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 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0113506
Owner:	EBV Explosives Environmental Company
Address:	P.O. Box 1386, Joplin, MO 64802
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	EBV Explosives Environmental Company
Facility Address:	4174 County Road 180, Carthage, MO 64836
Legal Description:	See page 2
UTM Coordinates:	See page 2
Receiving Stream:	See page 2
First Classified Stream and ID:	See page 2
USGS Basin & Sub-watershed No.:	See page 2

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

FACILITY DESCRIPTION

Industrial, Hazardous Waste Treatment, Storage and Disposal Facility – SIC #4953

EBV Explosives Environmental Company is a hazardous waste storage and treatment facility. The facility uses incineration and other unconventional technologies, known as Subpart X miscellaneous treatment units, to treat and dispose of the following materials: ammunition, off-specification and outdated explosive and energetic devices, explosive/reactive materials, materials contaminated with explosive/reactive wastes, propellants and pharmaceutical materials containing nitroglycerin. The permittee generates both stormwater in contact with industrial activity and domestic wastewater. Industrial stormwater is controlled and treated using best management practices. Domestic wastewater is treated by a no-discharge land application system, which includes a lagoon and a land application field. Domestic sludge is also authorized to be land applied. There is no industrial process wastewater discharged at this facility.

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. This permit may be appealed in accordance with Sections 640.013, 621.250, and 644.051.6 of the Law.

February 1, 2018
Effective Date

Edward B. Galbraith, Director, Division of Environmental Quality

December 31, 2022
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

PERMITTED FEATURE #001 – Stormwater discharge.
Best managements practices to control stormwater pollution.

Legal Description:	Sec.36, T28N, R32W, Jasper County
UTM Coordinates:	X = 377622, Y = 4107432
Receiving Stream:	Tributary to Grove Creek
First Classified Stream and ID:	8-20-13 MUDD V1.0 (3960) (C) (Tributary to Grove Creek)
USGS Basin & Sub-watershed No.:	11070207-0606
Design Flow (million gallons per day (MGD)):	~ 4 (~ 30 acres, 10-year/24-hour event of 5.8 in.)
Actual Flow (MGD):	dependent upon precipitation

PERMITTED FEATURE #002 – Single-cell domestic wastewater and sludge storage lagoon.

Legal Description:	Sec.36, T28N, R32W, Jasper County
UTM Coordinates:	X = 377473, Y = 4107296
Receiving Stream:	Tributary to Grove Creek
First Classified Stream and ID:	8-20-13 MUDD V1.0 (3960) (C) (Tributary to Grove Creek)
USGS Basin & Sub-watershed No.:	11070207-0606
Design Population Equivalent:	30
Design Flow (gallons per day):	1,370
Actual Flow (gallons per day):	1,190
Design sludge production (dry tons per year):	0.21
Total Depth (feet):	6.5
Maximum Operating Level (feet below overflow):	1
Minimum Operating Level (feet above bottom):	2
Total Volume (gallons):	311,190
Maximum Operating Storage Volume (gallons):	72,526
Temporal Storage Capacity, 1-in-10 Year Wet Weather (days):	53

PERMITTED FEATURE #003 – Domestic Wastewater and Sludge Land Application Field.

Legal Description:	Sec.36, T28N, R32W, Jasper County
UTM Coordinates:	X = 377477, Y = 4107325
Receiving Stream:	Tributary to Grove Creek
First Classified Stream and ID:	8-20-13 MUDD V1.0 (3960) (C) (Tributary to Grove Creek)
USGS Basin & Sub-watershed No.:	11070207-0606

Domestic Wastewater

Application Rate Basis:	Hydraulic Loading
Crops and Vegetation:	Grassland
Equipment Type:	Sprinklers
Field Slopes (%):	less than 20
Application Rates (varied per acre):	0.2 inch/hour; 1.0 inch/day; 2.0 inches/week; 36 inches/year
Irrigation Volume (gallons per day):	1,370
Irrigation Volume (gallons per year):	500,050 at design loading (including 1-in-10 year flows)
Irrigation Areas (acres):	0.5 acres at design loading

Domestic Sludge is addressed in Standard Conditions Part III and shall be handled, treated and disposed of in accordance with those standard conditions.

PERMITTED FEATURE #004 – Stormwater discharge.
Best managements practices to control stormwater pollution.

Legal Description:	Sec.36, T28N, R32W, Jasper County
UTM Coordinates:	X = 377346, Y = 4107791
Receiving Stream:	Tributary to Grove Creek
First Classified Stream and ID:	8-20-13 MUDD V1.0 (3960) (C) (Tributary to Grove Creek)
USGS Basin & Sub-watershed No.:	11070207-0606
Design Flow (million gallons per day (MGD)):	~ 1.4 (~ 30 acres, 10-year/24-hour event of 5.8 in.)
Actual Flow (MGD):	dependent upon precipitation

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PERMITTED FEATURES #001, #004	**TABLE A-1 FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**					
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations and monitoring requirements shall become effective on **February 1, 2018** and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH-MARKS Φ	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE		MEASUREMENT FREQUENCY	SAMPLE TYPE
PHYSICAL						
Flow	MGD	*		-	once/quarter ◊	24 hr. estimate
Precipitation	inches	*		-	once/quarter ◊	measured
CONVENTIONAL						
Chemical Oxygen Demand	mg/L	*		120	once/quarter ◊	grab ∞
Oil & Grease	mg/L	*		10	once/quarter ◊	grab ∞
pH §	SU	6.5 to 9.0		-	once/quarter ◊	grab ∞
Settleable Solids	mL/L/hr	*		-	once/quarter ◊	grab ∞
Total Suspended Solids	mg/L	*		-	once/quarter ◊	grab ∞
METALS						
Arsenic, Total Recoverable	µg/L	*		150	once/quarter ◊	grab ∞
Cadmium, Total Recoverable	µg/L	*		9.83	once/quarter ◊	grab ∞
Lead, Total Recoverable	µg/L	*		188.49	once/quarter ◊	grab ∞
Magnesium, Total Recoverable	µg/L	*		64	once/quarter ◊	grab ∞
Mercury, Total Recoverable	µg/L	*		1.4	once/quarter ◊	grab ∞
Selenium, Total Recoverable	µg/L	*		5	once/quarter ◊	grab ∞
Silver, Total Recoverable	µg/L	*		11.76	once/quarter ◊	grab ∞
NUTRIENTS						
Ammonia as N	mg/L	*		2.14	once/quarter ◊	grab ∞
NITROARMATICS, NITRAMINES, AND OTHER MUNITIONS RELATED POLLUTANTS						
Cycletrimethylenetrinitramine (RDX)	µg/L	*		-	once/quarter ◊	grab ∞
Perchlorate	µg/L	*		-	once/quarter ◊	grab ∞
Nitrobenzene	µg/L	*		-	once/quarter ◊	grab ∞
2,4-Dinitrotoluene	µg/L	*		-	once/quarter ◊	grab ∞
2,6-Dinitrotoluene	µg/L	*		-	once/quarter ◊	grab ∞
OTHER						
Cyanide, Total	µg/L	*		22	once/quarter ◊	grab ∞
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2018. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring requirement only.

Φ Several parameters are associated with benchmarks. See Special Conditions #2 through #5 for specific benchmark requirements.

§ The facility will report the minimum and maximum values. pH is not to be averaged.

∞ All samples shall be collected from a discharge resulting from a precipitation event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable precipitation event. If a discharge does not occur within the reporting period, report as no discharge. The total amount of precipitation should be noted from the event from which the samples were collected.

◊ Quarterly sampling

MINIMUM QUARTERLY SAMPLING REQUIREMENTS			
QUARTER	MONTHS	EFFLUENT PARAMETERS	REPORT IS DUE
First	January, February, March	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	October 28th
Fourth	October, November, December	Sample at least once during any month of the quarter	January 28th

PERMITTED FEATURE #002	TABLE A-2 STORAGE BASIN LIMITATIONS AND MONITORING REQUIREMENTS					
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	BENCH-MARKS	MEASUREMENT FREQUENCY	SAMPLE TYPE
STORAGE BASINS (Note 1 & 2)						
Freeboard	Feet	*			once/month	measured
Precipitation	Inches	*			once/month	measured
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2018. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
WASTEWATER (Note 2, 3, 4 & 5)						
Nitrate Nitrogen as N	mg/L	*			once/year	grab
Nitrogen, Total	lbs/year	*			once/year	grab
Phosphorus, Total	lbs/year	*			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2019. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

PERMITTED FEATURE #003	TABLE A-3 LAND APPLICATION FIELD LIMITATIONS AND MONITORING REQUIREMENTS					
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	BENCH-MARKS	MEASUREMENT FREQUENCY	SAMPLE TYPE
WASTEWATER APPLICATION (Note 2)						
Application Area	Acres	*			once/day	measured
Application Rate	Inches/ Acre	*			once/day	measured
Irrigation Period	Hours	*			once/day	measured
Volume Irrigated	Gallons	*			once/day	measured
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2018. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
SOIL MONITORING (Note 2 & 6)						
Nitrate Nitrogen as N	mg/kg	*			once/permit	grab
Nitrogen, Total	mg/kg	*			once/permit	grab
MONITORING REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE FIRST REPORT IS DUE JUNE 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						

* Monitoring requirement only

Note 1 – Storage Basin freeboard shall be reported as Storage Basin water level in feet below the overflow level.

Note 2 – Report as "No Application" when land application does not occur during the report period.
Note 3 – Wastewater that is land applied shall be sampled at the irrigation pump, wet well, or application equipment prior to land application.
Note 4 – Sludge that is land applied shall be sampled at the storage basin or application equipment prior to land application.
Note 5 – Wastewater and sludge shall not exceed the nitrogen application rates discussed in D. Land Application System Condition #9.
Note 6 – Sample the upper 6 to 8 inches of soil. Composite samples shall be collected from each permitted land application site. See D. Land Application System Condition #8(j) Soil Monitoring for additional guidance.

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I and Part III standard conditions dated August 1, 2014 and March 1, 2015, respectively, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

FOR ALL PERMITTED FEATURES

1. Electronic Discharge Monitoring Report (eDMR) Submission System
   (a) Discharge Monitoring Reporting Requirements. The permittee must electronically submit compliance monitoring data via the eDMR system. In regards to Standard Conditions Part I, Section B, #7, the eDMR system is currently the only Department approved reporting method for this permit.
   (b) Programmatic Reporting Requirements. The following reports (if required by this permit) must be electronically submitted as an attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:
      (1) Wastewater Irrigation Annual Reports;
      (2) Sludge/Biosolids Annual Reports; and
      (3) Any additional report required by the permit excluding bypass reporting.
      After such a system has been made available by the department, required data shall be directly input into the system by the next report due date.
   (c) Other actions. The following shall be submitted electronically after such a system has been made available by the department:
      (1) General Permit Applications/Notices of Intent to discharge (NOIs);
      (2) Notices of Termination (NOTs);
      (3) No Exposure Certifications (NOEs);
      (4) Low Erosivity Waivers and Other Waivers from Stormwater Controls (LEWs); and
      (5) Bypass reporting.
   (d) Electronic Submissions. To access the eDMR system, use the following link in your web browser: https://edmr.dnr.mo.gov/edmr/E2/Shared/Pages/Main/Login.aspx.
   (e) Waivers from Electronic Reporting. The permittee must electronically submit compliance monitoring data and reports unless a waiver is granted by the department in compliance with 40 CFR Part 127. The permittee may obtain an electronic reporting waiver by first submitting an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. The department will either approve or deny this electronic reporting waiver request within 120 calendar days. Only permittees with an approved waiver request may submit monitoring data and reports on paper to the Department for the period that the approved electronic reporting waiver is effective.

2. The purpose of the Stormwater Pollution Prevention Plan (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 not effective preventing pollution [10 CSR 20-2.010(56)] of waters of the state, and corrective actions means the facility took steps to eliminate the deficiency.

3. The facility's SIC code(s) or description is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) hence shall implement a SWPPP which must be prepared and implemented upon permit issuance. 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 every five (5) years or as site conditions change (see Part III: Antidegradation Analysis and SWPPP sections in the fact sheet). The permittee 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 February 2009 (www.epa.gov/npdes/pubs/industrial_swppp_guide.pdf). 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) The SWPPP must include a schedule for 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.
   i. Operational deficiencies must be corrected within seven (7) calendar days.
   ii. Minor structural deficiencies must be corrected within fourteen (14) calendar days.
   iii. Major structural deficiencies must be reported to the regional office within seven (7) days of discovery. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including the general timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. The permittee will work with the regional office to determine the best course of action, including but not limited to temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
   iv. All actions taken to correct the deficiencies shall be included with the written report, including photographs.
   v. 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 and EPA personnel upon request.

(c) A provision for designating an individual to be responsible for environmental matters.

(d) A provision for providing training to all personnel involved in material handling and storage, and housekeeping of maintenance and cleaning areas. Proof of training shall be submitted on request of the department.

4. This permit stipulates pollutant benchmarks applicable to your discharge. 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 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 that pollutant in your stormwater discharge(s).

   Any time a benchmark exceedance occurs a Corrective Action Report (CAR) must be completed. A CAR is a document that records the efforts undertaken by the facility to improve BMPs to meet benchmarks in future samples. CARs must be retained with the SWPPP and 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 measureable progress towards achieving the benchmarks is a permit violation.

5. Permittee shall adhere to the following minimum Best Management Practices (BMPs):
   (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities 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 that 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. Any spills should be noted in the SWPPP.
   (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 to comply with general water quality criteria, effluent limits, or benchmarks. This could include the use of straw bales, silt fences, or sediment basins, if needed.
   (f) Ensure adequate provisions are provided to prevent surface water intrusion into the storage basin, to divert stormwater runoff around the storage basin, and to protect embankments from erosion.

6. To protect the general criteria found at 10 CSR 20-7.031(4), before releasing water accumulated in secondary containment areas, it must be examined for hydrocarbon odor and presence of sheen. If the presence of odor or sheen is indicated, the water shall be treated using an appropriate method or disposed of in accordance with legally approved methods, such as being sent to a wastewater treatment facility. Following treatment, the water shall be tested for oil and grease, benzene, toluene, ethylbenzene, and xylene using 40 CFR part 136 methods. All pollutant levels must be below the most protective, applicable standards for the receiving stream, found in 10 CSR 20-7.031 Table A. Records of all testing and treatment of water accumulated in secondary containment shall be stored in the SWPPP to be available on demand to DNR and EPA personnel.

