PUBLIC WATER SUPPLY DISTRICT NO. 1

NODAWAY COUNTY, MISSOURI

DRAFT FEASIBILITY STUDY

Evaluation of Potable and Non-Potable Water Service Alternatives

for a Proposed Data Center Development

in Southern Nodaway County, Missouri

Prepared by Lamp Rynearson
Kansas City, Missouri

Oversight Provided by White Cloud Engineering and Construction
Maryville, Missouri

Draft Report Released June 23, 2026
Subject to Revision

DRAFT FEASIBILITY STUDY RELEASE STATEMENT

The Board of Directors of Public Water Supply District No. 1 of Nodaway County commissioned a feasibility study in the spring of 2026 to evaluate alternatives for providing potable and/or non-potable water service to a proposed data center development in southern Nodaway County. The study was prepared by Lamp Rynearson of Kansas City, Missouri, with oversight provided by White Cloud Engineering and Construction of Maryville, Missouri.

This report is being released in draft form in the interest of transparency and public awareness. The draft has not yet been finalized and remains subject to revision, correction, and supplementation. The Board is making the report available at the earliest practical opportunity to allow interested parties to review the information and understand the alternatives being evaluated.

The District commissioned this study in response to a potential water service request and to better understand available alternatives. The purpose of the study is to examine the technical, operational, and financial feasibility of potential water service alternatives. The preparation and release of this report should not be interpreted as an endorsement of, commitment to, or opposition to the proposed data center project. The District has not made any determination regarding whether water service will be provided, nor has it selected a preferred alternative.

Upon completion, the study will serve as one of several resources available to the Board as it considers future decisions related to potential water service requests. Any action by the Board will occur only after review of the final study, consideration of applicable legal and regulatory requirements, evaluation of impacts on existing customers, and further public discussion as appropriate.

DRAFT REPORT – SUBJECT TO REVISION

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DRAFT FEASIBILITY STUDY
ASSESSMENT OF AVAILABLE WATER SUPPLY OPTIONS FOR LARGE INDUSTRIAL CUSTOMER

NODAWAY COUNTY, MO PWSD NO. 1
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Project No. 0326025.01

Consultant Draft Dated- June 12, 2026
Draft Report Released- June 23, 2026 Subject to Revision

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1 INTRODUCTION

This report serves as an evaluation of available water resources for a large industrial customer that plans to construct a facility in Nodaway County, Missouri. The new facility will require a minimum of 70,000 gallons per day (gpd) of cooling water – with the potential for future expansion – so the available quantity and typical quantity must be determined to understand:

- Any treatment required for water to meet the industrial customer's water quality requirements
- The availability of existing water supplies for meeting average and peak flow demands
- The distance between proposed site location and current limits of water supply service

Though many public water and wastewater utilities operate within the boundaries of Nodaway County, this report focuses on the Nodaway County Public Water Service District No. 1 (PWSD No. 1) and the Maryville Public Water System (PWS) and Wastewater Treatment Facility (WWTF), the three largest and most likely potential suppliers of treated water (potable or reclaimed) to the industrial customer; there are also raw water sources available. Per their contract, PWSD No. 1 can purchase up to 1,000,000 gallons per day (gpd) from the Maryville PWS and services 2,716 connections (approximately 6,500 daily users), most of them residential. PWSD No. 1 also purchases a small portion of its water from the Gentry County, Missouri and Page County, Iowa PWSDs, and in turn sells water to various small PWSs in the area, accomplished with 15 pumps and 1.265 million gallons (MG) of storage throughout PWSD No. 1. The Maryville PWS processes 2.5 million gallons per day (MGD) of raw water from Maryville Reservoir and Mozingo Lake and distributes drinking water through 80 miles of pipeline in a single pressure zone to approximately 3,900 meter connections. The City's system has three water storage tanks with a combined storage volume of 2.5 million gallons (MG). The Maryville wastewater system collects and conveys sewage through 50 miles of sanitary sewer lines and seven lift stations to a 2.0-MGD Publicly Operated Treatment Works (POTW) that is a combination of lagoon and mechanical treatment processes. The Maryville WWTF discharges to One Hundred and Two River under discharge permit MO0033286, included in Appendix A; note that the permit shown online has expired as

of 9/30/2022, and the most current one is not yet on the Missouri Department of Natural Resources (MDNR) website.

