

Kansas Permit No.: M-MO28-0001

Federal Permit No.: KS0119601

KANSAS WATER POLLUTION CONTROL PERMIT AND
AUTHORIZATION TO DISCHARGE UNDER
THE NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM

Pursuant to the Provisions of Kansas Statutes Annotated 65-164 and 65-165, the Federal Water Pollution Control Act as amended, (33 U.S.C. 1251 et seq; the "Act"),

Owner: Johnson County Wastewater

Owner's Address: 11811 S. Sunset Drive, Suite 2500
Olathe, Kansas 66061-7061

Facility Name: Johnson County Douglas L. Smith
Middle Basin Wastewater Treatment Plant

Facility Location: 10001 College Boulevard
Overland Park, Kansas 66210
W $\frac{1}{2}$, NW $\frac{1}{4}$, Section 13, Township 13S, Range 24E
Johnson County, Kansas
Latitude: 38.92381 Longitude: -94.70239

OUTFALL 001A1: Latitude: 38.92181 Longitude: -94.70167

Receiving Stream: Indian Creek
River Basin: Missouri River Basin

is authorized to discharge from the wastewater treatment facility described herein, in accordance with effluent limits and monitoring requirements as set forth herein.

This permit is effective _____, supersedes the previously issued water pollution control permit M-MO28-0001 and expires _____.

FACILITY DESCRIPTION:

- | | |
|---|--|
| 1. Mechanical Bar Screen (3) | 13. Sludge Chemical Thickener System |
| 2. Cyclone Grit Removal with washer compactor | 14. Belt Filter Press (3) |
| 3. Odor Control System) | 15. Sludge Load-out System |
| 4. Grease Receiving Facility | 16. Sludge Unloading System |
| 5. Primary sedimentation (5 basins) | 17. Waste Gas Accumulator |
| 6. BNR Activated Sludge (4 basins) | a. Storage for use to heat & power use |
| a. Fermentation Basins | b. Flares (3) |
| b. Selector Basins | 18. UV Disinfection (2 Channels-4 banks) |
| c. Aeration Basins | 19. Chlorination & De-chlorination |
| 7. Final sedimentation (5 Basins) | (Reserve Units for possible use) |
| 8. Primary sludge digestion (3 Basins) | 20. Two Cell Aerated Wet Weather Holding |
| 9. Secondary sludge digestion (1 Basin) | Lagoon |
| 10. Plant Reuse Water System | 21. Cascade aeration |
| 11. Gravity Sludge Thickener | 22. Avg. Daily Flow = 14.5 MGD |
| 12. Centrifuge Sludge Thickener | 23. Peak Wet Weather Flow = 23.0 MGD |

Secretary, Kansas Department of Health and Environment

Date

A. EFFLUENT LIMITS AND MONITORING REQUIREMENTS

The permittee is ^{only} authorized to discharge from outfall(s) ^{001A1} with serial number(s) as specified in this permit. The effluent limits shall become effective on the effective date of this permit unless otherwise indicated in the table below. Such discharges shall be controlled, limited, and monitored by the permittee as specified. There shall be no discharge of floating solids or visible foam in other than trace amounts.

Monitoring reports shall be submitted on or before the 28th day of the following month. In the event no discharge occurs, written notification is still required.

Parameters	Final Limits	Measurement Frequency	Sample Type
<u>Monitoring Location 001AG (EDMR code: INF001AG) - Influent to the Treatment Plant</u>			
Influent Flow to Plant - MGD	Monitor	Daily	Meter
Biochemical Oxygen Demand (5-Day)	Monitor	Twice Weekly	24-Hour Composite
Total Suspended Solids-mg/l	Monitor	Twice Weekly	24-Hour Composite
Total Phosphorus (as P)-mg/l	Monitor	Monthly	24-Hour Composite
Total Kjeldahl Nitrogen (as N)-mg/l	Monitor	Monthly	24-Hour Composite
<u>Outfall 001A1 (EDMR code: EFF001A1) - Effluent from the Mechanical Treatment Plant</u>			
Carbonaceous Biochemical Oxygen Demand (5-Day) ¹		Twice Weekly	24-Hour Composite
September through June			
Weekly Average-mg/l	25		
Monthly Average-mg/l	15		
July and August			
Weekly Average-mg/l	20		
Monthly Average-mg/l	10		
Total Suspended Solids ¹		Twice Weekly	24-Hour Composite
Weekly Average-mg/l	45		
Monthly Average-mg/l	30		
Ammonia (as N) - mg/l		Twice Weekly	24-Hour Composite
January			
Daily Maximum	12.2		
Monthly Average	5.4		
February			
Daily Maximum	10.2		
Monthly Average	4.7		
March			
Daily Maximum	14.5		
Monthly Average	3.7		
April			
Daily Maximum	17.1		
Monthly Average	4.2		
May			
Daily Maximum	14.5		
Monthly Average	2.9		