7. 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 §644.051.16, RSMo, and the CWA section 402(k); however, 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 Sections 301(b)(2)(C) and (D), §304(b)(2), and §307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not limited in the permit.

8. All outfalls and permitted features must be clearly marked in the field.

9. Changes in Discharges of Toxic Pollutant
   In addition to the reporting requirements under §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) That 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) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the 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 §122.21(g)(7).
      (4) The level established by the Director in accordance with §122.44(f).

10. Report as no-discharge when a discharge does not occur during the report period.

11. Reporting of Non-Detects
   (a) An analysis conducted by the permittee or their contracted laboratory shall be conducted in such a way that the precision and accuracy of the analyzed result can be enumerated.
   (b) The permittee shall not report a sample result as "Non-Detect" without also reporting the detection limit of the test. Reporting as "Non-Detect" without also including the detection limit will be considered failure to report, which is a violation of this permit.
   (c) The permittee shall report the "Non-Detect" result using the less than sign and the minimum detection limit (e.g. <10).
   (d) Where the permit contains a Minimum Level (ML) and the permittee is granted authority in the permit to report zero in lieu of the < ML for a specified parameter (conventional, priority pollutants, metals, etc.), then zero (0) is to be reported for that parameter.
   (e) See Standard Conditions Part I, Section A, #4 regarding proper detection limits used for sample analysis.
   (f) When calculating monthly averages, one-half of the minimum detection limit (MDL) should be used instead of a zero. Where all data are below the MDL, the "<MDL" shall be reported as indicated in item (C).

12. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (644.055 RSMo).

D. LAND APPLICATION SYSTEM CONDITIONS

FOR LAND APPLICATION FEATURES ONLY

1. Annual Report on Land Application. An annual report is required in addition to other reporting requirements under Section A of this permit. The annual report shall be submitted by January 28 of each year. The report shall include, but is not limited to, a summary of the following:
   (a) Record of maintenance and repairs during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year.
   (b) The number of days the storage structure discharged during the year, the discharge flow, reason the discharge occurred and effluent analysis performed.
   (c) A summary for each field used for land application showing number of acres used number of days application occurred, crop grown and yield, and total amount of wastewater and/or sludge applied (gal. or tons/acre).
   (d) For fields where the total nitrogen application exceeds 150 lbs./acre, submit PAN calculations to document that the applied nitrogen will be utilized.
   (e) The report shall include any soil test results. If none were taken during the reporting year, report the date samples were taken.
   (f) Narrative summary of any problems or deficiencies identified, corrective action taken and improvements planned.

2. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems, including key operating procedures, an aerial or topographic site map with the permitted features, land application fields, and irrigation buffer zones marked, and a brief summary of the operation of the facility. The O & M manual shall be made available to the operator and available to the department upon request. The O&M Manual shall be reviewed and updated at least every five years.

3. All permitted features, including emergency outfalls, must be clearly marked in the field. The permitted features and land application fields shall also be marked on the aerial or topographic site map included with the Operation and Maintenance manual.

4. An all-weather access road shall be provided to the treatment facility.

5. Record Keeping
   (a) A daily land application log shall be prepared and kept on file at the permittee's office location for each application site showing dates of application, weather condition (sunny, overcast, raining, below freezing etc…), soil moisture condition, application method.
   (b) A record of monthly visual storage structure inspections shall be maintained.
   (c) A record of land application equipment inspections and calibrations as well as land application field inspections shall be maintained.
   (d) All records and monitoring results shall be maintained for at least five years and shall be made available to the department upon request.

6. Storage Basin.
   (a) The berms of the storage basin(s) shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.
   (b) The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the storage basin(s) and to divert stormwater runoff around the storage basin(s) and protect embankments from erosion.
   (c) The minimum and maximum operating water levels for the storage basin(s) shall be clearly marked. Each storage basin shall be operated so that the maximum water elevation does not exceed upper operating level except due to exceedances of the 1-in-10 year or 25-year, 24-hour storm events. Storage basins shall be lowered to the minimum operating level prior to November 30 each year. Storage basins shall be inspected monthly for structural integrity and leaks.
   (d) A least one gate, constructed of materials comparable to the fence, must be provided to access any storage basin and provide for maintenance and mowing. The gate shall remain locked except when opened by the permittee to perform maintenance or mowing.
   (e) At least one sign shall appear on the fence on each side of each facility. Minimum wording shall be "SEWAGE TREATMENT FACILITY – KEEP OUT", in letters at least 2 inches high.
   (f) Earthen storage basins shall have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. It is a violation of this permit to place material in the emergency spillway or otherwise cause it to cease to function properly, as this may result in a catastrophic failure of the storage basin.

7. Land Application Equipment.
   (a) Spray application equipment shall minimize the formation of aerosols.
   (b) Provisions shall be made for draining pipes and other equipment to prevent freezing.

(c) Portable pumping unit or permanent pumping installation.
  (1) A suitable structure shall be provided to house the pump.
  (2) The intake pumping system shall provide the capability for varying the withdrawal depth.
  (3) The intake elevation should be maintained 12-24 inches below the wastewater elevation.
  (4) The intake shall be screened so as to minimize clogging of the sprinkler nozzle or distribution system orifices.
  (5) For use of a potable pump, a stable platform and flexible intake line with flotation device to control depth of intake will be acceptable.

(d) Thrust blocking of pressure pipes shall be provided. For use of above ground risers of sprinklers, a concrete pad and support bracing should be considered.

(e) Automatic or semi-automatic controls should be considered for shut off of the system after a prescribed wastewater application period. Manual start-up of the application system is recommended.

(f) Land application equipment shall be visually inspected daily during land application to check for equipment malfunctions and leaks. The application system shall be operated so as to provide uniform distribution of wastes over the entire land application site and shall be capable of applying the annual design flow during an application period of less than 100 days or 800 hours per year. Land application equipment shall be calibrated at least once annually.

8. Land Application Fields.

(a) This special condition does not apply to fertilizer products that are exempted under the Missouri Clean Water Law and regulations, 10 CSR 20-6.015(3)(B)8.

(b) If land application sites listed in this permit are also included as land application sites in another permit, the wastewater and sludge applications from other sources shall be included in the application rates in the facility description. Records of the amount and application rate of wastewater or sludge from other sources must be kept.

(c) Public Access Restrictions. This permit does not authorize application of wastewater to public use areas. The land application area must be clearly marked.

(d) No land application shall occur when the soil is frozen, snow covered, or saturated. There shall be no application during a precipitation event or if a precipitation event that is likely to create runoff is forecasted to occur within 24 hours of a planned application.

(e) Land application shall occur only during daylight hours.

(f) Land application fields shall be checked daily during land application for runoff. Sites that utilize spray irrigation shall monitor for the drifting of spray across property lines.

(g) Setback distances from sensitive features. There shall be no land application within:
  (1) 300 feet of any well, sinkhole, losing stream, wetland, or cave entrance, water supply impoundment or stream intake;
  (2) 150 feet of an occupied residence, public building, or public use area;
  (3) 50 feet of gaining perennial or intermittent stream, public or privately owned pond or lake;
  (4) 50 feet of property line or public road.

(h) Wastewater application on slopes exceeding 10%, the hourly application rate shall not exceed one-half (1/2) the design sustained permeability and in no case shall exceed one-half (1/2) inch per hour.

(i) Sludge application slope limitations for application sites are as follows;
  (1) Slopes of 6 percent or less there are no limitations.
  (2) Slopes of 7 to 12 percent, biosolids when may be applied with no limitation when soil conservation practices are used to meet the minimum erosion levels.
  (3) Slopes greater than 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less

(j) Sludge should not be applied to fields used to grow food crops for human consumption to be eaten raw, such as leafed vegetables or root crops.

(k) Sludge shall not be applied to within thirty (30) days of grazing or forage harvesting. The recommendations of the State Milk Board shall be followed.

(j) Soil Monitoring.
  (1) Composite soil samples shall be collected every five years from each field listed in this permit where land application has occurred in the last 12 months. No land application shall occur on fields listed in this permit if soil sample results are more the five (5) years old.
  (2) Soil sampling shall be in accordance with University of Missouri (MU) Guides G9215, Soil Sampling Pastures or G9217, Soil Sampling Hayfields and Row Crops or other methods approved by the department. The recommendation of one composite sample per 20 acres in G9215 and G9217 is not required by this permit, however, this is a useful method to identify soil fertility fluctuations in large fields due to past management practices, soil type, and variability of crop yields. There shall be at least one composite sample per 80 acres.
  (3) Testing shall conform to Recommended Chemical Soil Testing Procedures for North Central Region (North Central Regional Research Publication 221 Revised), or Soil Testing in Missouri (MU Extension Guide EC923), or other methods approved by the department.

(k) Wastewater and/or sludge land applications shall not exceed agronomic rates to ensure agricultural use of nutrients and prevent contamination of surface and groundwater. The agronomic rate is the amount of wastewater and/or sludge applied to a field to meet the fertilizer recommendation.

9. Nitrogen Loading Rate. Plant Available Nitrogen (PAN) Method. Land application to fields listed in this permit shall use the following protocols to determine the amount of wastewater and/or sludge to be applied.
   (a) The fertilizer recommendation shall be based on the following:
      (1) The nutrient recommendation (nitrogen or phosphorus) for each crop. Recommendations can be found in University of Missouri Extension Guide WQ430 Crop/Nutrient Considerations for Biosolids or from publications by other land grant universities in adjoining states,
      (2) Realistic yield goal for each crop. Yield goals should be based on actual crop yield records from multiple years for each field. Good judgment should be used to counteract unusually high or low yields. If a field's yield history is not available the USDA county wide average or other approved source may be used, and
      (3) The most recent soil test.
   (b) Wastewater and/or Sludge applications shall be conducted according to one the following nutrient based management practices.
      (1) Nitrogen based application. This method can be used when soil test phosphorus (P) levels are 120 pounds or less per acre using Bray P-1 test method, or if the field has been assessed by Missouri Phosphorus Index (P-index) with a low or medium rating. The amount of wastewater and/or sludge to be applied shall be adjusted annually based on the PAN calculation using the current wastewater and/or sludge nutrient analysis and the following:
         (a) For non-legume crops, the nitrogen fertilizer recommendation shall be adjusted to account for nitrogen credits from a preceding legume crop and residual nitrogen from the previous year's application. Nitrogen removal rates can be found in WQ430.
         (b) For legume crops, the nitrogen removal capacity of the legume crops should be based on the estimated nitrogen content of the harvested crop as defined in WQ430 and a realistic yield goal. The estimated nitrogen content of the crop must be adjusted using nitrogen credits for residual nitrogen fertilizer from the previous year's application.

            PAN = [Ammonia Nitrogen x volatilization factor*] + [Organic Nitrogen x 0.2] + [Nitrate Nitrogen]
            *Volatilization factor is 0.7 for surface application and 1 for subsurface application.

      (2) Phosphorus based application. This method must be used when soil test phosphorus (P) levels are above 120 pounds per acre using Bray P-1 test method, or if the P-index rating is high. The amount of wastewater and/or sludge to be applied shall be adjusted annually based the phosphorus content of the current wastewater and/or sludge nutrient analysis and may be done applied according to one of the following methods;
         (c) The annual amount of phosphorus applied shall not exceed the planned crop's phosphorus removal estimate from WQ430, or from publications by other land grant universities in adjoining states or,
         (d) Multi-year phosphorus applications. Wastewater and/or sludge applications can exceed the annual planned phosphate removal estimate for the crop when a multi-year phosphorus application is utilized. The multi-year application must comply with the following conditions:
            (i) The amount of wastewater and/or sludge applied shall not exceed the nitrogen fertilizer recommendation or the estimated nitrogen removal capacity of the planned crop during the year of the application;
            (ii) The amount of phosphorus banked shall not exceed four years of the estimated crop removal rate for the planned crop rotation;
            (iii) The actual application rate shall not exceed the multi-year application rate; and
            (iv) No additional sludge applications shall occur until the applied phosphorus has been removed from the field by crop removal or harvest.
      (3) No land application can occur if the P-index rating for a field is very high.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0113506
EBV EXPLOSIVES ENVIRONMENTAL COMPANY

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution 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 (Section 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" Section 644 as amended). MSOPs 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)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	
Facility SIC Code(s):	4953/HZ	
Application Date:	06/15/2015	
Expiration Date:	12/09/2015	
Last Inspection:	11/17/2005	In Compliance

FACILITY DESCRIPTION:
EBV Explosives Environmental Company is a hazardous waste storage and treatment facility. The facility uses incineration and other unconventional technologies, known as Subpart X miscellaneous treatment units, to treat and dispose of the following materials: ammunition, off-specification and outdated explosive and energetic devices, explosive/reactive materials, materials contaminated with explosive/reactive wastes, propellants and pharmaceutical materials containing nitroglycerin. The permittee generates both stormwater in contact with industrial activity and domestic wastewater. Industrial stormwater is controlled and treated using best management practices. Domestic wastewater is treated by a no-discharge land application system, which includes a lagoon and a land application field. Domestic sludge is also authorized to be land applied. There is no industrial process wastewater discharged at this facility.

The permittee noted that there are two stormwater drainage paths on the property. Most of the site area drains to the existing stormwater pond. However, the site area north of Building 4 drains to a point northeast of Building 3. This can be viewed on the facility map below. Effluent monitoring and sampling requirements are implemented in this permit for the stormwater discharging to the northwest of the property, through Outfall #004.

For a more detailed description of the hazardous waste activities conducted at this site, please visit the following link: http://dnr.mo.gov/env/hwp/permits/mod985798164/information.htm.