Available plans relating to the region's utilities include, for Maryville PWS, a water distribution model from 2025 and a water supply report on Mozingo Lake from 2011. The 2024 Consumer Confidence Report (CCR) for PWSD No. 1 shows a 2024 violation for failure to address a deficiency regarding the LT2ESWTR (Long Term 2 Enhanced Surface Water Treatment Rule), and Maryville PWS shows multiple violations for chlorite and chlorine dioxide exceedances in the winter and spring of 2024. The Maryville WWTF is not currently under any Water Protection Program enforcement action.

2 PLANNING AND SERVICE AREA

The general focus area for this feasibility study is Nodaway County, Missouri, with specific service areas detailed under applicable alternatives presented later. An aerial view of the county is shown in Figure 1, with drinking water sources noted in blue and wastewater sources noted in green. The size of the marker is proportional to the permitted flow of the plant.

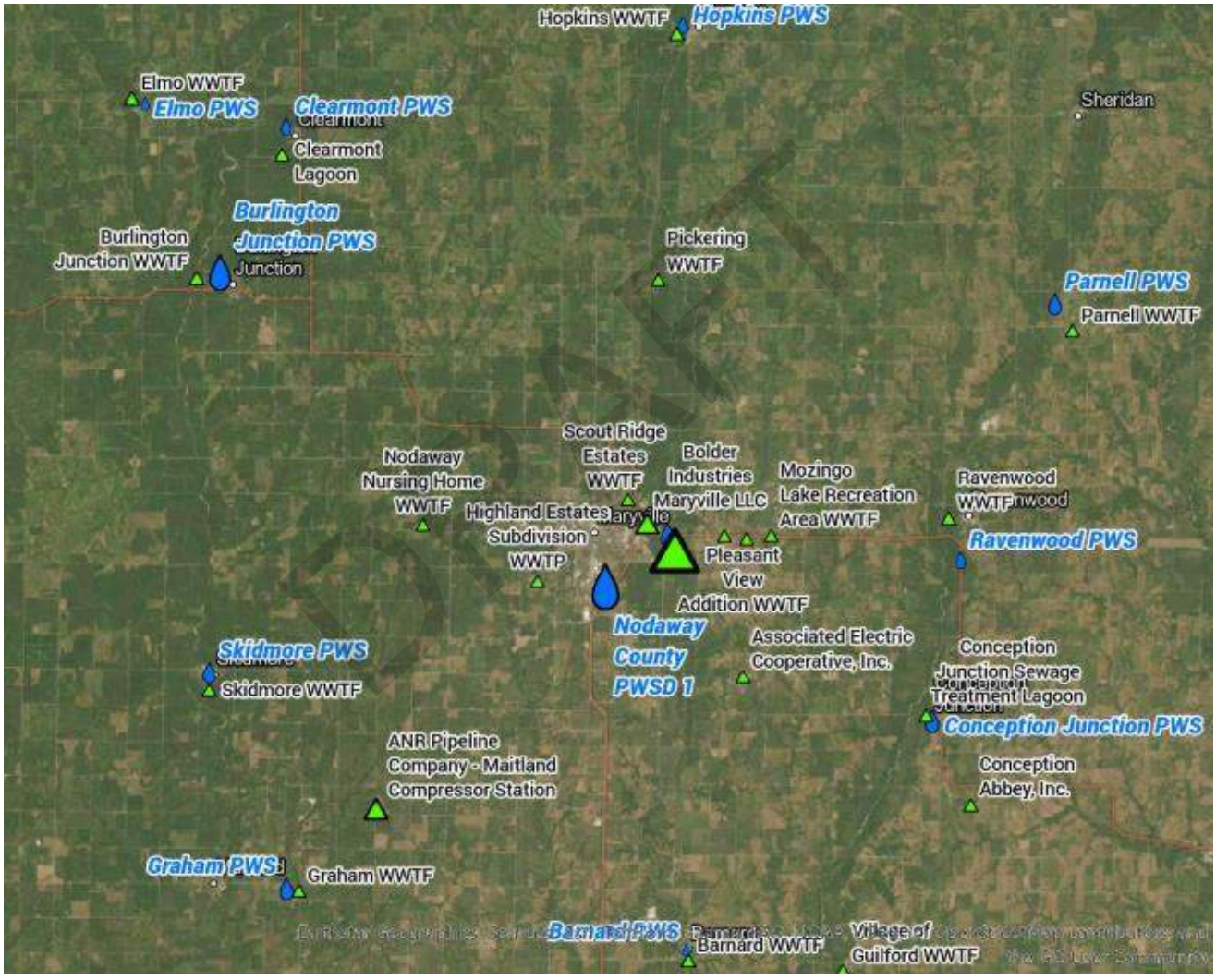

Figure 1: Aerial map of Nodaway County, Missouri with potable and wastewater plants shown

3 POPULATION PROJECTION AND PLANNING PERIOD

Since the purpose of this report is to assess the available water resources for a future industrial user, a population projection for that user is not a meaningful metric. Additionally, since the final site is not yet chosen, it