A. EFFLUENT LIMITS AND MONITORING REQUIREMENTS (continued)

June			
Daily Maximum	14.5		
Monthly Average	2.3		
July			
Daily Maximum	14.5		
Monthly Average	1.8		
August			
Daily Maximum	12.2		
Monthly Average	1.6		
September			
Daily Maximum	14.5		
Monthly Average	2.2		
October			
Daily Maximum	20.0		
Monthly Average	4.2		
November			
Daily Maximum	14.5		
Monthly Average	4.7		
December			
Daily Maximum	14.5		
Monthly Average	6.1		
E.coli-colonies/100 ml		Twice Weekly	Grab
April through October			
Weekly Geometric Mean	4,348		
Monthly Geometric Mean	262		
November through March			
Monthly Geometric Mean	2,358		
pH - Standard Units	6.0 - 9.0	Weekly	Grab
Dissolved Oxygen-mg/l			
Weekly Average, Minimum	6.0	Weekly	Grab
Temperature-°C	Monitor	Weekly	Field
Total Phosphorus (as P)-mg/l ³	Monitor	Monthly	24-Hour Composite
Total Phosphorus (as P)-lbs/day ⁴	Monitor	Monthly	Calculated
Nitrate (NO ₃) + Nitrite (NO ₂) as N-mg/l ²	Monitor	Monthly	24-Hour Composite
Total Kjeldahl Nitrogen (TKN) as N-mg/l ²	Monitor	Monthly	24-Hour Composite
Total Nitrogen (as N)-mg/l ^{2 & 3} (TKN + NO ₃ + NO ₂)	Monitor	Monthly	Calculated
Total Nitrogen (as N)-lbs/day ⁴ (TKN + NO ₃ + NO ₂)	Monitor	Monthly	Calculated
Chlorides mg/l	Monitor	Monthly	24-Hour Composite
Flow - MGD	Monitor	Daily	Meter

A. EFFLUENT LIMITS AND MONITORING REQUIREMENTS (continued)

Whole Effluent Toxicity See Supplemental Condition F.1
 Priority Pollutant Scan See Supplemental Condition F.2

Annual Average Calculation 001T1 (EDMR code: AAC001T1) - Annual Average Calculations at Effluent Outfall 001A1

Total Phosphorus (as P) ⁴		Monthly	Calculated
Annual Avg. Concentration - mg/l	Monitor		
Annual Avg. Load - lbs/day	Monitor		
Total Nitrogen (as N) ⁴		Monthly	Calculated
Annual Avg. Concentration - mg/l	Monitor		
Annual Avg. Load - lbs/day	Monitor		
Nitrate (NO3) + Nitrite (NO2) as N - mg/l		Twice Monthly	Calculated
Annual Rolling Average ⁴	10		

005A5 (EDMR code: ICUS005A5) - Indian Creek - Upstream of Discharge from Outfall 001A1

Dissolved Oxygen-mg/l			
Weekly Average	Monitor	Weekly	Grab
Temperature-°C	Monitor	Weekly	Field
Ammonia (as N)-mg/l	Monitor	Weekly	Grab
pH - Standard Units	Monitor	Weekly	Grab

006A6 (EDMR code: ICDS006A6) - Indian Creek - Downstream of Discharge from Outfalls 001A1

Dissolved Oxygen-mg/l			
Weekly Average, Minimum	Monitor	Weekly	Grab
Temperature-°C	Monitor	Weekly	Field
Ammonia (as N)-mg/l	Monitor	Weekly	Grab
pH - Standard Units	Monitor	Weekly	Grab
Stream Flow - cfs	See Supplemental Condition 3		USGS

FOOT NOTES:

- ¹ Minimum removal of 85% required for Biochemical Oxygen Demand (5-Day) and Total Suspended Solids.
- ² Permittee shall sample for these tests on the same day and calculate the total nitrogen only when both test values are available. The Minimum Reportable Limit (MRL) for TKN is 1 mg/l and for nitrate + nitrite is 0.1 mg/l. Values less than the MRL shall be reported using the less than sign (<) with the MRL value but for purposes of calculating and reporting the total nitrogen result, less than values shall be defaulted to zero.
- ³ See C. Special Conditions.