PERMITTED FEATURES TABLE:

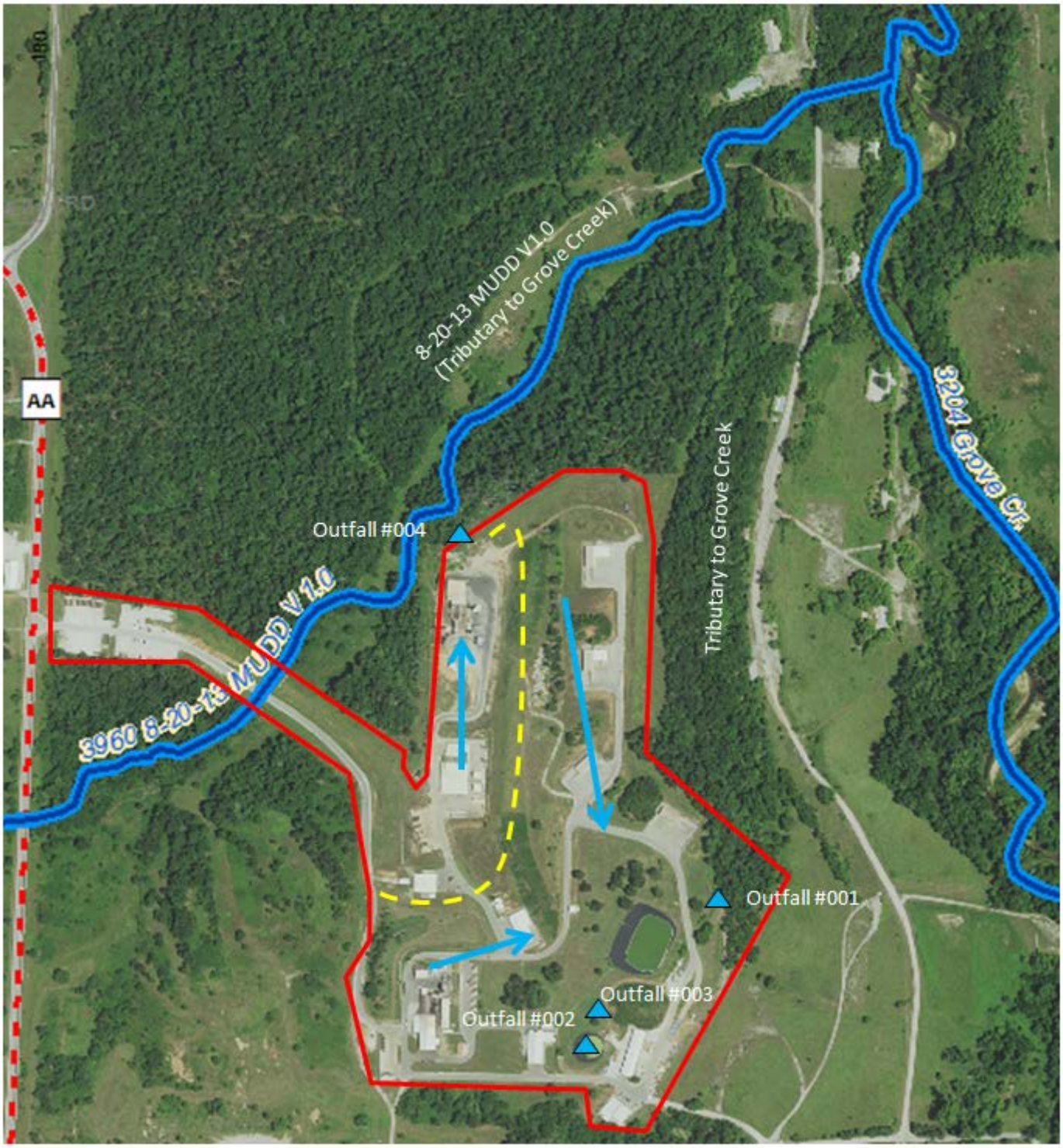
OUTFALL	AVERAGE FLOW		DESIGN FLOW		TREATMENT LEVEL	EFFLUENT TYPE
	MGD	CFS	MGD	CFS		
#001	Dependent upon precipitation		4	6.2	Best Management Practices	Industrial Stormwater
#002	0.00119	0.002	0.00137	0.002	Primary (Lagoon)	Domestic Wastewater and Sludge
#003	0.00119	0.002	0.00137	0.002	Land Application	Domestic Wastewater and Sludge
#004	Dependent upon precipitation		1.4	2.2	Best Management Practices	Industrial Stormwater

FACILITY PERFORMANCE HISTORY & COMMENTS:

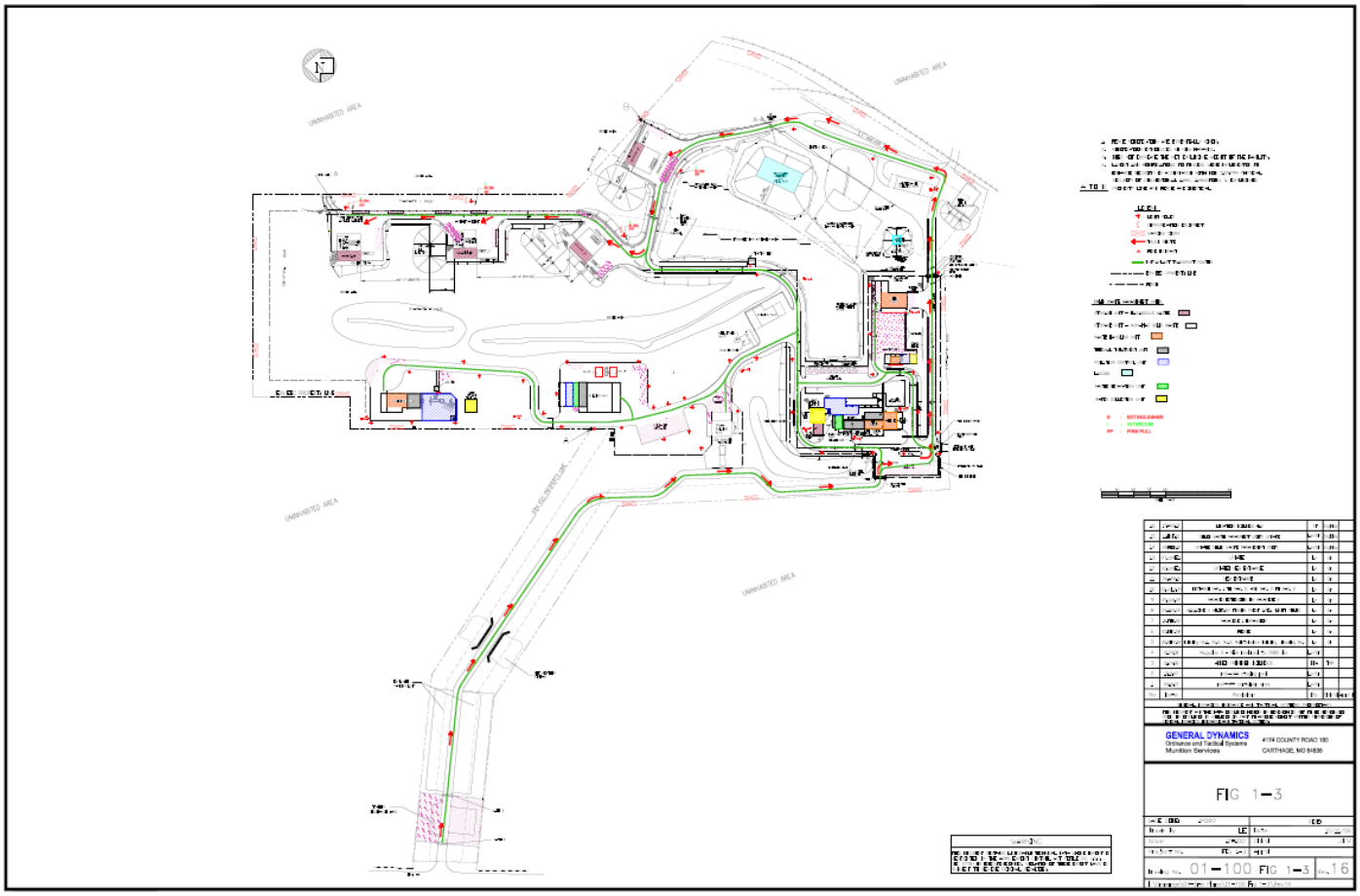
The most recent site inspection to determine compliance with MSOP #MO-0113506 was conducted on October 12, 2005. The facility was found to be in compliance during the time of the inspection. There were no deficiencies noted in the site inspection report.

The previous permit contained a requirement to close the stormwater pond, which is associated with Outfall #001. The permitted never closed the pond. The stormwater pond will remain as a best management practice to assist in controlling pollutant runoff from the site during precipitation events.

FACILITY MAP:



General Property Boundary
Approximate drainage ridgeline, where stormwater flows to different points (Outfall #001 or Outfall #004)
Stormwater flow directions



Part II. RECEIVING STREAM INFORMATION

RECEIVING WATER BODY'S WATER QUALITY:
There appears to be some stream data for Grove Creek (3204) (P) in the department's database. However, it appears that the samples were collected in locations near other industrial facilities. These data may not be representative of stream quality around the EBV Environmental Explosives Company or the impact that discharges from this facility may be having on the receiving stream. There are two sets of data noted as upstream of the site. These data show good stream quality in Grove Creek (3204) (P). However, there does not appear to be any downstream sampling points that provide data showing impact of the discharge to the stream. Specific data can be viewed at the following website: http://www.dnr.mo.gov/mocwis_public/wqa/waterbodySearch.do.

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

✓ Not applicable; this facility does not discharge to an impaired segment of a 303(d) listed stream.

TOTAL MAXIMUM DAILY LOAD (TMDL):
A TMDL is a calculation of the maximum amount of a given pollutant that a body of water 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 may be developed. The TMDL shall include the WLA calculation. http://dnr.mo.gov/env/wpp/tmdl/

✓ Not applicable; this facility is not associated with a TMDL.

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

✓ As per Missouri's Effluent Regulations [10 CSR 20-7.015(1)(B)], the waters of the state are divided into the following seven categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's effluent limitation table and further discussed in the derivation & discussion of limits section.

Missouri or Mississippi River: ☐
Lake or Reservoir: ☐
Losing: ☐
Metropolitan No-Discharge: ☐
Special Stream: ☐
Subsurface Water: ☐
All Other Waters: ☒

RECEIVING STREAMS TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES*	DISTANCE TO SEGMENT (MILES)	12-DIGIT HUC
#001	Tributary to Grove Creek	n/a	n/a	GEN	0.5	11070207-0606
	8-20-13 MUDD V1.0 (Tributary to Grove Creek)	C	3960	AQL, GEN, HHP, IRR, LWW, SCR, WBC-B		
#002	Tributary to Grove Creek	n/a	n/a	GEN	0.6	
	8-20-13 MUDD V1.0 (Tributary to Grove Creek)	C	3960	AQL, GEN, HHP, IRR, LWW, SCR, WBC-B		
#003	Tributary to Grove Creek	n/a	n/a	GEN	0.55	
	8-20-13 MUDD V1.0 (Tributary to Grove Creek)	C	3960	AQL, GEN, HHP, IRR, LWW, SCR, WBC-B		
#004	Tributary to Grove Creek	n/a	n/a	GEN	0.03	
	8-20-13 MUDD V1.0 (Tributary to Grove Creek)	C	3960	AQL, GEN, HHP, IRR, LWW, SCR, WBC-B		

n/a not applicable
WBID = Waterbody IDentification: Missouri Use Designation Dataset 8-20-13 MUDD V1.0 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
* As per 10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission's water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and 1st classified receiving stream's beneficial water uses to be maintained are in the receiving stream table in accordance with [10 CSR 20-7.031(1)(C)].

Uses which may be found in the receiving streams table, above:
10 CSR 20-7.031(1)(C)1.:
AQL = Protection of aquatic life (Current narrative use(s) are defined to ensure the protection and propagation of fish shellfish and wildlife, which is 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 AQL effluent limitations in 10 CSR 20-7.031 Table A 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 supporting swimming;
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;
IRR = Irrigation for use on crops utilized for human or livestock consumption;
LWW = Livestock and wildlife watering (Current narrative use is defined as LWP = Livestock and Wildlife Protection);
DWS = Drinking Water Supply;
IND = Industrial water supply
10 CSR 20-7.031(1)(C)8-11.: Wetlands (10 CSR 20-7.031 Table A 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 20-7.031(6): GRW = Groundwater

RECEIVING STREAM LOW-FLOW VALUES:

OUTFALL	RECEIVING STREAM (C, P)	LOW-FLOW VALUES (CFS)		
		1Q10	7Q10	30Q10
#001, #002, #003, #004	Tributary to Grove Creek	0.0	0.0	00

MIXING CONSIDERATIONS:
Mixing zone: not allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)].
Zone of initial dilution: not allowed [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:
No receiving water monitoring requirements are recommended at this time.

Part III. RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & 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)], or is an existing facility.

ANTI-BACKSLIDING:
Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] 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.

✓ All limits in this operating permit are at least as protective as those previously established; therefore, backsliding does not apply.

ANTIDEGRADATION REVIEW:
For process water discharge with new, altered, or expanding discharges, 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.

For stormwater discharges with new, altered, or expanding discharges, the stormwater BMP chosen for the facility, through the antidegradation analysis 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.

BENCHMARKS:
When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer. Benchmarks require the facility to monitor, and if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the limitations of the permit.

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 discharges. The *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001; 1991) Section 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), benchmark, or monitoring requirement determined by the site specific conditions including the receiving water's current quality. While inspections of the stormwater BMPs occur monthly, facilities with no compliance issues are usually expected to sample stormwater quarterly.

Numeric benchmark values are based on water quality standards or other stormwater permits including guidance forming the basis of Environmental Protection Agency's (EPA's) *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP). Because precipitation events are sudden and momentary, benchmarks based on state or federal standards or recommendations use the Criteria Maximum Concentration (CMC) value, or acute standard. The CMC is the estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The CMC for aquatic life is intended to be protective of the vast majority of the aquatic communities in the United States.

- ✓ Applicable; this facility has stormwater-only outfalls with benchmark constraints. The benchmarks listed are consistently achieved in stormwater discharges by a variety of other industries with SWPPPs and is deemed protective of instream water quality and aquatic life.

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer). 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. Additional information: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74 (WQ422 through WQ449).

- ✓ Permittee land applies biosolids in accordance with Standard Conditions III and a Department approved sludge management plan.