is uncertain which PWS's population growth may impact available water resources. Therefore, a summary of projected populations over a 20-year planning period is provided for cities in Nodaway County with their own water district and/or wastewater treatment system, as well as the county itself; see Table 1 and Figure 1. Note that a constant population (from present) was assumed for all municipalities given; though a population decrease may also be possible, this is the more conservative estimate.

Table 1: Census-sourced population for Nodaway County municipalities, with projections to 2050. Last three counts are assumed.

Municipality	1970	1980	1990	2000	2010	2020	*2030*	*2040*	*2050*
Barnard	206	234	234	257	221	201	*200*	*200*	*200*
Burlington Junction	634	657	634	632	537	521	*550*	*550*	*550*
Clearmont	226	261	175	191	170	158	*160*	*160*	*160*
Conception Junction	237	252	236	202	198	177	*180*	*180*	*180*
Elmo	204	215	179	166	168	114	*115*	*115*	*115*
Graham	213	253	204	191	171	147	*150*	*150*	*150*
Hopkins	656	634	575	579	532	472	*480*	*480*	*480*
Maryville	9,970	9,558	10,663	10,581	11,972	10,633	*11,000*	*11,000*	*11,000*
Nodaway County	22,467	21,196	21,709	21,912	23,370	21,241	*22,000*	*22,000*	*22,000*
Parnell	232	223	157	197	191	135	*135*	*135*	*135*
Ravenwood	336	436	409	448	440	439	*440*	*440*	*440*
Skidmore	440	437	404	342	284	245	*245*	*245*	*245*