FOOT NOTES: (continued)

- 4 The values for parameters shown as "Calculated" will be calculated by the on-line eDMR program. The values cannot be entered into the on-line eDMR program by the permittee. In addition to these calculated values, for parameters with Annual Average reporting requirements, the permittee will see monthly average values calculated by the eDMR program and displayed in the raw data tables. The monthly average parameter short name and (parameter code) for total phosphorus is T-P MA (KS665) and for total nitrogen is T.N2 MA (KS600) in mg/l and lbs/day. The monthly averages are required intermediary calculated values used for purposes of calculating the Annual Averages and are shown for purposes of checking those calculations. The Annual Average calculations are for a rolling 12-month time period calculated on a monthly basis.

B. STANDARD CONDITIONS

In addition to the specified conditions stated herein, the permittee shall comply with the attached Standard Conditions dated June 20, 2016.

C. SPECIAL CONDITIONS - NUTRIENT REMOVAL

This facility was designed to achieve nutrient removal. The permittee will continue to operate the treatment facility to maximize the level of nutrient removal to achieve the following goals as annual average target effluent levels from the mechanical plant:

Total Nitrogen (as N) - mg/l	8.0 as an annual average
Total Nitrogen (as N) - pounds/day	≤ 970.0 as an annual average
Total Phosphorus (as P) - mg/l	1.5 as an annual average

The permittee shall operate the plant to maximize nutrient removal. These target values are not to be considered as effluent limits for this permit.

D. SLUDGE DISPOSAL

Sludge disposal shall be in accordance with the 40 CFR Part 503 sludge regulations.

E. SCHEDULE OF COMPLIANCE

None

F. PRETREATMENT PROGRAM

The permittee shall continue to implement and administer their Pretreatment Program in accordance with the General Pretreatment Regulations 40 CFR Part 403, as approved by the Kansas Department of Health and Environment or the Environmental Protection Agency.

G. ADDITIONAL INFORMATION

1. EPA has promulgated a final rule requiring regulated entities to report DMR data electronically by December 21, 2016. Also, KAR 28-16-63 requires permittees to report NPDES data in a form required by KDHE. KDHE has developed electronic reporting tools to assist permittees in complying with the EPA electronic reporting rule and KAR 28-61-63. Unless a waiver has been approved by KDHE, permittees are required to submit reports electronically.

E. SUPPLEMENTAL CONDITIONS

1. Any discharge from the Peak Wet Weather Biological Basin shall be reported as an Incident in accordance with Item 7 of the Standard Conditions.
2. The effluent limits for discharge 001A1 listed in this permit are subject to change if water quality criteria violations in Indian Creek can be attributed to the treatment plant effluent.
3. Permittee shall provide weekly stream flow readings from the USGS station at 103rd & Marty.

I. BIO-MONITORING AND PRIORITY POLLUTANTS

1. Chronic Whole Effluent Toxicity Testing

- a. Chronic Whole Effluent Toxicity (WET) testing shall be conducted on a composite sample of the effluent at 001A1 once in calendar year 2010 and annually thereafter. The 25% Inhibition Concentration, IC25, shall be equal to or greater than 96% effluent. Test results less than 96% are violations of this permit. The test procedures shall use the seven day static renewal test method in accordance with the EPA document, Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, fourth edition, October 2002 using test organisms *Pimephales promelas* (fathead minnow) and *Ceriodaphnia dubia* (water flea) within a dilution series containing 0, 25, 50, 75, 96 and 100% effluent. KDHE reserves the right to increase or decrease testing frequency based upon compliance history and toxicity testing results.
- b. If the WET test results indicate the IC25 is equal to or greater than 96% effluent, the effluent has passed the toxicity test and a copy of the test report shall be due within 10 days of receipt by the Permittee. Results may be sent electronically.
- c. If the WET test results indicate the IC25 is less than 96% effluent, the effluent has failed the toxicity test and the permittee shall immediately notify KDHE by telephone at (785) 296-5517 and submit to KDHE a copy of the test report within five days of receipt of the information. KDHE reserves the right to require the permittee to take such actions as are reasonable to identify and remedy any identified or predicted toxic conditions in the receiving stream outside of the mixing zone which is caused by the permittee's effluent.
- d. Permittee shall also test a portion of one of same effluent samples used for the WET test for the following parameters (required minimum reportable levels are in parenthesis):

Antimony (10 µg/L)*	Nickel (10 µg/L)*
Arsenic (10 µg/L)*	Selenium (5 µg/L)*
Beryllium (5 µg/L)*	Silver (2 µg/L)*
Cadmium (2 µg/L)*	Thallium (10 µg/L)*
Chromium (10 µg/L)*	Zinc (20 µg/L)*
Copper (10 µg/L)*	Ammonia, mg/l
Lead (5 µg/L)*	Total Hardness as CaCO3 mg/l
Mercury (0.2 µg/L-Cold Vapor Method)	pH

* Parameter shall be tested and reported as total recoverable metals.

