	03/05/19 17:53	03/05/19 17:53	JER	Mt. Juliet, TN
Wet Chemistry by Method 310.2	WG1245581	1	03/06/19 18:02	03/06/19 18:02	JER	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Rodney Shinbaum
Project Manager

Project Narrative

Please review all information in this report for accuracy and completeness. Contact our office within ten days if there are any questions.

Chronic Test Methods are described in "Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms" (EPA/600/4-89/001).

The Biomonitoring results in this report are only a summary of the tests performed. A detailed report will follow. The detailed report (not this summary sheet) must be submitted to the appropriate regulatory agency.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Aquatic Toxicity by Method 2000

Analyte	Result	Qualifier	Analysis date / time	Batch
48 Hour LC50 - Minnow	>100 (PASS)		03/01/2019 13:00	WG1246430

¹ Cp² Tc

Aquatic Toxicity by Method 2002

Analyte	Result	Qualifier	Analysis date / time	Batch
48 Hour LC50 - C.dubia	>100 (PASS)		03/01/2019 13:14	WG1246430

³ Ss⁴ Cn

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	466		150	5	03/05/2019 17:52	WG1244444

⁵ Sr⁶ Qc

Wet Chemistry by Method 310.2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
ALK	293		100	5	03/06/2019 18:46	WG1245581

⁷ Gl⁸ Al⁹ Sc



Aquatic Toxicity by Method 2000

Analyte	Result	Qualifier	Analysis date / time	Batch
48 Hour LC50 - Minnow	>100 (PASS)		03/01/2019 13:00	WG1246430

¹ Cp² Tc

Aquatic Toxicity by Method 2002

Analyte	Result	Qualifier	Analysis date / time	Batch
48 Hour LC50 - C.dubia	>100 (PASS)		03/01/2019 13:14	WG1246430

³ Ss⁴ Cn

Wet Chemistry by Method 130.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Hardness (colorimetric) as CaCO3	376		150	5	03/05/2019 17:53	WG1244444

⁵ Sr⁶ Qc

Wet Chemistry by Method 310.2

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
ALK	203		20.0	1	03/06/2019 18:02	WG1245581

⁷ Gl⁸ Al⁹ Sc



Method Blank (MB)

(MB) R3388942-1 03/05/19 16:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Hardness (colorimetric) as CaCO3	U		1.43	30.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1073195-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1073195-03 03/05/19 16:48 • (DUP) R3388942-2 03/05/19 16:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	ND	6.84	1	0.000		20

L1074602-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1074602-09 03/05/19 18:03 • (DUP) R3388942-4 03/05/19 18:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Hardness (colorimetric) as CaCO3	423	419	5	0.832		20

Laboratory Control Sample (LCS)

(LCS) R3388942-3 03/05/19 16:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Hardness (colorimetric) as CaCO3	150	152	101	85.0-115	

L1074880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1074880-01 03/05/19 18:25 • (MS) R3388942-5 03/05/19 18:06 • (MSD) R3388942-6 03/05/19 18:07

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hardness (colorimetric) as CaCO3	30.0	383	420	444	25.0	41.0	5	80.0-120	J6	J6	5.56	20



Method Blank (MB)

(MB) R3389306-1 03/06/19 17:47

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
ALK	U		6.30	20.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1073195-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1073195-03 03/06/19 17:49 • (DUP) R3389306-3 03/06/19 17:50

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
ALK	ND	0.000	1	0.000		20

L1075542-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1075542-07 03/06/19 18:13 • (DUP) R3389306-4 03/06/19 18:14

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
ALK	35.9	30.2	1	17.2		20

L1073195-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1073195-03 03/06/19 17:49 • (DUP) R3389306-5 03/06/19 18:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
ALK	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3389306-2 03/06/19 17:48

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/l	mg/l	%	%	
ALK	200	205	103	85.0-115	