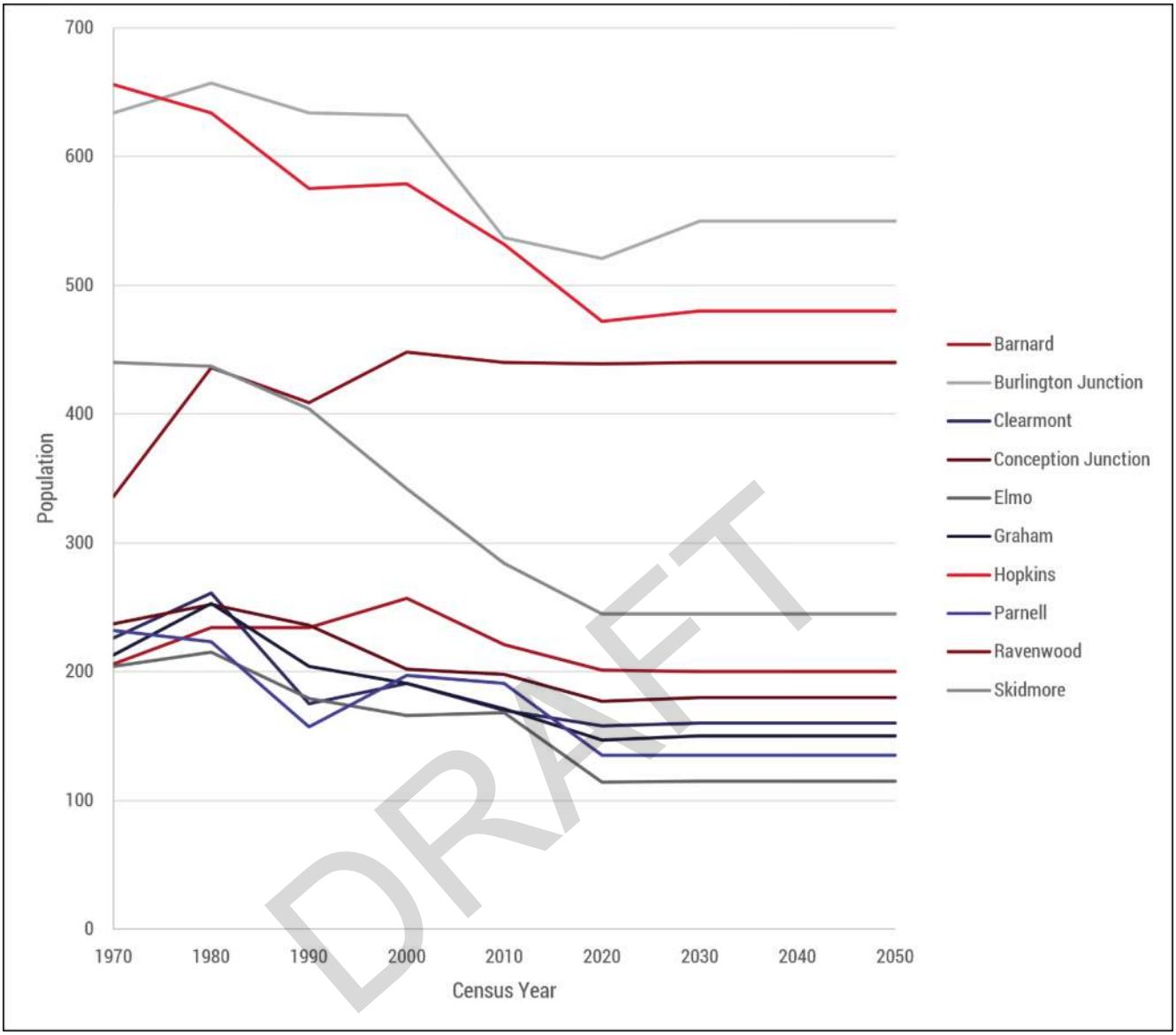

Figure 2: Historical and projected census population counts for Nodaway County Municipalities, excluding Maryville and overall Nodaway County population

4 EXISTING FACILITIES EVALUATION

4.1 Drinking Water

4.1.1 Water Sources

Nodaway County PWSD No. 1 sources about 90% of its water from the City of Maryville PWS, which in turn draws surface water from the Maryville Reservoir and Mozingo Lake, also known as the Mozingo Creek Reservoir. The remainder is from other nearby PWSs, including those in other counties. In the future, PWSD No. 1 may also draw from the Andrew County PWSD No. 1, south of the Nodaway County line, at a flow rate of up to 200 gpm.

Demand from the Maryville Reservoir was not available as of the writing of this report. As noted in the 2011 Missouri Department of Natural Resources (MDNR) Water Supply Study, the demand from Mozingo Lake is as follows:

- Normal demand: 1.92 MGD
- Estimated optimum yield: 2.9 MGD
- Yield if using the recreation pool: 4.0 MGD

Mozingo Lake is noted as being able to meet water demand even in extended drought; the record drought in the 1950s was compared against typical demand from 2001, with sufficient volume found to be available for such a scenario.

4.1.2 Water Treatment

The Maryville Water Plant is the largest WTP in the county by far, and processes up to 2.5 MGD with an annual average production of 532.9 MG. The plant was recently upgraded with a membrane filtration system, but additional treatment steps are not known at this time (pending additional information). A new 4-MGD WTP is currently under construction and is expected to be completed in 2028.

4.1.3 Water Distribution

PWSD No. 1 has a distribution network that covers all of Nodaway County, as shown in Figure 3, with locations of different transmission main sizes, future interconnections, and structures for storage and pumping. The PWSD's permit to dispense drinking water (MO1024428) is included in Appendix B.