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 permittee/facility is not currently under Water Protection Program enforcement action.

GROUNDWATER MONITORING:

Groundwater is a water of the state according to 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.

INDUSTRIAL SLUDGE:

Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial 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 a material derived from industrial sludge.

- ✓ Not applicable; sludge is not generated at this facility.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that 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. If the permit writer determines any give pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant [40 CFR Part 122.44(d)(1)(iii)].

- ✓ Not applicable; a RPA was not conducted 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 subject to mathematical RPAs.

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. SOCs are allowed under 40 CFR 122.47 providing certain conditions are met.

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

SPILL REPORTING:

Per 10 CSR 24-3.010, 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

STORMWATER PERMITTING:
A standard mass-balance equation cannot be calculated for stormwater from this facility because the stormwater flow and flow in the receiving stream cannot be determined for conditions on any given day. The amount of stormwater discharged from the facility will vary based on previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on climatic conditions, size of watershed, amount of surfaces with reduced permeability (houses, parking lots, and the like) in the watershed, hydrogeology, topography, etc. Decreased permeability increases the flash of the stream.

It is likely sufficient rainfall to cause a discharge for four continuous days from a facility will also cause some significant amount of flow in the receiving stream. Chronic WQSs are based on a four-day exposure (except ammonia, which is based on a thirty day exposure). In the event a discharge does occur from this facility for four continuous days, some amount of flow will occur in the receiving stream. This flow will dilute stormwater discharges from a facility. For these reasons, most industrial stormwater facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

Sufficient rainfall to cause a discharge for one hour or more from a facility would not necessarily cause significant flow in a receiving stream. Acute WQSs are based on a one hour of exposure, and must be protected at all times in unclassified streams, and within mixing zones of class P streams [10 CSR 20-7.031(4) and (5)(4)4.B.]. Therefore, industrial stormwater facilities with toxic contaminants do have the potential to cause a violation of acute WQSs if those toxic contaminants occur in sufficient amounts.

It is due to the items stated above staff drafting this fact sheet are unable to perform statistical Reasonable Potential Analysis (RPA) and calculate Wasteload Allocations (WLA) via a site-specific mass-balance equation for effluent limit determination. However, staff will use their best professional judgment in determining if a facility has a potential to violate Missouri's Water Quality Standards.

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 section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 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*, (Document number EPA 833-B-09-002) [published by the United States Environmental Protection Agency (USEPA) in February 2009], 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.

A SWPPP must be prepared by the permittee if the SIC code is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management. The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. 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 permittee 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)]. Failure to implement and maintain the chosen BMP is a permit violation. 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 that are reasonable and cost effective. The AA evaluation should include practices that are 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), Section II.B.

If parameter-specific numeric exceedances continue to occur and the permittee 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 permittee 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; the application is found at: http://dnr.mo.gov/forms/index.html.

✓ Applicable; a SWPPP shall be developed and implemented for this facility.

VARIANCE:

As 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 shall be 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.

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

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the WLA is the 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 provide adequate protection for the receiving waters, then the other must be used.

✓ Not applicable; wasteload allocations were not calculated.

WLA MODELING:

Permittees 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 STANDARDS:

Per 10 CSR 20-7.031(4), general criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, 40 CFR 122.44(d)(1) directs the department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including state narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with, or through synergistic responses when mixed with receiving stream water. Under the federal Clean Water Act (CWA) §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits for discharges to waters of the state issued under the National Pollutant Discharge Elimination System (NPDES). WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures the provisions in 10 CSR 20-6 and the Water Quality Standards in 10 CSR 20-7 are being met. Under 10 CSR 20-6.010(8)(A)4, the department may require other terms and conditions it deems necessary to assure compliance with the CWA and related regulations of the Missouri Clean Water Commission. The following Missouri Clean Water Laws (MCWL) apply: §644.051.3. requires the department to set permit conditions complying with the MCWL and CWA; §644.051.4 specifically references toxicity as an item we must consider in writing permits (along with water quality-based effluent limits); and §644.051.5. is the basic authority to require testing conditions.

✓ Not applicable; at this time, the permittee is not required to conduct WET testing for this facility.

Part IV. EFFLUENT LIMITS DETERMINATION

GENERAL CRITERIA CONSIDERATIONS:
In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants which have been determined to cause, have the reasonable potential to cause, or to contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, the permit shall contain a numeric effluent limitation to protect that narrative criterion. The previous permit included the narrative criteria as specific prohibitions placed upon the discharge. These prohibitions were included in the permit absent any discussion of the discharge's reasonable potential to cause or contribute to an excursion of the criterion. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether the discharge has reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). These specific requirements are listed below followed by derivation and discussion (the lettering matches that of the rule itself, under 10 CSR 20-7.031(4)). In instances where reasonable potential exists, the permit includes numeric limitations to address the reasonable potential. In instances where reasonable potential does not exist the permit includes monitoring of the discharges potential to impact the receiving stream's narrative criteria. Finally, all of the previous permit narrative criteria prohibitions have been removed from the permit given they are addressed by numeric limits where reasonable potential exists. It should also be noted that Section 644.076.1, RSMo as well as Section D – Administrative Requirements of Standard Conditions Part I of this permit state that it shall be unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri that is 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.

(A) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses.
- For all outfalls, there is no RP for putrescent bottom deposits preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates putrescent wastewater would be discharged from the facility.
- For all outfalls, there is no RP for unsightly or harmful bottom deposits preventing full maintenance of beneficial uses because all outfalls have TSS limitations; however, they are all based on technology for the processes involved; values discharged from all outfalls are typically below WQ limitations, therefore no RP.

  Nothing in the permit application shows that the stormwater discharges would cause the conditions of the criterion. The SWPPP and BMP conditions of the permit are protective of water quality. The domestic wastewater is capture and land applied, thus not discharging to waters of the state.

(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses.
- For all outfalls, there is no RP for oil in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal or during prior sampling for DMR requirements for these outfalls indicates oil will be present in sufficient amounts to impair beneficial uses.
- For all outfalls, there is no RP for scum and floating debris in sufficient amounts to be unsightly preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates scum and floating debris will be present in sufficient amounts to impair beneficial uses

  Nothing in the permit application shows that the stormwater discharges would cause the conditions of the criterion. The SWPPP and BMP conditions of the permit are protective of water quality. The domestic wastewater is capture and land applied, thus not discharging to waters of the state.

(C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.
- For all outfalls, there is no RP for unsightly color or turbidity in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates unsightly color or turbidity will be present in sufficient amounts to impair beneficial uses.
- For all outfalls, there is no RP for offensive odor in sufficient amounts preventing full maintenance of beneficial uses because nothing disclosed by the permittee at renewal for these outfalls indicates offensive odor will be present in sufficient amounts to impair beneficial uses.

  Nothing in the permit application shows that the stormwater discharges would cause the conditions of the criterion. The SWPPP and BMP conditions of the permit are protective of water quality. The domestic wastewater is capture and land applied, thus not discharging to waters of the state.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.

- For all outfalls, there is no RP for toxicity to human, animal or aquatic life because nothing disclosed by the permittee at renewal for these outfalls indicates toxicity will be present in sufficient amounts to impair life.

  Nothing in the permit application shows that the stormwater discharges would cause the conditions of the criterion. The SWPPP and BMP conditions of the permit are protective of water quality. The domestic wastewater is capture and land applied, thus not discharging to waters of the state.

(E) There shall be no significant human health hazard from incidental contact with the water.

- For all outfalls, there is no RP for toxicity to human, animal or aquatic life because nothing disclosed by the permittee at renewal for these outfalls indicates toxicity will be present in sufficient amounts to impair life.

  Nothing in the permit application shows that the stormwater discharges would cause the conditions of the criterion. The SWPPP and BMP conditions of the permit are protective of water quality. The domestic wastewater is capture and land applied, thus not discharging to waters of the state.

(F) There shall be no acute toxicity to livestock or wildlife watering.

- For all outfalls, there is no RP for toxicity to human, animal or aquatic life because nothing disclosed by the permittee at renewal for these outfalls indicates toxicity will be present in sufficient amounts to impair life.

  Nothing in the permit application shows that the stormwater discharges would cause the conditions of the criterion. The SWPPP and BMP conditions of the permit are protective of water quality. The domestic wastewater is capture and land applied, thus not discharging to waters of the state.

(G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

- For all outfalls, there is no RP for physical changes that would impair the natural biological community because nothing disclosed by the permittee at renewal for these outfalls indicates physical changes that would impair the natural biological community.
- For all outfalls, there is no RP for chemical changes that would impair the natural biological community because nothing disclosed by the permittee at renewal for these outfalls indicates chemical changes that would impair the natural biological community.
- For all outfalls, there is no RP for hydrologic changes that would impair the natural biological community because nothing disclosed by the permittee at renewal for these outfalls indicates physical changes that would impair the natural biological community.

  Nothing in the permit application shows that the stormwater discharges would cause the conditions of the criterion. The SWPPP and BMP conditions of the permit are protective of water quality. The domestic wastewater is capture and land applied, thus not discharging to waters of the state.

(H) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

- There are no solid waste disposal activities or any operation that has reasonable potential to cause or contribute to the materials listed above being discharged through any outfall.

OUTFALL #001, #004 – STORMWATER OUTFALLS

Effluent limitations derived and established in the below effluent limitations table are based on current operations of the facility. Effluent means both process water and stormwater. Any flow through the outfall is considered a discharge and must be sampled and reported as provided below. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit. Daily maximums and monthly averages are required under 40 CFR 122.45(d)(1) for continuous discharges not from a POTW.

The EPA's MSGP contains the following pollutants of concern and associated benchmark values for hazardous waste treatment, storage, and disposal facilities (subsector K). These are considered in the development of appropriate stormwater effluent limitations and monitoring requirements.

PARAMETERS	UNIT	BENCHMARK
AMMONIA	MG/L	2.14
CHEMICAL OXYGEN DEMAND	MG/L	120
TOTAL CYANIDE	MG/L	0.022
TOTAL ARSENIC	MG/L	0.15
TOTAL CADMIUM*	MG/L	0.00983
TOTAL LEAD*	MG/L	0.18849
TOTAL MAGNESIUM	MG/L	0.064
TOTAL MERCURY	MG/L	0.0014
TOTAL SELENIUM	MG/L	0.005
TOTAL SILVER*	MG/L	0.01176

* These parameters are hardness dependent. The permit writer calculated these values using the default stormwater hardness of 193 mg/L.

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	BASIS	DAILY MAXIMUM LIMIT	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL								
FLOW	MGD	1	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	24 HR. ESTIMATE
PRECIPITATION	INCHES	6	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	24 HR. TOT
CONVENTIONAL								
COD	MG/L	6, 8	*	120	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
OIL & GREASE	MG/L	1, 3	*	10	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
pH ǂ	SU	1, 3	6.5 TO 9.0	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
SETTLEABLE SOLIDS	mL/L/HR	6	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
TSS	MG/L	6, 8	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
METALS								
ARSENIC, TOTAL REC.	µg/L	6, 8	*	150	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
CADMIUM, TOTAL REC.	µg/L	6, 8	*	9.83	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
LEAD, TOTAL REC.	µg/L	6, 8	*	188.49	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
MAGNESIUM, TOTAL REC.	µg/L	6, 8	*	64	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
MERCURY, TOTAL REC.	µg/L	6, 8	*	1.4	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
SELENIUM, TOTAL REC.	µg/L	6, 8	*	5	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
SILVER, TOTAL REC.	µg/L	6, 8	*	11.76	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
NUTRIENTS								
AMMONIA, TOTAL AS N	MG/L	6, 8	*	2.14	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB

(table continued)

PARAMETERS	UNIT	BASIS	DAILY MAXIMUM LIMIT	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
NITROARMATICS, NITRAMINES, AND OTHER MUNITIONS RELATED POLLUTANTS								
CYCLOTRIMETHYLENETRINITRAMINE (RDX)	µG/L	6	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
PERCHLORATE	µG/L	6	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
NITROBENZENE	µG/L	6	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
2,4-DINITROTOLUENE	µG/L	6	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
2,6-DINITROTOLUENE	µG/L	6	*	-	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB
OTHER								
CYANIDE, TOTAL	µg/L	6, 8	*	22	NEW	ONCE/QUARTER	ONCE/QUARTER	GRAB

* - Monitoring requirement only
ǂ The facility will report the minimum and maximum pH values; pH is not to be averaged

Basis for Limitations Codes:
1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review/Policy
5. Water Quality Model
6. Best Professional Judgment
7. TMDL or Permit in lieu of TMDL
8. Benchmark based on MSGP
9. Benchmark based on Missouri Water Quality Standards

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 assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee 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).

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 permittee a better understanding of specific control measure that should 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. It is not necessary to report all days of precipitation during the quarter because of the readily available on-line data.

CONVENTIONAL:

Chemical Oxygen Demand (COD)
Monitoring only with a benchmark of 120 mg/L. The EPA's MSGP has identified COD as pollutants of concern in the stormwater discharges from hazardous waste treatment, storage and disposal facilities. There is no 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 permittee to identify increases in COD that may indicate materials/chemicals coming into contact with stormwater that cause an increase in oxygen demand. Increases in COD may indicate a need for maintenance or improvement of BMPs. Therefore, it is the permit writer's best professional judgment to include COD monitoring with a benchmark value of 120 mg/L in this permit.

Oil & Grease
Monitoring only with a benchmark value of 10 mg/L. Conventional pollutant, in accordance with 10 CSR 20-7.031 Table A: *Criteria for Designated Uses*; 10 mg/L monthly average (chronic standard). The oil and grease concentration of 10 mg/L is the point at which a sheen is visible on the surface of water bodies. Monitoring this parameter will indicate any petroleum products or other oils and greases that may be spilled, stored, or generated on site. Therefore, it is the permit writer's best professional judgment to include oil and grease monitoring with a benchmark value of 10 mg/L in this permit.

pH
6.5 to 9.0 SU. The Water Quality Standard at 10 CSR 20-7.031(5)(E) states water contaminants shall not cause pH to be outside the range of 6.5 to 9.0 standard pH units.