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
----	---

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

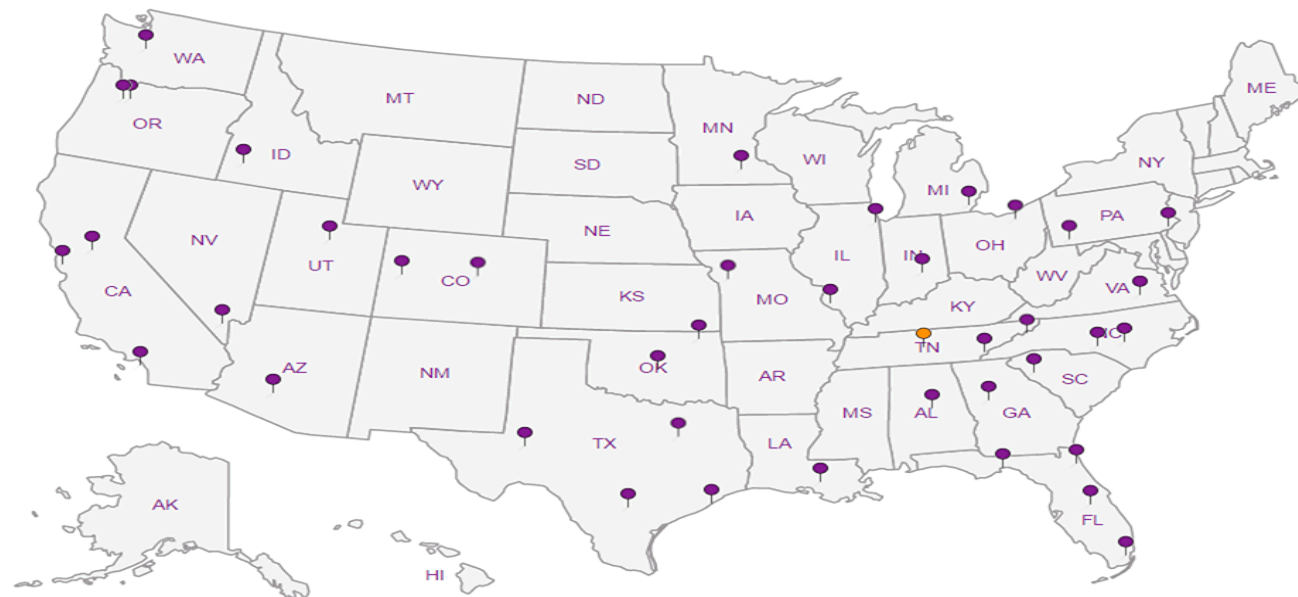
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



LEGEND:

 SWPPP BOUNDARY

 AIRPORT OPERATIONS AREA (AOA)