The Maryville PWS covers 80 miles of maintained pipeline ranging from 2" to 24" diameter pipes. At an estimated water loss of 10% (exact number is unknown), the

system delivers 479.6 MG. The system is flushed twice a year to conduct inspections and service hydrants. The extent of the distribution system is shown in Figure 4, and the PWS's permit to dispense (MO1010508) is included in Appendix C.

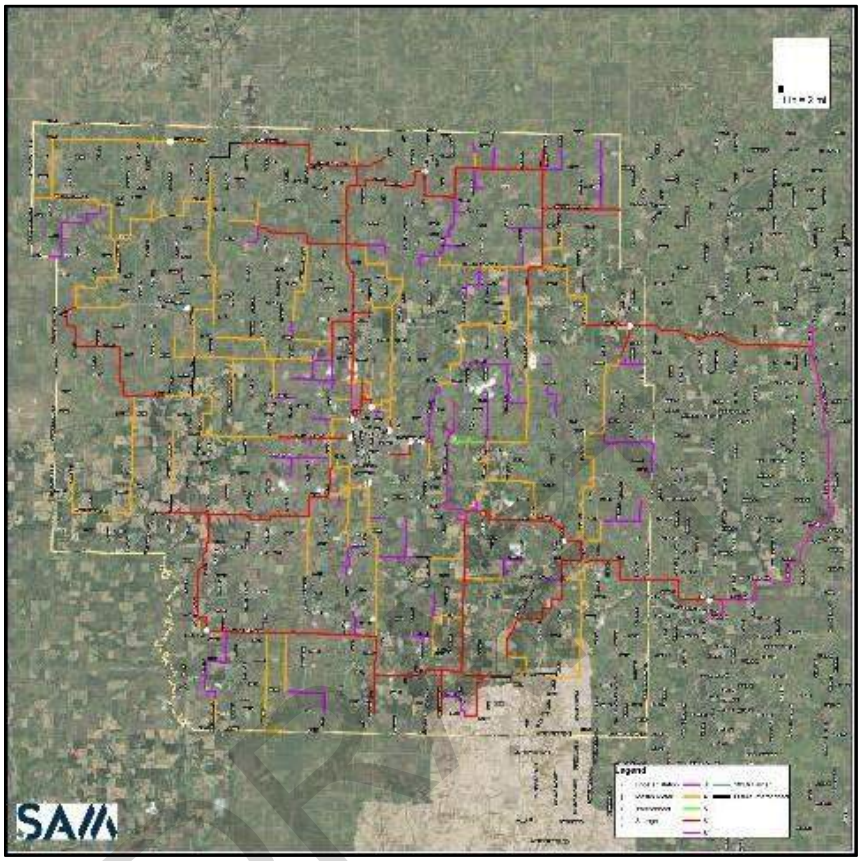

Figure 3: Distribution network of Nodaway County PWSD No. 1

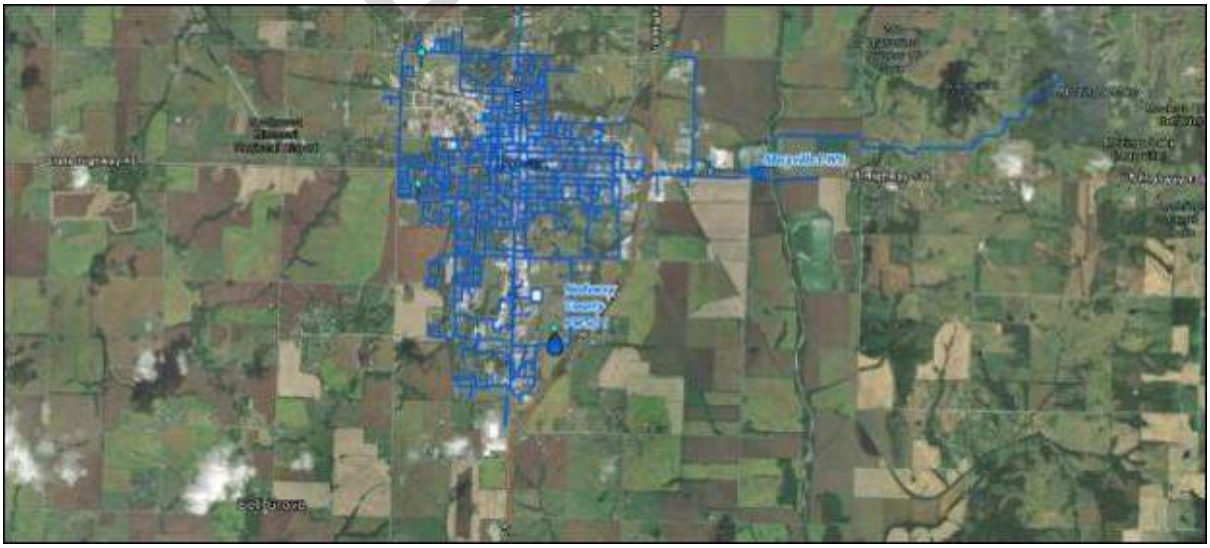

Figure 4: Distribution Network of Maryville PWS

4.1.4 Water Storage

The Nodaway County PWSD No. 1 includes two clearwells, 8 standpipes, and one holding cell, as summarized in Table 2.

Table 2: Summary of Nodaway County PWSD No. 1 storage facilities

Storage Structure	Capacity (gal)
Icon Rd Clearwell	50,000
Conception Clearwell	50,000
Mozingo North Standpipe	100,000
Mozingo South Standpipe	120,000
Route E Standpipe	120,000
Knorr Standpipe	100,000
Rte JJ Standpipe	150,000
Conception Standpipe	120,000
Route E and 246 Hwy Standpipe	150,000
Eagle Road Holding Cell	180,000
Apollo Standpipe	125,000
Total	**1,265,000**

The Maryville PWS includes three elevated storage tanks, as summarized in Table 3.

Table 3: Summary of Maryville PWS water storage tanks (from HDR, 2025)

Tank	Tank Diameter (ft)	Nominal Size (gal)	Tank Base Elevation (ft)	Tank Range (ft)	Tank Overflow (hydraulic grade line)
North	62	750,000	1151.5	40	1275
South	62	750,000	1134.5	40	1275
Edwards	70	1,000,000	1155.0	35	1265

As with water distribution, the other regional water systems have storage tanks but are not investigated in greater detail in this report.