Settleable Solids (SS)
Monitoring only. There is no water quality standard for SS; however, sediment discharges can negatively impact aquatic life habitat. Settleable solids are also a valuable indicator parameter. Solids monitoring allows the permittee to identify increases in sediment and solids that may indicate uncontrolled materials leaving the site. Settleable solids will indicate heavier materials leaving the property during stormwater discharges. The permittee will be better able to identify the source of the larger, heavier solids pollution by monitoring this parameter. Therefore, it is the permit writer's best professional judgment to include settleable solids monitoring in this permit.

Total Suspended Solids (TSS)
Monitoring only. There is no 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 permittee to identify increases in TSS that may indicate uncontrolled materials leaving the site. TSS will indicate lighter materials leaving the property during stormwater discharges. The permittee will be better able to identify the source of the smaller, lighter solids pollution by monitoring this parameter. Therefore, it is the permit writer's best professional judgment to include TSS monitoring in this permit.

METALS:
When ambient site specific hardness data is not available, standard water hardness of 193 mg/L for stormwater is used in the conversion below.

The EPA's MSGP has identified the following metals as pollutants of concern in the stormwater discharges from hazardous waste treatment, storage and disposal facilities. The pollutants are associated with benchmark values that are deemed protective of water quality. Monitoring of these metals, along with implementation of the benchmark values, will be included in this permit to ensure protection of water quality during discharges of stormwater.

METAL	CONVERSION FACTORS USING HARDNESS OF 193 MG/L	
	ACUTE	CHRONIC
Cadmium	0.916	0.881
Lead	0.695	0.695
Silver	0.850	N/A

Arsenic, Total Recoverable
Monitoring only with a benchmark of 150 µg/L.

Cadmium, Total Recoverable
Monitoring only with a benchmark of 9.83 µg/L. Acute water quality standard of 9.0 µg/L / 0.916 = 9.83 µg/L.

Lead, Total Recoverable
Monitoring only with a benchmark of 188.49 µg/L. Acute water quality standard of 131 µg/L / 0.695 = 188.49 µg/L.

Magnesium, Total Recoverable
Monitoring only with a benchmark of 64 µg/L.

Mercury, Total Recoverable
Monitoring only with a benchmark of 1.4 µg/L.

Selenium, Total Recoverable
Monitoring only with a benchmark of 5 µg/L.

Silver, Total Recoverable
Monitoring only with a benchmark of 11.76 µg/L. Acute water quality standard of 10 µg/L / 0.850 = 11.76 µg/L.

NUTRIENTS:

Ammonia, Total as Nitrogen
Monitoring only with a benchmark of 2.14 mg/L. The EPA's MSGP identified this parameter as a pollutant of concern in stormwater discharges from this industry. The pollutant is associated with a benchmark value of 2.14 mg/L. This will be implemented in the permit.

NITROAROMATICS, NITRAMINES, AND OTHER MUNITIONS RELATED POLLUTANTS:

The following parameters are included in the permit based on a report submitted by the permittee to the Hazardous Waste Program regarding contaminated groundwater in and around the property. The report supplied by the permittee indicates a discharge or spill of chemicals associated with explosives and munitions occurred or is occurring. This leads to concerns of potential stormwater contamination with these same chemicals. Monitoring for these parameters serves a dual purpose. First of all, concentrations of these pollutants in the stormwater discharges provide a clear and direct indication of uncontrolled materials leaving the site. Secondly, there are human health concerns related to these all of the pollutants. Evaluating concentrations in the discharge can assist in determine risks to protection of human health.

Cyclotrimethylenetrinitramine (RDX)
Monitoring only.

Perchlorate
Monitoring only.

Nitrobenzene
Monitoring only.

2,4-Dinitrotoluene
Monitoring only.

2,6-Dinitrotoluene
Monitoring only.

OTHER:

Cyanide Amenable to Chlorination (CATC)
Monitoring only with a benchmark of 22 µg/L. The EPA's MSGP identified this parameter as a pollutant of concern in stormwater discharges from this industry. The pollutant is associated with a benchmark value of 22 µg/L. This will be implemented in the permit.

PERMITTED FEATURE #002 – DOMESTIC WASTEWATER STORAGE LAGOON

Limitations derived and established in the below Storage Basin Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

STORAGE BASIN LIMITATIONS TABLE:

PARAMETERS	UNIT	BASIS FOR LIMITS	DAILY MAX	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
STORAGE BASIN							
FREEBOARD	FEET	6	*	*	ONCE/MONTH	ONCE/YEAR	MEASURED
PRECIPITATION	INCHES	6	*	*	ONCE/MONTH	ONCE/YEAR	MEASURED
WASTEWATER							
NITRATE NITROGEN AS N	MG/L	1, 6	*	*	ONCE/YEAR	ONCE/YEAR	GRAB
NITROGEN, TOTAL	lbs/year	1, 6	*	*	ONCE/YEAR	ONCE/YEAR	GRAB
PHOSPHORUS, TOTAL	lbs/year	1, 6	*	*	ONCE/YEAR	ONCE/YEAR	GRAB

* - Monitoring requirement only
‡ # of colonies/100mL.
NEW - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review/Policy
5. Water Quality Model
6. Best Professional Judgment
7. TMDL or Permit in lieu of TMDL
8. WET Test Policy

PERMITTED FEATURE #002 – DERIVATION AND DISCUSSION OF LIMITS:

STORAGE BASIN:

Freeboard

Monitoring requirement only. In order to determine compliance with 10 CSR 20-8.020(15)(F)2., monitoring of freeboard in the storage basin is required.

Precipitation

Monitoring requirement only. In order to determine compliance with 10 CSR 20-8.020(15)(F)2., monitoring of freeboard in the storage basin is required. Additionally, precipitation monitoring allows the permittee to operate the land application activity to prevent over application during saturated conditions that may result in a discharge.

WASTEWATER:

Nitrate Nitrogen as N

Monitoring requirement only. The land application rate is greater than 24 inches per year, at 36 inches per year. Higher application rates may result in nutrient loading issues on the land application field. Monitoring must occur to determine these nutrient loading rates. In accordance with 10 CSR 20-8.020(15)(F)7., if wastewater land applied exceeds 10 mg/L of nitrate nitrogen as N, then the permittee must utilize nitrogen loading rates and develop a nutrient management plan to plant appropriate crop for nutrient uptake.

Nitrogen, Total

Monitoring requirement only. The land application rate is greater than 24 inches per year, at 36 inches per year. Higher application rates may result in nutrient loading issues on the land application field. Monitoring must occur to determine these nutrient loading rates. In accordance with 10 CSR 20-8.020(15)(F)7., if wastewater land applied exceeds 150 lbs/acre/year or total nitrogen, then the permittee must utilize nitrogen loading rates and develop a nutrient management plan to plant appropriate crop for nutrient uptake.

PERMITTED FEATURE #003 – Land Application Field
Limitations derived and established in the below Land Application Field Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new operating permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this operating permit.

LAND APPLICATION FIELD LIMITATIONS TABLE:

PARAMETERS	UNIT	BASIS FOR LIMITS	DAILY MAX	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	MINIMUM REPORTING FREQUENCY	SAMPLE TYPE
WASTEWATER APPLICATION							
APPLICATION AREA	ACRES	6	*	NEW	ONCE/DAY	ONCE/YEAR	MEASURED
APPLICATION RATE	INCHES/ ACRE	6	*	NEW	ONCE/DAY	ONCE/YEAR	MEASURED
IRRIGATION PERIOD	HOURS	6	*	NEW	ONCE/DAY	ONCE/YEAR	MEASURED
VOLUME IRRIGATED	GALLONS	6	*	NEW	ONCE/DAY	ONCE/YEAR	MEASURED
SOIL MONITORING							
NITRATE NITROGEN AS N	MG/KG	1, 6	*	NEW	ONCE/PERMIT	ONCE/PERMIT	GRAB
NITROGEN, TOTAL	MG/KG	1, 6	*	NEW	ONCE/PERMIT	ONCE/PERMIT	GRAB

* - Monitoring requirement only
‡ # of colonies/100mL.
NEW - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:
1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Antidegradation Review/Policy
5. Water Quality Model
6. Best Professional Judgment
7. TMDL or Permit in lieu of TMDL
8. WET Test Policy

PERMITTED FEATURE #003 – DERIVATION AND DISCUSSION OF LIMITS:

WASTEWATER AND INDUSTRIAL SLUDGE APPLICATION:

Application Area
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15), monitoring of application activity is required. Monitoring the area will allow the permittee to ensure compliance with setback distances and are prevents illicit discharges to waterbodies.

Application Rate
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15), monitoring of application activity is required. Monitoring the rate will allow the permittee to ensure appropriate permeability and plant uptake is occurring and will prevent soil saturation that may result in runoff and illicit discharges to waterbodies. This will also prevent sludge buildup that may clog soils, which likewise will cause runoff and illicit discharges of wastewater to waterbodies.

Irrigation Period
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15), monitoring of application activity is required. Monitoring the irrigation period will also ensure that soils to not get saturated and result in runoff and illicit discharges to waterbodies. This will also prevent sludge buildup that may clog soils, which likewise will cause runoff and illicit discharges of wastewater to waterbodies.

Volume Irrigated
Monitoring requirement only. In order to determine compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15), monitoring of application activity is required. Monitoring the volume irrigated will allow the permittee to ensure over application does not occur and that hydraulic loading is maintained within design levels. This will also help prevent runoff and illicit discharges due to soil saturation. This will also prevent sludge buildup that may clog soils, which likewise will cause runoff and illicit discharges of wastewater to waterbodies.

SOIL MONITORING:

Nitrate Nitrogen as N
Monitoring requirement only. Wastewater and sludge may contain higher levels of nutrients. Soils and plants have limited capacity to uptake the nutrients found in the wastewater and sludge being land applied. Soil monitoring will ensure that soils do not contain excess amounts of nitrate nitrogen as N, thus preventing proper treatment of wastewater and sludge. This will also ensure compliance with 10 CSR 20-8.020(15)(F)7., which states if wastewater land applied exceeds 10 mg/L of nitrate nitrogen as N, then the permittee must utilize nitrogen loading rates and develop a nutrient management plan to plant appropriate crop for nutrient uptake.

Nitrogen, Total
Monitoring requirement only. Wastewater and sludge may contain higher levels of nutrients. Soils and plants have limited capacity to uptake the nutrients found in the wastewater and sludge being land applied. Soil monitoring will ensure that soils do not contain excess amounts of total nitrogen, thus preventing proper treatment of wastewater and sludge. This will also ensure compliance with 10 CSR 20-8.020(15)(F)7., if wastewater land applied exceeds 150 lbs/acre/year or total nitrogen, then the permittee must utilize nitrogen loading rates and develop a nutrient management plan to plant appropriate crop for nutrient uptake.

Part V. SAMPLING AND REPORTING REQUIREMENTS:

Refer to each outfall's derivation and discussion of limits section to review individual sampling and reporting frequencies and sampling type.

ELECTRONIC DISCHARGE MONITORING REPORTING:
Due to upcoming federal regulations, all facilities will need to begin submitting their discharge monitoring reports electronically, called the eDMR system. To begin the process, please visit http://dnr.mo.gov/env/wpp/edmr.htm. This process is expected to save time, lessen paperwork, and reduce operating costs for both the facilities and the water protection program. Additional information may also be found at http://dnr.mo.gov/pubs/pub2474.pdf.

SAMPLING FREQUENCY JUSTIFICATION:
The no-discharge land application system sampling and reporting frequencies were established to best monitor the land application system. The storage basins should be monitored more frequently than the wastewater sampling requirements in order to ensure the basins do not overflow. This is best achieved on a monthly basis. The wastewater being land applied shall be tested annually to ensure that the land application field is not being overloaded. Application activities shall be monitoring daily during application periods. This is required to ensure compliance with 10 CSR 20-6.015 and 10 CSR 20-8.020(15) and to prevent illicit discharges from the land application fields. Soil sampling shall occur once per permit cycle to indicate whether soils are being overloaded with nutrients or other limiting pollutants. Soils monitoring can potentially alter crop use based on loading results in order to best treat the wastewater being land applied. These frequencies are consistent with other land application permits issued in the state.

Sampling frequency for stormwater-only outfalls is typically quarterly even though BMP inspection occurs monthly. The facility may sample more frequently if they need additional data to determine if their best management technology is performing as expected. 40 CFR 122.45(d)(1) indicates all continuous discharges shall be permitted with daily maximum and monthly average limits.

SAMPLING TYPE JUSTIFICATION:
The no-discharge land application system sampling types were established to best monitor the land application system. The storage basin parameters and application activity parameters shall be recorded as measurements. The wastewater parameters and soil monitoring parameters shall be collected in a grab sample. These sampling types are representative of the activity and will help in ensuring compliance with all applicable requirements.

The sampling types for stormwater-only outfalls are representative of the discharges, and are protective of water quality. Grab samples are usually appropriate for stormwater.

Part VI. 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:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that 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 further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also 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 three years old, that 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 become synchronized by expiring the end of the 4th quarter of 2022.*

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. http://dnr.mo.gov/env/wpp/permits/pn/index.html Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality 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 permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general 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 wanting to submit comments regarding this proposed operating permit, then 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.

☒ - The Public Notice period for this operating permit began on July 29, 2016 and ended on August 29, 2016. Comments were received during this Public Notice period. The Department's Hazardous Waste Program provided information on possible discharge or spill of chemicals associated with explosives and munitions in groundwater samples collected from wells surrounding the permitted property. Both this site and the surrounding property are an active hazardous waste sites. The company that owns the surrounding property and the company covered under this permit are required to submit periodic reports to the Department's Hazardous Waste Program. These reports include analytical results of groundwater sampling from wells surrounding this property. The Hazardous Waste Program noted that data shows spikes in the concentrations of perchlorate and RDX above the minimum contaminant level (public advisory level) and the regional screening level for protection of groundwater, respectively, in the spring of 2016. This has raised concern of either a discharge of these pollutants or a spill of these pollutants. Regardless, a large enough volume of these chemicals was introduced into the environment to warrant concern for potential surface water contamination during precipitation events. Further review of the information provided shows elevated levels of other pollutants associated with explosives and ammunitions. There is a set of compounds known as nitroaromatics and nitramines. Several synthetic nitroaromatics and nitramines are listed in the reports submitted to the Hazardous Waste Program. The data for some of these pollutants also show elevated concentrations in the groundwater. For this reason, the permit has been modified to include monitoring of perchlorate, RDX and several other pollutants in the stormwater discharges. While not all pollutants listed have water quality standards, concentrations found in the discharge will result in a clear and direct indication of explosives and munitions chemicals and materials leaving the property.