The permittee shall coordinate sampling for this test with other requirements of this permit. The permittee shall use a laboratory approved by KDHE for Whole Effluent Toxicity testing.

2. Priority Pollutant Scan

Permittee shall conduct a Priority Pollutant Scan on the effluent for the parameters listed in Table I, Priority Pollutant Scan. The Priority Pollutant Scan shall be conducted within 18 months of the expiration date of this permit and the results reported to KDHE prior to 6 months of the expiration date of this permit. A copy of the laboratory test results shall be provided to KDHE at the e-mail address shown in standard Conditions 1.B. following receipt of the results.

Sample type shall be 24-hour composite except for Volatiles which shall be a grab sample.

See Supplemental Condition I.1.d. for minimum detection limits for certain metals in the Priority Pollutant Scan.

Table I - Priority Pollutant Scan*

<u>Metals (µg/l)</u>	<u>Base/Neutral (µg/l)</u>	<u>Acid Compounds (µg/l)</u>
Total Antimony	Acenaphthene	2-chlorophenol
Total Beryllium	Acenaphthylene	2,4-dichlorophenol
Total Cadmium	Anthracene	2,4-dimethylphenol
Total Chromium	Benzidine	2,4-dinitrophenol
Total Copper	Benzo(a) anthracene	2-nitrophenol
Total Lead	Benzo(a)pyrene	4-nitrophenol
Total Mercury	Benzo(k)fluoranthene	Parachlorometa cresol
Total Nickel	Benzo (ghi) perylene	Pentachlorophenol
Total Selenium	Benzo (b) fluoranthene	Phenol
Total Silver	Bis(2-chloroethoxy)methane	4,6-dinitro-o-cresol
Total Thallium	Bis(2-chloroethyl)ether	2,4,6-trichlorophenol
Total Zinc	Bis(2-ethylhexyl)phthalate	
	Bis(2-chloroisopropyl) ether	<u>Volatiles (µg/l)</u>
<u>Pesticides (µg/l)</u>	1,2-diphenylhydrazine	Acrolein
Aldrin	Fluoranthene	Acrylonitrile
Alpha-BHC**	Fluorene	Benzene
Beta-BHC**	Nitrobenzene	Bromoform
Gamma-BHC**	N-nitrosodimethylamine	Carbon Tetrachloride
Delta-BHC**	N-nitrosodi-n-propylamine	Chlorobenzene
Chlordane	N-nitrosodiphenylamine	Chlorodibromomethane
4,4-DDT	Phenanthrene	Chloroethane
4,4-DDD	Pyrene	2-chloroethylvinyl ether
4,4-DDE	1,2,4-trichlorobenzene	Chloroform
Dieldrin	4-bromophenyl phenyl ether	Dichlorobromomethane
Alpha-endosulfan	Butyl benzyl phthalate	1,1-dichloroethane
Beta-endosulfan	2-chloronaphthalene	1,2-dichloroethane
Endosulfan sulfate	4-chlorophenyl phenyl ether	1,1-dichloroethylene
Endrin	Chrysene	1,2-dichloropropane
Endrin aldehyde	Dibenzo(a,h) anthracene	1,3-dichloropropylene
Heptachlor	1,2-dichlorobenzene	Ethylbenzene
Heptachlor epoxide	1,3-dichlorobenzene	Methyl bromide
Toxaphene	1,4-dichlorobenzene	Methyl chloride
	3,3-dichlorobenzidine	Methylene chloride
<u>Polychlorinated Biphenyls (µg/l)</u>	Dimethyl phthalate	1,1,2,2-tetrachloroethane
PCB-1242	Diethyl phthalate	Tetrachloroethylene
PCB-1254	Di-n-butyl phthalate	Toluene
PCB-1221	2,4-dinitrotoluene	1,2 trans-dichloroethylene
PCB-1232	2,6-dinitrotoluene	1,1,1-trichloroethane
PCB-1248	Di-n-octyl phthalate	1,1,2-trichloroethane
PCB-1260	Hexachlorobenzene	Trichloroethylene
PCB-1016	Hexachlorobutadiene	Vinyl chloride
	Hexachlorocyclopentadiene	
	Hexachloroethane	<u>Miscellaneous</u>
	Indeno (1,2,3-cd) pyrene	Total Cyanide (mg/l)***
	Naphthalene	Asbestos (ent/l)
	Isophorone	2,3,7,8-TCDD (Dioxin) (µg/l)

* Testing not required for pollutants with a strike-through.

** Scientific name is hexachlorocyclohexane

*** The total cyanide analysis must include preliminary treatment of the sample to avoid NO₂⁻ interference. See Standard Methods for the Examination of Water and Wastewater, 22nd Edition, 4500-CN B. Preliminary Treatment of Samples.