4.2 Wastewater

The Maryville wastewater system is the largest by far in the county and includes a sewer collection network with seven lift stations as well as a wastewater treatment plant. Other wastewater systems are not evaluated in detail as they are significantly smaller and/or not close to the proposed project site.

4.2.1 Collection System

Maryville's sewer collection system is shown in Figure 5, with the Maryville WWTF shown with a green triangle. The collection system consists of over 50 miles of sanitary sewer lines and over 1,000 manholes and is separated from stormwater conveyance. Most of the system is conveyed by gravity (green in the figure) with force mains shown in yellow/orange. Seven lift stations feed force mains that generally move east to the wastewater treatment plant.

Figure 5: Service area of the Maryville sewer system

4.2.2 Wastewater Treatment

The Maryville WWTF consists of the following processes in the treatment train:

- Influent lift statin
- Four-cell flow equalization basin (i.e., lagoons)
- Manual bar screen
- Mechanical fine screen
- Vortex grit chamber
- Aeration basin
- Two final clarifiers
- UV disinfection
- Effluent reaeration
- Sludge storage basin – sludge is land applied

The facility's design flow is 2.0 MGD, while actual flow is closer to 1.8 MGD. Estimated sludge production is around 290 dry tons per year. Effluent is discharged to One Hundred and Two River through Permit No. MO0033286, with final effluent limitations and additional local limits shown in the permit in Appendix A. Effluent quality data from the past four years (2021-2025) are summarized in Table 4, as processed from MDNR records.