 MUNICIPAL BOUNDARY

 AIRPORT PARCEL / PROPERTY BOUNDARY

 AIRFIELD PAVEMENT

 USGS 10 FT CONTOURS

 CREEK / STREAM

 DETENTION BASINS

PD1 - COWMIRE

PD2 - NORTH

PD3 - SOUTH

SD1 - CYPRESS

SD2 - ST. LOUIS AIR CARGO

SD3 - EAST

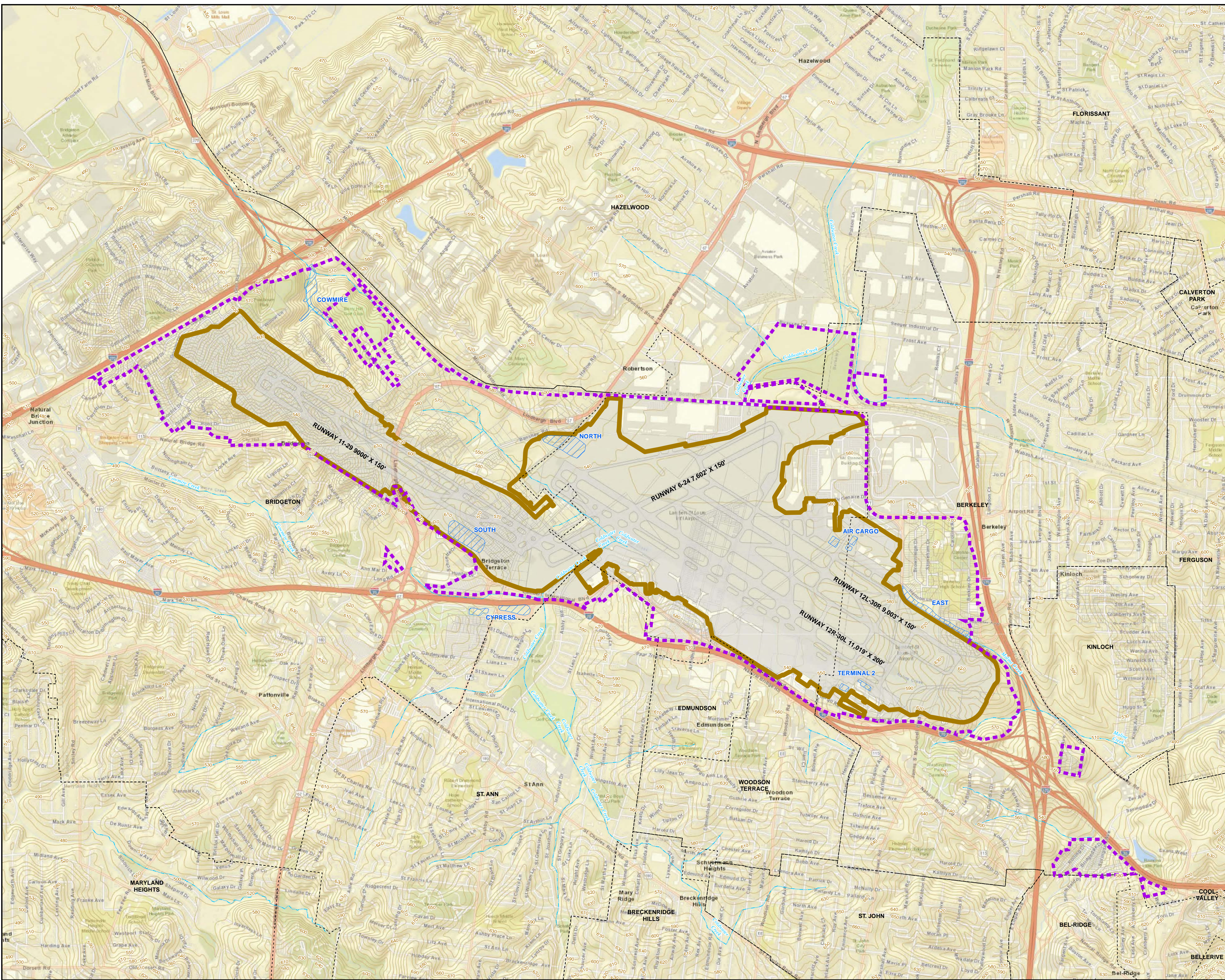
SD4 - TERMINAL 2

NOTES:

1.) PHOTOGRAPHIC BASE PROVIDED BY ESRI 2019

2.) PROJECT BOUNDARY INFORMATION, PLANS, AND FILES ARE MAINTAINED BY STL

0 0.15 0.3 0.6 0.9 Miles

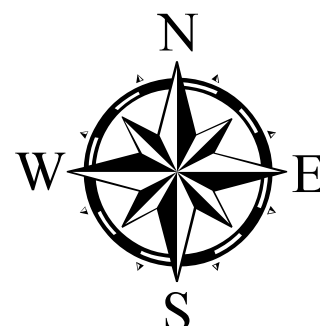


LAMBERT-SAINT LOUIS INTERNATIONAL AIRPORT
Saint Louis, Missouri

SITE LOCATION MAP

Project No. 2283

Date: 8/30/2019



LEGEND:

- AIRPORT OPERATIONS AREA (AOA)
- STORM DITCH
- CREEK / STREAM
- UNDERGROUND TRACE OF COLDWATER CREEK
- SWPPP LOCATION
- FEATURE BOUNDARY
- DETENTION BASIN

FEATURES OF INTEREST:

- 1.) WEST SIDE DITCH
- 2.) WEST SIDE HIGH SLOPE AREAS
- 3.) GIST ROAD SOIL PILE
- 4.) COWWIRE DETENTION BASIN
- 5.) OIL-WATER SEPARATOR #1
- 6.) LINDBERGH TUNNEL HIGH SLOPE AREAS
- 7.) CONTRACTOR CONCRETE PITS/STAGING AREA
- 8.) SNOW PAD BERMS
- 9.) TRIBUTARY TO COLDWATER CREEK
- 10.) NORTH DETENTION BASIN
- 11.) HAZELWOOD DITCH (OFF-SITE STORMWATER)
- 12.) LINDBERGH BOULEVARD DRAINS (OFF-SITE STORMWATER)
- 13.) NORTHERN TRACT INSPECTION AREA
- 14.) SUMP PUMP
- 15.) NORTH AREA POTASSIUM ACETATE ASTs
- 16.) ST. LOUIS AIR CARGO AREA DETENTION BASINS
- 17.) EAST AIRPORT SOIL BERMS
- 18.) HIGH SLOPE AREA EAST OF McDONNELL BOULEVARD
- 19.) 1.7M GALLON STORMWATER TANK
- 20.) TERMINAL 2 DETENTION BASINS
- 21.) HOTEL PAD
- 22.) EAST CLIMATE CONTROL
- 23.) OIL-WATER SEPARATOR #2
- 24.) WEST CLIMATE CONTROL
- 25.) CURB AT CHARLIE PAD
- 26.) COLDWATER CREEK NEAR MoANG
- 27.) OIL-WATER SEPARATOR #3
- 28.) AUTO SHOP
- 29.) FIELD MAINTAINENCE
- 30.) CENTRAL STORE ROOM
- 31.) LOT B
- 32.) SALT BUILDING
- 33.) SOUTH DETENTION BASIN
- 34.) CYPRESS PARKING LOT DETENTION BASIN
- 35.) STOCKPILE STAGING AREA
- 36.) OUTFALL 006
- 37.) ENTERPRISE LOT/SPRINGDALE BASIN
- 38.) BOEING BASIN
- 39.) MHS TRAVEL BASINS 1-3
- 40.) NEW FUEL STORAGE FACILITY PROJECT

NOTES:

- 1.) PHOTOGRAPHIC BASE PROVIDED BY ESRI 2019



LAMBERT-SAINT LOUIS INTERNATIONAL AIRPORT
Saint Louis, Missouri

INDUST. ACTIVITIES, INSPECTION
AREAS,STRUCURAL CONTROLS

Project No. 2283
Date: 9/29/2020