STANDARD CONDITIONS FOR
KANSAS WATER POLLUTION CONTROL AND
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS

1. Representative Sampling and Discharge Monitoring Report Submittals:

- A. Samples and measurements taken as required herein shall be representative of the quality and quantity of the monitored discharge. Test results shall be recorded for the day the samples were taken. If sampling for a parameter was conducted across more than one calendar day, the test results may be recorded for the day sampling was started or ended. All samples shall be taken at the locations designated in this permit, and unless specified, at the outfall/monitoring location(s) before the wastewater joins or is diluted by any other water or substance.
- B. Monitoring results shall be recorded and reported on forms acceptable to the Division and submitted no later than the 28th day of the month following the completed reporting period. Signed and certified copies of other reports, required herein, prepared in accordance with KAR 28-16-59, may be faxed to 785.296.0086, e-mailed as scanned attachments to dmr4kdhe@kdheks.gov, or sent by U.S. mail to:

Kansas Department of Health & Environment
Bureau of Water-Technical Services Section
1000 SW Jackson Street, Suite 420
Topeka, KS 66612-1367

2. Definitions:

- A. Unless otherwise specifically defined in this permit, the following definitions apply:
1. The "Daily Maximum" is the total discharge by weight or average concentration, measurement taken, or value calculated during a 24-hour period. The parameter, pH, is limited as a range between and including the values shown.
 2. The "Weekly Average" is the arithmetic mean of the value of test results from samples collected, measurements taken or values calculated during four monitoring periods in each month consisting of calendar days 1-7, 8-14, 15-21 and 22 through the end of the month.
 3. The "Monthly Average", other than for E. coli bacteria, is the arithmetic mean of the value of test results from samples collected, measurements taken or values calculated during a calendar month. The monthly average is determined by the summation of all calculated values or measured test results divided by the number of calculated values or test results reported for that parameter during the calendar month. The monthly average for E. coli bacteria is the geometric average of the value of the test results from samples collected in a calendar month. The geometric average can be calculated by using a scientific calculator to multiply all the E. coli test results together and then taking the nth root of the product where n is the number of test results. Non-detect values shall be reported using the less than symbol (<) and the minimum detection or reportable value. To calculate average values, non-detects shall be defaulted to zero (or one for geometric averages). Greater than values shall be reported using the greater than symbol (>) and the reported value. To calculate average values, the greater than reported value shall be used in the averaging calculation.
- B. A "grab sample" is an individual sample collected in less than 15 minutes. A "composite sample" is a combination of individual samples in which the volume of each individual sample is proportional to the flow, or the sample frequency is proportioned to the flow rate over the sample period, or the sample frequency is proportional to time.
- C. The terms "Director", "Division", and "Department" refer to the Director, Division of Environment, Kansas Department of Health and Environment, respectively.
- D. "Severe property damage" means 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 an in-plant diversion. Severe property damage does not mean economic loss caused by delays in production.
- E. "Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

3. **Schedule of Compliance:** No later than 14 calendar days following each date identified in the "Schedule of Compliance," the permittee shall submit via mail, e-mail or fax per paragraph 1.B above, either a report of progress or, in the case of specific action being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements, or, if there are no more scheduled requirements, when such noncompliance will be corrected.
4. **Test Procedures:** All analyses required by this permit shall conform to the requirements of 40 CFR Part 136, unless otherwise specified, and shall be conducted in a laboratory accredited by the Department. For each measurement or sample, the permittee shall record the exact place, date, and time of measuring/sampling; the date and time of the analyses, the analytical techniques or methods used, minimum detection or reportable level, and the individual(s) who performed the measuring/sampling and analysis and, the results. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved procedures, the results shall be included in the Discharge Monitoring Report form required in 1.B. above. Such increased frequencies shall also be indicated.
5. **Change in Discharge:** All discharges authorized herein shall be consistent with the permit requirements. The discharge of any pollutant not authorized by this permit or of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of this permit. Any anticipated facility expansions, production or flow increases, or production or wastewater treatment system modifications which result in a new, different, or increased discharge of pollutants shall be reported to the Division at least one hundred eighty (180) days before such change.
6. **Facilities Operation:** 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 requirements of this permit and Kansas and Federal law. Proper operation and maintenance also include 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 requirements of this permit. The permittee shall take all necessary steps to minimize or prevent any adverse impact to human health or the environment resulting from noncompliance with any effluent limits specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. When necessary to maintain compliance with the permit requirements, the permittee shall halt or reduce those activities under its control which generate wastewater routed to this facility.
7. **Incidents:**

"Collection System Diversion" means the diversion of wastewater from any portion of the collection system.