Table 4: Maryville WWTF effluent quality from 2021-2025

Parameter	Minimum	Average	Maximum
BOD_5 (mg/L)	1.5	8.6	66.5
Cadmium (µg/L)	0.0	0.3	2.5
Copper (µg/L)	2.5	4.1	7.0
Cyanide (µg/L)	0.0	1.0	20
E. coli (#/100mL)	0.5	288.2	2420
Flow (MGD)	0.9	2.6	5.6
Lead (µg/L)	0.2	0.6	1.5
Ammonia-N (mg/L)	0.0	2.5	16
Oil & grease (mg/L)	0.4	3.9	5.5
pH	6.6	7.3	8.1
Phosphorus (mg/L)	0.1	3.2	32.4
Total nitrogen (mg/L)	2.3	10.5	36.1
Total suspended solids (mg/L)	2.5	8.6	56
Zinc (µg/L)	20	56	117

4.3 System Capacity Determinations

4.3.1 Hydraulic Capacity

The only existing system that needs to have hydraulic capacity assessed is the Maryville WWTF, as it is a potential destination for sanitary wastewater and spent cooling water from the proposed industrial facility; the two larger PWSs covered in this report are evaluated based on their rated capacity. Based on publicly available data from 2021 to 2025, the WWTF saw a monthly average flow of 1.24 MGD and a daily maximum flow of 5.6 MGD. The extent of the collection system roughly aligns with the city limits of Maryville, so these flows imply a per capita wastewater generation rate of 117 gpm on average, and 527 gpm at daily maximum flow rate. This is higher than the typical 100 gpm/capita rule of thumb and may be attributable to industrial users in the City.

Given the permitted design flow of the WWTF at 2.0 MGD, there should be 0.75 MGD of hydraulic capacity available on a monthly average basis. The daily maximum flow of 5.6 MGD would overwhelm the mechanical portion of the treatment train (aeration basin, 2 final clarifiers, UV disinfection), but the four large equalization lagoons are assumed to mitigate these high but infrequent flows. No additional information is available on the capacity of the lagoons.

4.3.2 Organic Capacity Determination

The treatment capacity of the Maryville WWTF for a given range of influent pollutant concentrations is outside the scope of this study, since the industrial user would be subject to the City's industrial pretreatment program and would therefore be subject to existing limits rather than needing to determine the maximum organic loading the WWTF could handle. The pretreatment program is codified as an addendum to their operating permit (MO-0033286) and has limits for selected pollutants, as shown in Table 5.

Table 5: Influent limits for industrial users per pretreatment program

Pollutant	Limit	Notes
Arsenic	0.269 mg/L	
pH	5.5 to 9.5	
BOD5	Portion of 1141 lb/day	Shared between all industrial users, allocated at discretion of pretreatment coordinator.
Chromium	6.026 mg/L	
Mercury	0.001 mg/L	
Oil and grease	75 mg/L	
Molybdenum	0.249 mg/L	
Cyanide	1.072 mg/L	
Zinc	2.986 mg/L	
Cadmium	0.077 mg/L	
Copper	0.47 mg/L	
Lead	0.183 mg/L	
Nickel	1.117 mg/L	
Silver	0.205 mg/L	
Total suspended solids (TSS)	805 mg/L	
Selenium	0.121 mg/L	

5 PROJECT ALTERNATIVES ANALYSIS

Since the proposed industrial use will require water supply, additional treatment before use, wastewater conveyance, and treatment of sanitary and industrial (spent cooling) wastewater, alternatives are presented for each of those components of the required system.

5.1 Water Supply

The proposed industrial user will need a minimum of 82,000 gallons per day (gpd), on average, to run the site. This total demand covers 12,000 gpd for potable water and 70,000 gpd for cooling water. The cooling water demand is seasonal, though the amplitude of fluctuation is unknown at this time. The industrial user could utilize more water if available (up to 100,000 gpd on average), so line sizes and treatment technology (if any) in the presented alternatives are evaluated for the maximum monthly demand for cooling water. Specifically, the cooling system may require an initial fill that may necessitate a 500,000 gpd flow rate, so, even though the ongoing average use will be much lower, costs are estimated given for this larger required (and infrequent) flow rate. It is assumed that the industrial user will have equalization and storage on site to be able to buffer swings in demand to avoid frequent exceedances of the expected 70,000 – 100,000 gpd average demand.