Inclusion of these additional parameters in the monitoring requirements for the stormwater discharges triggers an additional Public Notice period. The second Public Notice period began on November 3, 2017 and ended on December 4, 2017. There were no comments during this period.

DATE OF FACT SHEET: DECEMBER 5, 2017

COMPLETED BY:

LOGAN COLE, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - INDUSTRIAL UNIT
(573) 751-5827
logan.cole@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.

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.

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.
   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 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

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 permittees 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.

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.

STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
March 1, 2015

PART III – SLUDGE AND BIOSOLIDS FROM DOMESTIC AND INDUSTRIAL WASTEWATER TREATMENT FACILITIES

SECTION A – GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation for domestic wastewater and industrial process wastewater. This permit also incorporates applicable federal sludge disposal requirements under 40 CFR 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR 503 for domestic wastewater. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address the federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW), privately owned facilities and sludge or biosolids generated at industrial facilities.
3. Sludge and Biosolids Use and Disposal Practices:
    a. The permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
    b. The permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
    c. The permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
4. Sludge Received from other Facilities:
    a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
    b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Actor under Chapter 644 RSMo.
8. In addition to STANDARD CONDITIONS, the Department may include sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Alternate Limits in the Site Specific Permit.
   Where deemed appropriate, the Department may require an individual site specific permit in order to authorize alternate limitations:
    a. A site specific permit must be obtained for each operating location, including application sites.
    b. To request a site specific permit, an individual permit application, permit fee, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the Department, as follows:
    a. The Department will prepare a permit modification and follow permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owner of the property located adjacent to each land application site, where appropriate.
    b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.

SECTION B – DEFINITIONS

1. Best Management Practices include agronomic loading rates, soil conservation practices and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Industrial wastewater means any wastewater, also known as process water, not defined as domestic wastewater. Per 40 CFR Part 122, process water means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.
8. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include wastewater treatment lagoons and constructed wetlands for wastewater treatment.
9. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
10. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the growing seasons after biosolids application.
11. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
12. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs)
13. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
14. Septage is the material pumped from residential septic tanks and similar treatment works (with a design population of less than 150 people). The standard for biosolids from septage is different from other sludges.

SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and sludge conditions of this permit.
2. The permittee shall operate the facility so that there is no sludge discharged to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

SECTION D – SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR CONTRACT HAULER

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the Department; or the hauler transports the sludge to another permitted treatment facility.
3. Haulers who land apply septage must obtain a state permit.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility, unless it is required by the accepting facility.

SECTION E – INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored, and ash used or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.

SECTION F – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

1. Surface disposal sites of domestic facilities shall comply with the requirements in 40 CFR 503 Subpart C; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain sludge storage lagoons as storage facilities, accumulated sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of sludge removed will be dependent on sludge generation and accumulation in the facility. Enough sludge must be removed to maintain adequate storage capacity in the facility.
    a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the Department; or
    b. Permittee shall close the lagoon in accordance with Section H.

SECTION G – LAND APPLICATION

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the facility description or the special conditions of the issued NPDES permit.
2. Land application sites within a 20 miles radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless otherwise specified in a site specific permit. If the permittee's land application site is greater than a 20 mile radius of the wastewater treatment facility, approval must be granted from the Department.
3. Land application shall not adversely affect a threatened or endangered species or its designated critical habitat.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
    a. This permit does not authorize the land application of domestic sludge except for when sludge meets the definition of biosolids.
    b. This permit authorizes "Class A or B" biosolids derived from domestic wastewater and/or process water sludge to be land applied onto grass land, crop land, timber or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites:

    Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the Department after two years of proper operation with acceptable testing documentation that shows the biosolids meet Class A criteria. A shorter length of testing will be allowed with prior approval from the Department. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site specific permit.
    a. After Class B biosolids have been land applied, public access must be restricted for 12 months.
    b. Class B biosolids are only land applied to root crops, home gardens or vegetable crops whose edible parts will not be for human consumption.
6. Agricultural and Silvicultural Sites:

    Septage – Based on Water Quality guide 422 (WQ422) published by the University of Missouri
    a. Haulers that land apply septage must obtain a state permit
    b. Do not apply more than 30,000 gallons of septage per acre per year.
    c. Septage tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to other mechanical type treatment facilities.
    d. To meet Class B sludge requirements, maintain septage at 12 pH for at least thirty (30) minutes before land application. 50 pounds of hydrated lime shall be added to each 1,000 gallons of septage in order to meet pathogen and vector stabilization for septage biosolids applied to crops, pastures or timberland.
    e. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.

Biosolids - Based on Water Quality guide 423, 424, and 425 (WQ423, WQ424, WQ425) published by the University of Missouri;

a. Biosolids shall be monitored to determine the quality for regulated pollutants

b. The number of samples taken is directly related to the amount of sludge produced by the facility (See Section I of these Standard Conditions). Report as dry weight unless otherwise specified in the site specific permit. Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to reach the maximum concentration of pollutants allowed.

c. Table 1 gives the maximum concentration allowable to protect water quality standards

TABLE 1

Biosolids ceiling concentration [1]	
Pollutant	Milligrams per kilogram dry weight
Arsenic	75
Cadmium	85
Copper	4,300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7,500

[1] Land application is not allowed if the sludge concentration exceeds the maximum limits for any of these pollutants

d. The low metal concentration biosolids has reduced requirements because of its higher quality and can safely be applied for 100 years or longer at typical agronomic loading rates. (See Table 2)

TABLE 2

Biosolids Low Metal Concentration [1]	
Pollutant	Milligrams per kilogram dry weight
Arsenic	41
Cadmium	39
Copper	1,500
Lead	300
Mercury	17
Nickel	420
Selenium	36
Zinc	2,800

[1] You may apply low metal biosolids without tracking cumulative metal limits, provided the cumulative application of biosolids does not exceed 500 dry tons per acre.

e. Each pollutant in Table 3 has an annual and a total cumulative loading limit, based on the allowable pounds per acre for various soil categories.

TABLE 3

Pollutant	CEC 15+		CEC 5 to 15		CEC 0 to 5	
	Annual	Total [1]	Annual	Total [1]	Annual	Total [1]
Arsenic	1.8	36.0	1.8	36.0	1.8	36.0
Cadmium	1.7	35.0	0.9	9.0	0.4	4.5
Copper	66.0	1,335.0	25.0	250.0	12.0	125.0
Lead	13.0	267.0	13.0	267.0	13.0	133.0
Mercury	0.7	15.0	0.7	15.0	0.7	15.0
Nickel	19.0	347.0	19.0	250.0	12.0	125.0
Selenium	4.5	89.0	4.5	44.0	1.6	16.0
Zinc	124.0	2,492.0	50.0	500.0	25.0	250.0

[1] Total cumulative loading limits for soils with equal or greater than 6.0 pH (salt based test) or 6.5 pH (water based test)

TABLE 4 - Guidelines for land application of other trace substances [1]

Cumulative Loading	
Pollutant	Pounds per acre
Aluminum	4,000[2]
Beryllium	100
Cobalt	50
Fluoride	800
Manganese	500
Silver	200
Tin	1,000
Dioxin	(10 ppt in soil)[3]
Other	[4]

[1] Design of land treatment systems for Industrial Waste, 1979. Michael Ray Overcash, North Carolina State University and Land Treatment of Municipal Wastewater, EPA 1981.)

[2] This applies for a soil with a pH between 6.0 and 7.0 (salt based test) or a pH between 6.5 to 7.5 (water based test). Case-by-case review is required for higher pH soils.

[3] Total Dioxin Toxicity Equivalents (TEQ) in soils, based on a risk assessment under 40 CFR 744, May 1998.

[4] Case by case review. Concentrations in sludge should not exceed the 95th percentile of the National Sewage Sludge Survey, EPA, January 2009.

Best Management Practices – Based on Water Quality guide 426 (WQ426) published by the University of Missouri

a. Use best management practices when applying biosolids.
b. Biosolids cannot discharge from the land application site
c. Biosolid application is subject to the Missouri Department of Agriculture State Milk Board concerning grazing restrictions of lactating dairy cattle.
d. Biosolid application must be in accordance with section 4 of the Endangered Species Act.
e. Do not apply more than the agronomic rate of nitrogen needed.
f. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.
    i. PAN can be determined as follows and is in accordance with WQ426
    (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).
    [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application.
g. Buffer zones are as follows:
    i. 300 feet of a water supply well, sinkhole, lake, pond, water supply reservoir or water supply intake in a stream;
    ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
    iii. 150 feet if dwellings;
    iv. 100 feet of wetlands or permanent flowing streams;
    v. 50 feet of a property line or other waters of the state, including intermittent flowing streams.
h. Slope limitation for application sites are as follows;
    i. A slope 0 to 6 percent has no rate limitation
    ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels
    iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.
i. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
j. Do not apply biosolids to sites with soil that is snow covered, frozen or saturated with liquid without prior approval by the Department.
k. Biosolids / sludge applicators must keep detailed records up to five years.

SECTION H – CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical, industrial, and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids. Mechanical plants, sludge lagoons, ash ponds and other storage structures must obtain approval of a closure plan from the Department. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
    a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
    b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
    c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre.
        i. PAN can be determined as follows:

        (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).

        [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application.
4. When closing a domestic wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered "septage" under the similar treatment works definition. See Section B of these standard conditions. Under the septage category, residuals may be left in place as follows:
    a. Testing for metals or fecal coliform is not required
    b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
    c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoons and/or earthen structure and/or ash pond closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200
7. When closing a mechanical wastewater and/or industrial process wastewater plant; all sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
    a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
    b. Per 10 CSR 20-6.015(4)(B)6, Hazardous Waste shall not be land applied or disposed during industrial and mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations under 10 CSR 25.
    c. After demolition of the mechanical plant / industrial plant, the site must only contain clean fill defined in RSMo 260.200 (5) as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill or other beneficial use. Other solid wastes must be removed.
8. If sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or H, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

SECTION I – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

TABLE 5

Design Sludge Production (dry tons per year)	Monitoring Frequency (See Notes 1, 2, and 3)			
	Metals, Pathogens and Vectors	Nitrogen TKN [1]	Nitrogen PAN [2]	Priority Pollutants and TCLP [3]
0 to 100	1 per year	1 per year	1 per month	1 per year
101 to 200	biannual	biannual	1 per month	1 per year
201 to 1,000	quarterly	quarterly	1 per month	1 per year
1,001 to 10,000	1 per month	1 per month	1 per week	--[4]
10,001 +	1 per week	1 per week	1 per day	--[4]

[1] Test total Kjeldahl nitrogen, if biosolids application is 2 dry tons per acre per year or less.
[2] Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
[3] Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) and toxicity characteristic leaching procedure (40 CFR 261.24) is required only for permit holders that must have a pre-treatment program.
[4] One sample for each 1,000 dry tons of sludge.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.
Note 2: Total Phosphorus: Total phosphorus and total potassium shall be tested at the same monitoring frequency as metals.
Note 3: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. If you own a wastewater treatment lagoon or sludge lagoon that is cleaned out once a year or less, you may choose to sample only when the sludge is removed or the lagoon is closed. Test one composite sample for each 100 dry tons of sludge or biosolids removed from the lagoon during the year within the lagoon at closing. Composite sample must represent various areas at one-foot depth.
3. Additional testing may be required in the special conditions or other sections of the permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the Department.
4. At this time, the Department recommends monitoring requirements shall be performed in accordance with, "POTW Sludge Sampling and Analysis Guidance Document," United States Environmental Protection Agency, August 1989, and the subsequent revisions.

SECTION J – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in these standard conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
   a. By January 28th of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:

   Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the Department and EPA. Other facilities need to report only to the Department. Reports shall be submitted to the addresses listed as follows:

   DNR regional office listed in your permit
   (see cover letter of permit)
   ATTN: Sludge Coordinator

   EPA Region VII
   Water Compliance Branch (WACM)
   Sludge Coordinator
   11201 Renner Blvd.
   Lenexa, KS 66219

5. Annual report contents. The annual report shall include the following:
    a. Sludge and biosolids testing performed. Include a copy or summary of all test results, even if not required by the permit.
    b. Sludge or biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at the end of the year, and the quantity used or disposed.
    c. Gallons and % solids data used to calculate the dry ton amounts.
    d. Description of any unusual operating conditions.
    e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
        i. This must include the name, address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
        ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
    f. Contract Hauler Activities:
    If contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge or biosolids use permit.
    g. Land Application Sites:
        i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
        ii. If the “Low Metals” criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
        iii. Report the method used for compliance with pathogen and vector attraction requirements.
        iv. Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.

RECEIVED

JUN 15 2015

WATER PROTECTION PROGRAM

AP 21437

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 6/15/15	FEE SUBMITTED

Note ▶ PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM.