"In-Plant Diversion" means routing the wastewater around any treatment unit in the treatment facility through which it would normally flow.

"In-Plant Flow Through" means an incident in which the wastewater continues to be routed through the equipment even though full treatment is not being accomplished because of equipment failure for any reason.

"Spill" means any discharge of wastewater, sludge or other materials from the treatment facility other than effluent or as more specifically described by other "Incidents" terms.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance or anticipated noncompliance with permit effluent limits because of factors beyond the reasonable control of the permittee, as described by 40 C.F.R. 122.41(n).
8. **Diversions not Exceeding Limits:** The permittee may allow any diversion to occur which does not cause effluent limits to be exceeded, but only if it also is for essential maintenance to assure efficient operation. Such diversions are not subject to the Incident Reporting requirements shown below.
9. **Prohibition of an In-Plant Diversion:** Any in-plant diversion from facilities necessary to maintain compliance with this permit is prohibited, except: (a) where the in-plant diversion was unavoidable to prevent loss of life, personal injury, or severe property damage; (b) where there were no feasible alternatives to the in-plant diversion, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime and (c) the permittee submitted a notice as required in the Incident Reporting paragraph below. The Director may approve an anticipated in-plant diversion, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above.

10. **Incident Reporting:** The permittee shall report any unanticipated collection system diversion, in-plant diversion, in-plant flow through occurrences, spill, upset or any violation of a permitted daily maximum limit within 24 hours from the time the permittee became aware of the incident. A written submission shall be provided within 5 days of the time the permittee became aware of the incident. 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 recurrence of the noncompliance. An Incident Report form is available at www.kdheks.gov/water/tech.html.

For an anticipated incident or any planned changes or activities in the permitted facility that may result in noncompliance with the permit requirements, the permittee shall submit written notice, if possible, at least ten days before the date of the event.

For other noncompliance, the above information shall be provided with the next Discharge Monitoring Report.
11. **Removed Substances:** Solids, sludges, filter backwash, or other pollutants removed in the course of treatment of water shall be utilized or disposed of in a manner acceptable to the Division.
12. **Power Failures:** The permittee shall provide an alternative power source sufficient to operate the wastewater control facilities or otherwise control pollution and all discharges upon the loss of the primary source of power to the wastewater control facilities.
13. **Right of Entry:** The permittee shall allow authorized representatives of the Division of Environment or the Environmental Protection Agency upon the presentation of credentials, to enter upon the permittee's premises where an effluent source is located, or in which are located any records required by this permit, and at reasonable times, to have access to and copy any records required by this permit, to inspect any facilities, monitoring equipment or monitoring method required in this permit, and to sample any influents to, discharges from or materials in the wastewater facilities.
14. **Transfer of Ownership:** The permittee shall notify the succeeding owner or controlling person of the existence of this permit by certified letter, a copy of which shall be forwarded to the Division. The succeeding owner shall secure a new permit. This permit is not transferable to any person except after notice and approval by the Director. The Director 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.
15. **Records Retention:** Unless otherwise specified, all records and information resulting from the monitoring activities required by this permit, including all records of analyses and calibration and maintenance of instruments and recordings from continuous monitoring instruments, shall be retained for a minimum of 3 years, or longer if requested by the Division. Biosolids/sludge records and information are required to be kept for a minimum of 5 years, or longer if requested by the Division. Groundwater monitoring data, including background samples results, shall be kept for the life of the facility regardless of ownership.
16. **Availability of Records:** Except for data determined to be confidential under 33 USC Section 1318, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential. Knowingly making any false statement on any such report or tampering with equipment to falsify data may result in the imposition of criminal penalties as provided for in 33 USC Section 1319 and KSA 65-170c.
17. **Permit Modifications and Terminations:** As provided by KAR 28-16-62, after notice and opportunity for a hearing, this permit may be modified, suspended or revoked or terminated in whole or in part during its term for cause as provided, but not limited to those set forth in KAR 28-16-62 and KAR 28-16-28b through g. The permittee shall furnish to the Director, within a reasonable amount of time, any information which the Director 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 upon request, copies of all records required to be kept by this permit. 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.
18. **Toxic Pollutants:** Notwithstanding paragraph 17 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified at such effluent standards) is established under 33 USC Section 1317(a) for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition. Nothing in this permit relieves the permittee from complying with federal toxic effluent standards as promulgated pursuant to 33 USC Section 1317.
19. **Administrative, Civil and Criminal Liability:** The permittee shall comply with all requirements of this permit. Except as authorized in paragraph 9 above, nothing in this permit shall be construed to relieve the permittee from administrative, civil or criminal penalties for noncompliance as provided for in KSA 65-161 et seq., and 33 USC Section 1319.

20. **Oil and Hazardous Substance Liability:** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject to under 33 USC Section 1321 or KSA 65-164 et seq. A municipal permittee shall promptly notify the Division by telephone upon discovering crude oil or any petroleum derivative in its sewer system or wastewater treatment facilities.
21. **Industrial Users:** A municipal permittee shall require any industrial user of the treatment works to comply with 33 USC Section 1317, 1318 and any industrial user of storm sewers to comply with 33 USC Section 1308.
22. **Property Rights:** The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights nor any infringements of or violation of federal, state or local laws or regulations.
23. **Operator Certification:** The permittee shall, if required, ensure the wastewater facilities are under the supervision of an operator certified by the Department. If the permittee does not have a certified operator or loses its certified operator, appropriate steps shall be taken to obtain a certified operator as required by KAR 28-16-30 et seq.
24. **Severability:** The provisions of this permit are severable. If any provision of this permit or any circumstance is held invalid, the application of such provision to other circumstances and the remainder of the permit shall not be affected thereby.
25. **Removal from Service:** The permittee shall inform the Division at least three months before a pumping station, treatment unit, or any other part of the treatment facility permitted by this permit is to be removed from service and shall make arrangements acceptable to the Division to decommission the facility or part of the facility being removed from service such that the public health and waters of the state are protected.
26. **Duty to Reapply:** A permit holder wishing to continue any activity regulated by this permit after the expiration date, must apply for a new permit at least 180 days prior to expiration of the permit.

FACT SHEET

DATE: November 21, 2016
FACILITY: JoCo Douglas L. Smith Wastewater Treatment Plant
KANSAS PERMIT No.: M-MO28-0001
FEDERAL PERMIT No.: KS0019601
LOCATION: W½. NW¼, Section 13, Township 13 S, Range 24 E
Johnson County, Kansas
Latitude: 38.92381 Longitude: -94.70239

PROPOSED ACTION: The proposed action consists of issuance of a new Kansas/NPDES Water Pollution Control permit for an existing facility. As noted in the 2007 Fact Sheet and Anti-Degradation Review (copy attached) this facility has been extensively upgraded since the prior 2008 permit was issued and the design flow has been increased from 12.0 MGD to 14.5 MGD as noted in the draft 2009 permit which was not issued due to EPA comments.

EXISTING PERMIT: The existing permit was effective July 1, 2008, and had an expiration date of December 31, 2009. The permit was issued for an average design flow of 12.0 MGD, and a peak wet weather flow capacity of 15.0 MGD with UV disinfection system. The existing permit included technology based effluent limits for total suspended solids and pH, and water quality based limits for biochemical oxygen demand, ammonia, E.coli, dissolve oxygen (as minimum concentration), and whole effluent toxicity (WET) testing. A Priority Pollutant Scan was conducted once before the permit expired. Effluent temperature was monitored weekly. Monthly monitoring occurred for nutrients, and flow was monitored daily. When discharging the existing permit provided for daily discharge monitoring from the aerated wet weather lagoon with monitoring of biochemical oxygen demand, total suspended solids, ammonia, pH, E.coli, residual chlorine, temperature, flow, and duration of discharge. The existing permit provided for weekly monitoring of dissolved oxygen, temperature, ammonia and pH upstream and downstream plus flow downstream at a USGS station. The existing permit also provided for a portion of peak wet weather raw sewage flow be directed to the Blue River, Missouri Wastewater Treatment Plant by the way of existing interceptor sewer lines.

FACILITY DESCRIPTION: The facility is a mechanical treatment plant consisting of three mechanical bar screens, cyclone grit unit with washer compactor, odor control system, grease receiving facility, five primary clarifiers, four BNR activated sludge trains with fermentation basins, selector basins and aeration basins, five final clarifiers, three primary sludge basins, one secondary sludge basin, plant effluent water reuse system, gravity sludge thickener, centrifuge sludge thickener, sludge chemical thickener system, sludge load-out facility, sludge unloading system, waste gas accumulator with storage for heat and power reuse and three gas flare burners, two channel four bank UV disinfection system, effluent cascade reaeration, and a two cell aerated wet weather holding lagoon. Peak flows are no longer diverted to the Kansas City, Missouri, system. The facility receives domestic wastewater from residential, commercial areas and light industry.

RECEIVING STREAM: The Johnson County Douglas L. Smith Wastewater Treatment Plant in Olathe discharges to Indian Creek HUC 10300101 (Segment 32). Pursuant to the Kansas Surface Water Quality Standards K.A.R 28-16-28 (b-g), the first classified stream is Indian Creek. Indian Creek (Segment 32) is designated for expected aquatic life use, domestic water supply, food procurement, groundwater recharge, industrial water supply, irrigation use and livestock watering and primary "B" contact recreation.