1. This application is for:

☐ An operating permit for a new or unpermitted facility:
Please indicate the original Construction Permit # _____

☑ An operating permit renewal:
Please indicate the permit # MO- 0113506 Expiration Date Dec 9, 2015

☐ An operating permit modification:
Please indicate the permit # MO-_____ Modification Reason: ____

1.1 Is the appropriate fee included with the application? (See instructions for appropriate fee) ☑ YES ☐ NO

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
EBV Explosives Environmental Company		(417) 624-0212	
		FAX (417) 782-6366	
ADDRESS (PHYSICAL) 4174 County Road 180	CITY Carthage	STATE MO	ZIP CODE 64836

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
EBV Explosives Environmental Company	robert.guy@gd-ots.com	(417) 624-0212	
		FAX (417) 782-6366	
ADDRESS (MAILING) P.O. Box 1386	CITY Joplin	STATE MO	ZIP CODE 64802

3.1 Request review of draft permit prior to public notice? ■ YES ☐ NO

4. CONTINUING AUTHORITY

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
		FAX	
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

5. OPERATOR

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
Robert Guy	NA	(417) 624-0212	
		FAX (417) 782-6366	
ADDRESS (MAILING) P.O. Box 1386	CITY Joplin	STATE MO	ZIP CODE 64802

6. FACILITY CONTACT

NAME	TITLE	TELEPHONE NUMBER WITH AREA CODE
Robert Guy	EHS&S Manager	(417) 624-0212
	E-MAIL ADDRESS robert.guy@gd-ots.com	FAX (417) 782-6366

7. ADDITIONAL FACILITY INFORMATION

7.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)

001 NW ¼ ____ ¼ Sec 28 T 32 R 36 Jaspe County
UTM Coordinates Easting (X):_____ Northing (Y): _____
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

002 NW ¼ ____ ¼ Sec 28 T 32 R 36 Jaspe County
UTM Coordinates Easting (X): _____ Northing (Y): _____

003 ____ ¼ ____ ¼ Sec ____ T ____ R ____ ____ County
UTM Coordinates Easting (X):_____ Northing (Y): _____

004 ____ ¼ ____ ¼ Sec ____ T ____ R ____ ____ County
UTM Coordinates Easting (X):_____ Northing (Y): _____

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

001 – SIC 4953 and NAICS 562211 002 – SIC 4953 and NAICS 562211
003 – SIC_____ and NAICS _____ 004 – SIC_____ and NAICS _____

MO 780-1479 (07-14)

SW
Jasper

8.	ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION (Complete all forms that are applicable.)		
A.	Is your facility a manufacturing, commercial, mining or silviculture waste treatment facility? If yes, complete Form C or 2F. (2F is the U.S. EPA's Application for Storm Water Discharges Associate with Industrial Activity.)	YES ☐	NO ☑
B.	Is application for storm water discharges only? If yes, complete Form C or 2F.	YES ☐	NO ☑
C.	Is your facility considered a "Primary Industry" under EPA guidelines: If yes, complete Forms C or 2F and D.	YES ☐	NO ☑
D.	Is wastewater land applied? If yes, complete Form I.	YES ☑	NO ☐
E.	Is sludge, biosolids, ash or residuals generated, treated, stored or land applied? If yes, complete Form R.	YES ☐	NO ☑
F.	If you are a Class IA CAFO, please disregard part D and E of this section. However, please attach any revision to your Nutrient Management Plan.		
F.	Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.		

9. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary. See Instructions. (PLEASE SHOW LOCATION ON MAP. SEE 8.D ABOVE).

NAME			
Expert Management Incorporated			
ADDRESS	CITY	STATE	ZIP CODE
3078 County Road 180	Carthage	MO	64836

10. I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law to the Missouri Clean Water Commission.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
David R. Zoghby, Senior Director of Marketing & Commercial Contracts	(610) 298-3085
SIGNATURE	DATE SIGNED
	06/11/2015

MO 780-1479 (07-14)

BEFORE MAILING, PLEASE ENSURE ALL SECTIONS ARE COMPLETED AND ADDITIONAL FORMS, IF APPLICABLE, ARE INCLUDED.

Submittal of an incomplete application may result in the application being returned.

HAVE YOU INCLUDED:

- ☐ Appropriate Fees?
- ☐ Map at 1" = 2000' scale?
- ☐ Signature?
- ☐ Form C or 2F, if applicable?
- ☐ Form D, if applicable?
- ☐ Form I (Irrigation), if applicable?
- ☐ Form R (Sludge), if applicable?
- ☐ Revised Nutrient Management Plan, if applicable?

RECEIVED

JUN 15 2015

WATER PROTECTION PROGRAM

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW LESS THAN OR EQUAL TO 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED

READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:

☐ An operating permit for a new or unpermitted facility. Construction Permit # _____
(Include completed antidegradation review or request for antidegradation review, see instructions)

☑ A site-specific operating permit renewal: Permit #MO- 0113506 Expiration Date 12/9/2015

☐ A site-specific operating permit modification: Permit #MO- _____ Reason: _____

☐ General permit (MOGD – Non POTWs discharging < 50,000 GPD *or* MOG823 – Land Application of Domestic Wastewater):
Permit #MO- _____ Expiration Date _____

1.1 Is the appropriate fee included with the application (see instructions for appropriate fee)? ☑ YES ☐ NO

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
EBV Explosives Environmental Company		(417) 624-0212	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
4174 County Road 180	Carthage	MO	64836

2.1 Legal description: MW ¼, ¼, ¼, Sec. 28 , T 32 , R 36 County Jasper

2.2 UTM Coordinates Easting (X): Northing (Y):
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream:

2.4 Number of outfalls: 1 Wastewater outfalls: 1 Stormwater outfalls: 0 Instream monitoring sites:

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
EBV Explosives Environmental Company	robert.guy@gd-ots.com	(417) 624-0212	
ADDRESS	CITY	STATE	ZIP CODE
P.O. Box 1386	Joplin	MO	64802

3.1 Request review of draft permit prior to public notice? ☑ YES ☐ NO

3.2 Are you a publicly owned treatment works? ☐ YES ☑ NO
If yes, is the Financial Questionnaire attached? ☐ YES ☑ NO

3.3 Are you a privately owned treatment works? ☐ YES ☑ NO

3.4 Are you a privately owned treatment facility regulated by the Public Service Commission? ☐ YES ☑ NO

4. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
NA			
ADDRESS	CITY	STATE	ZIP CODE

If the continuing authority is different than the owner, include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME	TITLE	CERTIFICATE NUMBER
Robert Guy	EHS&S Manager	NA
EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE
robert.guy@gd-ots.com		(417) 624-0212

6. FACILITY CONTACT

NAME		TITLE	
Robert Guy		EHS&S Manager	
EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE	
robert.guy@gd-ots.com		(417) 624-0212	
ADDRESS	CITY	STATE	ZIP CODE
P.O. Box 1386	Joplin	MO	64802

7. DESCRIPTION OF FACILITY

7.1 Process Flow Diagram or Schematic: Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents, and outfalls. Specify where samples are taken. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram.
Attach sheets as necessary.

7.2 Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.

8. ADDITIONAL FACILITY INFORMATION

8.1 Facility SIC code: 4953 Discharge SIC code: _____

8.2 Number of people presently connected or population equivalent (P.E.) 25 Design P.E. 30

8.3 Connections to the facility:

Number of units presently connected:

Homes _____ Trailers _____ Apartments _____ Other (including industrial) 7

Number of commercial establishments: _____

8.4 Design flow: 1370 | Actual flow: 1190

8.5 Will discharge be continuous through the year? ✓ Yes | No

Discharge will occur during the following months: all

How many days of the week will discharge occur? 2 to 3

8.6 Is industrial wastewater discharged to the facility? | Yes ✓ No

If yes, attach a list of the industries that discharge to your facility

8.7 Does the facility accept or process leachate from landfills? | Yes ✓ No

8.8 Is wastewater land applied? ✓ Yes | No

If yes, is Form I attached? ✓ Yes | No

8.9 Does the facility discharge to a losing stream or sinkhole? | Yes ✓ No

8.10 Has a wasteload allocation study been completed for this facility? | Yes ✓ No

9. LABORATORY CONTROL INFORMATION

LABORATORY WORK CONDUCTED BY PLANT PERSONNEL

Lab work conducted outside of plant. ✓ Yes No

Push-button or visual methods for simple test such as pH, settlable solids. | Yes ✓ No

Additional procedures such as dissolved oxygen, chemical oxygen demand, biological oxygen demand, titrations, solids, volatile content. | Yes ✓ No

More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc. | Yes ✓ No

Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph. | Yes ✓ No

10. COLLECTION SYSTEM

10.1 Length of pipe in the sewer collection system? 1960 Feet, or _____ Miles (either unit is appropriate)

10.2 Does significant infiltration occur in the collection system? | Yes ✓ No

If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:

11. BYPASSING

Does any bypassing occur in the collection system or at the treatment facility? | Yes ✓ No

If yes, explain:

12. SLUDGE HANDLING, USE AND DISPOSAL

12.1 Is the sludge a hazardous waste as defined by 10 CSR 25? ☐ Yes ☑ No

12.2 Sludge production, including sludge received from others: _____Design dry tons/year 0_____Actual dry tons/year

12.3 Capacity of sludge holding structures:
Sludge storage provided: _____ cubic feet; _____ days of storage; _____ average percent solids of sludge;
☑ No sludge storage is provided. ☐Sludge is stored in lagoon.

12.4 Type of Storage:
☐ Holding tank ☐ Building
☐ Basin ☐ Lagoon
☐ Concrete Pad ☐ Other (Describe) _____

12.5 Sludge Treatment:
☐ Anaerobic Digester ☐ Lagoon ☐ Composting
☐ Storage Tank ☐ Aerobic Digester ☐ Other (Attach description)
☐ Lime Stabilization ☐ Air or Heat Drying

12.6 Sludge Use or Disposal:
☐ Land Application ☐ Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
☐ Contract Hauler ☐ Hauled to Another treatment facility
☐ Incineration ☐ Sludge Retained in Wastewater treatment lagoon
☐ Solid waste landfill

12.7 Person responsible for hauling sludge to disposal facility:
☐ By applicant ☐ By others (complete below)

NAME		EMAIL ADDRESS	
NA			
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.	
		MO-	

12.8 Sludge use or disposal facility
☐ By applicant ☐ By others (Complete below.)

NAME		EMAIL ADDRESS	
NA			
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.	
		MO-	

12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503?
☐Yes ☐ No (Explain)

13. CERTIFICATION

I certify that I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available to applicant under the Missouri Clean Water Law.

NAME (TYPE OR PRINT)	OFFICIAL TITLE	TELEPHONE NUMBER WITH AREA CODE
David R. Zoghby	Sr Director Marketing & Commercial Contract	(610) 298-3085
SIGNATURE		DATE SIGNED
		6/11/2015

MO 780-1512 (12-14)

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM I – PERMIT APPLICATION FOR OPERATION OF WASTEWATER IRRIGATION SYSTEMS

FOR AGENCY USE ONLY
PERMIT NUMBER MO -
DATE RECEIVED

INSTRUCTIONS: The following forms must be submitted with Form I: FORM B or B2 for domestic wastewater.
FORM A for industrial wastewater.

1. FACILITY INFORMATION

1.1 Facility Name
EBV Explosives Environmental Company

1.2 Permit Number
MO- 0113506

1.3 Type of wastewater to be irrigated: ☑ Domestic ☐ Municipal ☐ State/National Park ☐ Seasonal business
☐ Municipal with Pretreatment Program or Significant Industrial Users ☐ Other (explain) _____

SIC Codes (list all that apply, in order of importance) 4953

1.4 Months when the business or enterprise will operate or generate wastewater:
☑ 12 months per year ☐ Part of year (list Months): ___

1.5 This system is designed for:
☐ No-discharge ☐ Partial irrigation when feasible and discharge rest of time.
☐ Irrigation during recreation season (April – October) and discharge during November – March.
☑ Other (explain) Land application (irrigation)

1.6 List the Facility outfalls which will be applicable to the irrigation system.
Outfall Numbers: 002

2. STORAGE BASINS

2.1 Number of storage basins: 1
Type of basin: ☐ Steel ☐ Concrete ☐ Fiberglass ☐ Earthen
☑ Earthen with membrane liner

3. LAND APPLICATION SYSTEM

3.1 Number of irrigation sites 1 Total Acres _____
Location: NW ¼, ___ ¼, ___ ¼, Sec 28 T 32 R 36 Jasper County 1 Acres
Location: ___ ¼, ___ ¼, ___ ¼, Sec ___ T ___ R ___ _____ County _____ Acres
Attach pages as needed.

3.2 Attach a site map showing topography, storage basins, irrigation sites, property boundary, streams, wells, roads, dwellings, and other pertinent features.

3.3 Type of vegetation: ☐ Grass hay ☐ Pasture ☐ Timber ☐ Row crops ☑ Other (describe) grass

3.4 Wastewater flow (dry weather) gallons/day:
Average annual: 6,116 Seasonal _____ Off-season _____
Months of seasonal flow: _____

3. LAND APPLICATION SYSTEM (continued)

3.5 Land Application rate per acre (design flow including 1 in 10 year stormwater flows):

Design: 88 inches/year 0.2 inches/hour 1.0 inches/day 2.0 inches/week

Actual: 44.6 inches/year 0.19 inches/hour 0.76 inches/day 1.52 inches/week

Total Irrigation per year (gallons): 844,800 Design 568,800 Actual

Actual months used for Irrigation (check all that apply):

☑ Jan ☑ Feb ☑ Mar ☑ Apr ☑ May ☑ Jun ☑ Jul ☑ Aug ☑ Sep ☑ Oct ☑ Nov ☑ Dec

3.6 Land Application Rate is based on:

☐ Nutrient Management Plan (N&P)

☐ Hydraulic Loading

☑ Other (describe) Facility use

3.7 Equipment type: ☑ Sprinklers ☐ Gated pipe ☐ Center pivot ☐ Traveling gun ☐ Other (describe) _____

Equipment Flow Capacity: 2400 Gallons per hour 237 Total hours of operation per year

3.8 **Public Use Areas.** Public access shall not be allowed to public use area irrigation sites when application is occurring. Method of Public Access Restriction:

☑ Site is Fenced ☐ Wastewater disinfection prior to irrigation ☐ Site is not for public use

☐ Other (describe): _____

3.9 Separation distance (in feet) from the outside edge of the wetted irrigation area to nearby down gradient features:

____ Permanent flowing stream ____ Losing Stream ____ Intermittent (wet weather) stream ____ Lake or pond

200 Property boundary ____ Dwellings ____ Water supply well ____ Other (describe) _____

3.10 The facility must develop and retain an Operation and Maintenance (O&M) Plan for the irrigation system.

Date of O&M Plan: 12/17/020

4. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment.

OWNER OR AUTHORIZED REPRESENTATIVE	OFFICIAL TITLE
David R. Zoghby	Sr Director Marketing & Commercial Contracts
EMAIL ADDRESS: dave.zoghby@gd-ots.com	TELEPHONE NUMBER WITH AREA CODE: (610) 298-3085
SIGNATURE: David R Zoghby	DATE SIGNED: 06/11/2015

780-1686 (08-14)

GENERAL DYNAMICS

Ordnance and Tactical Systems

Munition Services

NPDES MO-113506

Quarterly Sampling

1st Quarter 2014

Pace Analytical Services, Inc.