PROPOSED LIMITS: The proposed municipal permit is based on an average design discharge flow of 14.5 MGD and a peak wet weather flow capacity of 23.0 MGD to Indian Creek. In this new draft permit, the transfer of raw sewage to the Blue River, Missouri Wastewater Treatment Plant is no longer allowed and the wastewater in the peak wet weather aerated lagoon is pumped back through the plant for treatment. All discharges other than the designated point of discharge at outfall 001A1 are to be reported as an incident of bypass as noted in Item 7 of the permit Standard Conditions. The two year average flow is 11.24 MGD and will have twice weekly monitoring for conventional parameters. The permit has technology based effluent limits for total suspended solids and pH and water quality based limits for biochemical oxygen demand, ammonia, E.coli, dissolved oxygen (as minimum concentration), and whole effluent toxicity (WET) testing. A Priority Pollutant Scan will be required once before the permit expires. Temperature monitoring is required twice weekly. Monthly monitoring for nutrients and chlorides, and daily monitoring for flow is required. This permit provides for weekly monitoring of dissolved oxygen, temperature, ammonia and pH upstream and downstream plus flow downstream at a USGS station. This permit is being reissued in accordance with the Basinwide Permit Planning Procedure, with a sampling frequency of twice weekly for conventional pollutants, weekly for pH, dissolved oxygen and temperature, once monthly for nutrients and chlorides, daily monitoring of effluent flows and a reporting frequency of monthly.

This facility was designed and constructed to provide nutrient removal. A special condition has been included to require the permittee to operate the facility to achieve target values of 8.0 mg/l and 970 lbs/day total nitrogen as an annual averages and 1.5 mg/l total phosphorus as annual average.

The basis of the effluent and monitoring applied in this NPDES permit are as follows:

<u>Parameter</u>	<u>Basis</u>
Biochemical Oxygen Demand	KS Surface Water Quality Standards
Total Suspended Solids	EPA Secondary Treatment Regulation
pH	EPA Secondary Treatment Regulation
Ammonia	KS Surface Water Quality Standards
E.coli	KS Surface Water Quality Standards
Nutrients	Kansas Nutrient Reduction Plan
Total Nitrogen – pounds/day	Kansas TMDL WLA
DO	KS Surface Water Quality Standards
Chlorides – mg/l	KS Surface Water Quality Standards (303 list)

303(d) and TMDL LIST: The Kansas Water Quality Limited Segments 303(d) shows the receiving stream, Indian Creek (Segment 32) has 303(d) total phosphorus, biology and chlorides listed impairments. A TMDL and Waste Load Allocation has been established for total nitrogen. Also, a TMDL have been written for E.coli bacteria. The permit has effluent concentration goals and daily poundage goals for total nitrogen and a total phosphorus concentration goal, biochemical oxygen demand and E.coli have limits and chlorides are to be monitored.

WHOLE EFFLUENT TOXICITY (WET) TEST: The Chronic Whole Effluent Toxicity (WET) tests have been conducted each year as required. The 7-day chronic fathead minnows and Cladoceran tests as noted from the Pace Analytical Services indicated the JoCo Douglas L Smith Middle Basin WWTF effluent discharge for the past four years were acceptable as described in EPA 821-R-02-13.

PRIORITY POLLUTANT SCAN: The 2016 Priority Pollutant Scan listed the following detectable parameters:

Metals:	Sample	Water Quality Limit
Arsenic	0.7 µg/l	21 µg/l
Chromium	0.4 µg/l	41 µg/l
Copper	2.2 µg/l	26 µg/l
Lead	0.2 µg/l	10 µg/l
Nickel	1.2 µg/l	111 µg/l
Selenium	0.6 µg/l	5 µg/l
Zinc	46.0 µg/l	48 µg/l

Therefore, no further action is required for these parameters.

Potassium was listed at 12.2 mg/l, but there is not a water quality limit for potassium, also molybdenum had a sample value of 3.4 µg/l and there is no water quality criteria for molybdenum. Therefore no action is required for these two metals.

There were no chemicals above the Practical Quantification Limit (PQL) listed

STORMWATER: Stormwater concerns are handled under the Municipal Separate Storm Sewer System KSR410007 permit.

SLUDGE: The sludge produced at this facility is subject to the 40 CFR Part 503 Sludge Regulations.

CERTIFIED OPERATOR: The facility employs multiple operators with the correct level of certification (Class IV) for this size of treatment facility.

Prepared By: Frank R. Weinhold



Date: November 21, 2016