9608 Loiret Blvd.

Lenexa Kansas 66219

(913) 599-5665

Lab ID 6016508002, 61065088003, & 61065088004

Collected 3/18/2014

Outfall 002 MICRO Fecal Coi

Outfall 002 Monitoring Data

Outfall 001 Monitoring Data

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: QUARTERLY SAMPLING
Pace Project No.: 60165088

Sample: OUTFALL 002 **Lab ID: 60165088002** Collected: 03/18/14 12:25 Received: 03/18/14 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
9222D MICRO Fecal Coli by MF	Analytical Method: SM 9222D Preparation Method: SM 9222D							
Fecal Coliforms	**17000**	CFU/100 mL		1	03/18/14 16:00	03/19/14 15:50		R5

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: QUARTERLY SAMPLING
Pace Project No.: 60165088

Sample: OUTFALL 002 **Lab ID: 60165088004** Collected: 03/18/14 12:25 Received: 03/18/14 18:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**8.4**	Std. Units	0.10	1		03/18/14 12:25		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**10.7**	deg C	0.10	1		03/18/14 12:25		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**94.7**	mg/L	5.0	1		03/22/14 07:59		
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34.9**	mg/L	2.0	1	03/20/14 10:55	03/25/14 13:21		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**38.1**	mg/L	1.0	10		03/25/14 15:09	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**51.4**	mg/L	2.5	5		03/20/14 18:28	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**0.43**	mg/L	0.10	1		03/19/14 11:31		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	**6.2**	mg/L	0.20	2		03/21/14 18:34	7723-14-0	

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: QUARTERLY SAMPLING
Pace Project No.: 60165088

Sample: OUTFALL 001 **Lab ID: 60165088003** Collected: 03/18/14 12:40 Received: 03/18/14 18:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**11.8**	ug/L	5.0	1	03/21/14 14:30	03/24/14 12:45	7439-92-1	
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**9.3**	Std. Units	0.10	1		03/18/14 12:40		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**7.5**	deg C	0.10	1		03/18/14 12:40		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**9.0**	mg/L	5.0	1		03/22/14 07:59		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	ND	mg/L	0.10	1		03/25/14 14:26	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**1.3**	mg/L	0.50	1		03/20/14 17:30	7727-37-9	D6
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**1.5**	mg/L	0.10	1		03/19/14 11:27		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	**0.19**	mg/L	0.10	1		03/21/14 17:11	7723-14-0	

GENERAL DYNAMICS

Ordnance and Tactical Systems

Munition Services

NPDES MO-113506

Quarterly Sampling

2nd Quarter 2014

Pace Analytical Services, Inc.

9608 Loiret Blvd.

Lenexa Kansas 66219

(913) 599-5665

Lab ID 60171610001, 6017161003, & 60171610004

Collected 6/17/2014

Outfall 002 MICRO Fecal Coi

Outfall 002 Monitoring Data

Outfall 001 Monitoring Data

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: QUARTERLY
Pace Project No.: 60171610

Sample: OUTFALL 002 **Lab ID: 60171610001** Collected: 06/17/14 11:45 Received: 06/17/14 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MBIO 9223B E.Coli	Analytical Method: SM 9223B Colilert Preparation Method: SM 9223B Colilert							
Escherichia coli (E.coli)	**3076**	MPN/100 mL	1.0	1	06/17/14 15:20	06/18/14 15:30		

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: QUARTERLY
Pace Project No.: 60171610

Sample: OUTFALL 002 **Lab ID: 60171610004** Collected: 06/17/14 11:45 Received: 06/18/14 07:49 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**7.0**	Std. Units	0.10	1		06/17/14 11:45		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**27.2**	deg C	0.10	1		06/17/14 11:45		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**310**	mg/L	5.0	1		06/19/14 10:03		
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**36.7**	mg/L	2.0	1	06/19/14 10:48	06/24/14 09:39		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**1.8**	mg/L	0.10	1		06/25/14 12:26	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**17.3**	mg/L	1.0	1		07/10/14 16:56	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**3.5**	mg/L	0.10	1		06/18/14 13:18		
Nitrogen, Nitrite	ND	mg/L	0.10	1		06/18/14 13:18		
Nitrogen, NO2 plus NO3	**3.6**	mg/L	0.10	1		06/18/14 13:18		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	**4.2**	mg/L	0.10	1		07/09/14 14:47	7723-14-0	

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: QUARTERLY
Pace Project No.: 60171610

Sample: OUTFALL 001 **Lab ID: 60171610003** Collected: 06/17/14 11:55 Received: 06/18/14 07:49 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**16.2**	ug/L	5.0	1	06/19/14 18:40	06/20/14 13:06	7439-92-1	
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**9.0**	Std. Units	0.10	1		06/17/14 11:55		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**24.8**	deg C	0.10	1		06/17/14 11:55		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		06/19/14 10:02		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**0.14**	mg/L	0.10	1		06/25/14 11:59	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**0.96**	mg/L	0.50	1		07/10/14 16:54	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**1.1**	mg/L	0.10	1		06/18/14 13:28		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	**0.66**	mg/L	0.10	1		07/09/14 14:46	7723-14-0	

GENERAL DYNAMICS

Ordnance and Tactical Systems

Munition Services

NPDES MO-113506

Quarterly Sampling

3rd Quarter 2014

Pace Analytical Services, Inc.

9608 Loiret Blvd.

Lenexa Kansas 66219

(913) 599-5665

Lab ID 60178098002, 60178098003, & 60178098004

Collected 9/16/2014

Outfall 002 MICRO Fecal Coi

Outfall 002 Monitoring Data

Outfall 001 Monitoring Data

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: QUARTERLY SAMPLING
Pace Project No.: 60178098

Sample: OUTFALL 002 **Lab ID: 60178098002** Collected: 09/16/14 12:35 Received: 09/16/14 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MBIO 9223B E.Coli	Analytical Method: SM 9223B Colilert Preparation Method: SM 9223B Colilert							
Escherichia coli (E.coli)	**15531**	MPN/100 mL	1.0	1	09/16/14 16:00	09/17/14 16:30		

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ANALYTICAL RESULTS

Project: QUARTERLY SAMPLING
Pace Project No.: 60178098

Sample: OUTFALL 002 **Lab ID: 60178098004** Collected: 09/16/14 12:35 Received: 09/16/14 18:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**7.3**	Std. Units	0.10	1		09/16/14 12:35		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**23.0**	deg C	0.10	1		09/16/14 12:35		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		09/18/14 09:44		
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**13.3**	mg/L	2.0	1	09/18/14 09:47	09/23/14 09:24		1e
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**3.1**	mg/L	0.10	1		09/24/14 14:19	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**5.9**	mg/L	0.10	1	10/06/14 11:50	10/07/14 12:27	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**3.2**	mg/L	0.10	1		09/17/14 16:25		
Nitrogen, Nitrite	ND	mg/L	0.10	1		09/17/14 16:25		
Nitrogen, NO2 plus NO3	**3.2**	mg/L	0.10	1		09/17/14 16:25		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	**4.2**	mg/L	0.10	1		09/29/14 13:31	7723-14-0	

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ANALYTICAL RESULTS

Project: QUARTERLY SAMPLING
Pace Project No.: 60178098

Sample: OUTFALL 001 **Lab ID: 60178098003** Collected: 09/16/14 12:45 Received: 09/16/14 18:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**6.1**	ug/L	5.0	1	09/19/14 18:18	09/22/14 18:03	7439-92-1	
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**7.4**	Std. Units	0.10	1		09/16/14 12:45		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**27.2**	deg C	0.10	1		09/16/14 12:45		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		09/18/14 09:43		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**6.3**	mg/L	0.20	2		09/24/14 14:16	7664-41-7	M1
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**8.7**	mg/L	0.10	1	10/06/14 11:50	10/07/14 12:25	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	1		09/17/14 16:24		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	ND	mg/L	0.10	1		09/29/14 13:29	7723-14-0	M1

GENERAL DYNAMICS

Ordnance and Tactical Systems

Munition Services

NPDES MO-113506

Quarterly Sampling

4th Quarter 2014

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Lab ID 60184674002, 60184674003, & 60184674004

Collected 12/16/2014

Outfall 002 MICRO Fecal Coi

Outfall 002 Monitoring Data

Outfall 001 Monitoring Data

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ANALYTICAL RESULTS

Project: QUARTERLY SAMPLING
Pace Project No.: 60184674

Sample: SHOWER WATER **Lab ID: 60184674001** Collected: 12/16/14 12:50 Received: 12/16/14 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MBIO 9223B Total Coliform	Analytical Method: SM 9223B Colilert Preparation Method: SM 9223B Colilert							
Total Coliforms	**<1**	MPN/100 mL	1.0	1	12/16/14 15:10	12/17/14 15:30		

Sample: OUTFALL 002 **Lab ID: 60184674002** Collected: 12/16/14 11:45 Received: 12/16/14 14:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MBIO 9223B E.Coli	Analytical Method: SM 9223B Colilert Preparation Method: SM 9223B Colilert							
Escherichia coli (E.coli)	**7270**	MPN/100 mL	1.0	1	12/16/14 16:20	12/17/14 16:30		

Sample: OUTFALL 001 **Lab ID: 60184674003** Collected: 12/16/14 11:50 Received: 12/16/14 18:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	**18.1**	ug/L	5.0	1	12/18/14 09:35	12/22/14 12:46	7439-92-1	
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**7.5**	Std. Units	0.10	1		12/16/14 11:50		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**8.7**	deg C	0.10	1		12/16/14 11:50		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**11.0**	mg/L	5.0	1		12/22/14 17:01		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**0.49**	mg/L	0.10	1		12/28/14 15:00	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**1.7**	mg/L	0.50	1		12/26/14 16:41	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**0.19**	mg/L	0.10	1		12/17/14 16:40		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	ND	mg/L	0.10	1		12/28/14 12:44	7723-14-0	

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ANALYTICAL RESULTS

Project: QUARTERLY SAMPLING
Pace Project No.: 60184674

Sample: OUTFALL 002 **Lab ID: 60184674004** Collected: 12/16/14 11:45 Received: 12/16/14 18:48 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**7.8**	Std. Units	0.10	1		12/16/14 11:45		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**9.0**	deg C	0.10	1		12/16/14 11:45		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**10.0**	mg/L	5.0	1		12/22/14 17:01		
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**10.1**	mg/L	2.0	1	12/17/14 11:01	12/22/14 10:01		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**32.7**	mg/L	1.0	10		12/28/14 15:10	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**33.7**	mg/L	2.5	5		12/26/14 16:44	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**0.42**	mg/L	0.10	1		12/17/14 16:38		
Nitrogen, Nitrite	**0.11**	mg/L	0.10	1		12/17/14 16:38		
Nitrogen, NO2 plus NO3	**0.53**	mg/L	0.10	1		12/17/14 16:38		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	**8.7**	mg/L	0.50	5		12/28/14 14:04	7723-14-0	

GENERAL DYNAMICS

Ordnance and Tactical Systems

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NPDES MO-113506

Quarterly Sampling

1st Quarter 2015

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Lab ID 60189876002, 60189876003, & 6018976004

Collected 3/17/2015

Outfall 002 MICRO Fecal Coi

Outfall 002 Monitoring Data

Outfall 001 Monitoring Data

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ANALYTICAL RESULTS

Project: QUARTERLY
Pace Project No.: 60189876

Sample: SHOWER WATER **Lab ID: 60189876001** Collected: 03/17/15 11:40 Received: 03/17/15 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MBIO 9223B Total Coliform	Analytical Method: SM 9223B Colilert Preparation Method: SM 9223B Colilert							
Total Coliforms	**<1**	MPN/100 mL	1.0	1	03/17/15 15:10	03/18/15 15:20		

Sample: OUTFALL 002 **Lab ID: 60189876002** Collected: 03/17/15 11:45 Received: 03/17/15 14:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
MBIO 9223B E.Coli	Analytical Method: SM 9223B Colilert Preparation Method: SM 9223B Colilert							
Escherichia coli (E.coli)	**11199**	MPN/100 mL	1.0	1	03/17/15 15:10	03/18/15 15:20		

Sample: OUTFALL 001 **Lab ID: 60189876003** Collected: 03/17/15 11:50 Received: 03/17/15 18:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Lead	ND	ug/L	5.0	1	03/18/15 14:40	03/19/15 17:20	7439-92-1	
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**7.6**	Std. Units	0.10	1		03/17/15 11:50		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**10.3**	deg C	0.10	1		03/17/15 11:50		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**9.0**	mg/L	5.0	1		03/23/15 09:01		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**0.21**	mg/L	0.10	1		03/19/15 12:47	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**1.6**	mg/L	0.50	1		03/23/15 21:52	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**1.1**	mg/L	0.10	1		03/18/15 13:57		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	ND	mg/L	0.10	1		03/24/15 16:00	7723-14-0	

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ANALYTICAL RESULTS

Project: QUARTERLY
Pace Project No.: 60189876

Sample: OUTFALL 002 **Lab ID: 60189876004** Collected: 03/17/15 11:45 Received: 03/17/15 18:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Field pH, Electrometric	Analytical Method: SM 4500-H+B							
pH	**8.3**	Std. Units	0.10	1		03/17/15 11:45		
Field Temperature	Analytical Method: SM 2550B							
Temperature	**14.8**	deg C	0.10	1		03/17/15 11:45		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**37.0**	mg/L	5.0	1		03/23/15 09:01		
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**24.2**	mg/L	2.0	1	03/18/15 16:45	03/23/15 12:14		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**45.9**	mg/L	1.0	10		03/19/15 12:49	7664-41-7	
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	**62.2**	mg/L	5.0	5		03/23/15 22:18	7727-37-9	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	**0.25**	mg/L	0.10	1		03/18/15 13:58		
Nitrogen, Nitrite	**0.18**	mg/L	0.10	1		03/18/15 13:58		
Nitrogen, NO2 plus NO3	**0.44**	mg/L	0.10	1		03/18/15 13:58		
365.4 Dissolved Phosphorus	Analytical Method: EPA 365.4							
Phosphorus, Dissolved	**8.3**	mg/L	0.20	2		03/24/15 16:20	7723-14-0	