Where there are variations within a general option in this section, they are broken down as follows:

- A) option: Providing the industrial user with just potable water, assuming industrial water could be sourced elsewhere.
- B) option: Meeting the full water demand of the site.

5.1.1 Option 1: Potable Water from Nodaway County PWSD No. 1

Given the extensive pipe network of Nodaway County PWSD No. 1, this option would minimize the distance required to pipe in potable water. Based on the map shown in Figure 3, the proposed industrial site would be able to tap directly into a 4” diameter transmission line, which should enable a draw of up to 400,000 gpd. If more flow is needed beyond this capacity, a 6” diameter line is located 2 miles south of the general area of the proposed industrial site and is factored into the pricing for the B) option.

This option does not require construction of a dedicated pump station and pipeline to convey potable water to the proposed site, just a service connection to the main (unless the 6" diameter line is needed for higher flow). PWSD No. 1 could be utilized to meet just the domestic water demand (12,000 gpd) or the total site water demand, including industrial use. The costs incurred by the industrial user are different due to the expected flow rate and are broken down in Table 6, with Option 1a indicating use of potable water only for domestic demand, and Option 1b using it for the whole site's water demand. The price of potable water provided is estimated to be $9.15 per 1,000 gallons based on current information from PWSD No. 1, but is expected to rise in the coming years due to recouping the impending costs of planned infrastructure improvements at Maryville WTP.

Table 6: Estimated costs for Options 1a and 1b

Cost Component	1a: Only potable water	1b: All water
1a: Service connection, 4" line, 50 gpm from Hwy 71 transmission main 1b: 12" line, 500 gpm, 2 miles south	$450,000	$1,450,000
Total	**$450,000**	**$1,450,000**

Advantages:

- No additional water conveyance infrastructure required (transmission main, storage, pumping)
- Minimal additional treatment needed by industrial user.
- Capacity available from PWS.
- Revenue generation for Nodaway County PWSD No. 1.

Disadvantages:

- May preclude future industrial or residential growth in the PWSD's service area if water demand nears capacity. For example, a proposed natural gas plant nearby is expected to require at least 90,000 gpd for cooling water.
- Poor optics over use of potable water for industrial activities.

5.1.2 Option 2: Potable Water from Maryville PWS

Rather than tap into the existing PWSD No. 1 distribution system, the industrial user could construct a dedicated pump station at the Maryville WTP, where finished potable water could then be directed to the proposed site. The PWS is permitted for an average daily production rate of 1,500,00 gpd and a total design capacity of 5,600,000 gpd, which

should be sufficient to add the additional 12,000 gpd (domestic only), 82,000 gpd (total demand), or 112,000 gpd (future total) required by the industrial user. This option would require construction of a dedicated pump station and pipeline to convey potable water to the proposed site, with a probable route shown in Figure 6. This route uses only right-of-way along existing roads and is likely the most direct path.

As with Option 1, City of Maryville potable water could be used to either meet just the industrial user's demand for potable water or the entire water demand of the site (i.e., including industrial usage). The costs incurred by the industrial user are different due to the amount of water that must be pumped to the proposed site, and are broken down in Table 7, with Option 2a indicating use of potable water only for domestic demand, and Option 2b using it for the whole site's water demand. The price of potable water provided is estimated to be $9.15 per 1,000 gallons based on wholesale prices from Maryville to the Nodaway County PWSD No. 1.

Table 7: Estimated costs for Options 2a and 2b

Cost Component	2a: Only potable water	2b: All water
Pump station (equipment, instrumentation and controls, installation)	$400,000	$1,400,000
Transmission main: 2-4" line, 50 gpm or 12" line, 500 gpm (design, materials, permitting, construction)	$970,000	$4,860,000
Total	**$1,370,000**	**$6,260,000**

Advantages:

- Minimal additional treatment needed by industrial user.
- Minimal need to acquire additional right-of-way.
- Capacity available in PWS.
- Revenue generation for Maryville PWS.

Disadvantages:

- May preclude future industrial or residential growth in Maryville and surrounding area if water demand nears PWS capacity.
- Poor optics over the use of potable water for industrial activities.
- Potable water piping will prevent using the same trench for wastewater piping, should the facility need to send wastewater back to the nearby Maryville WWTF.

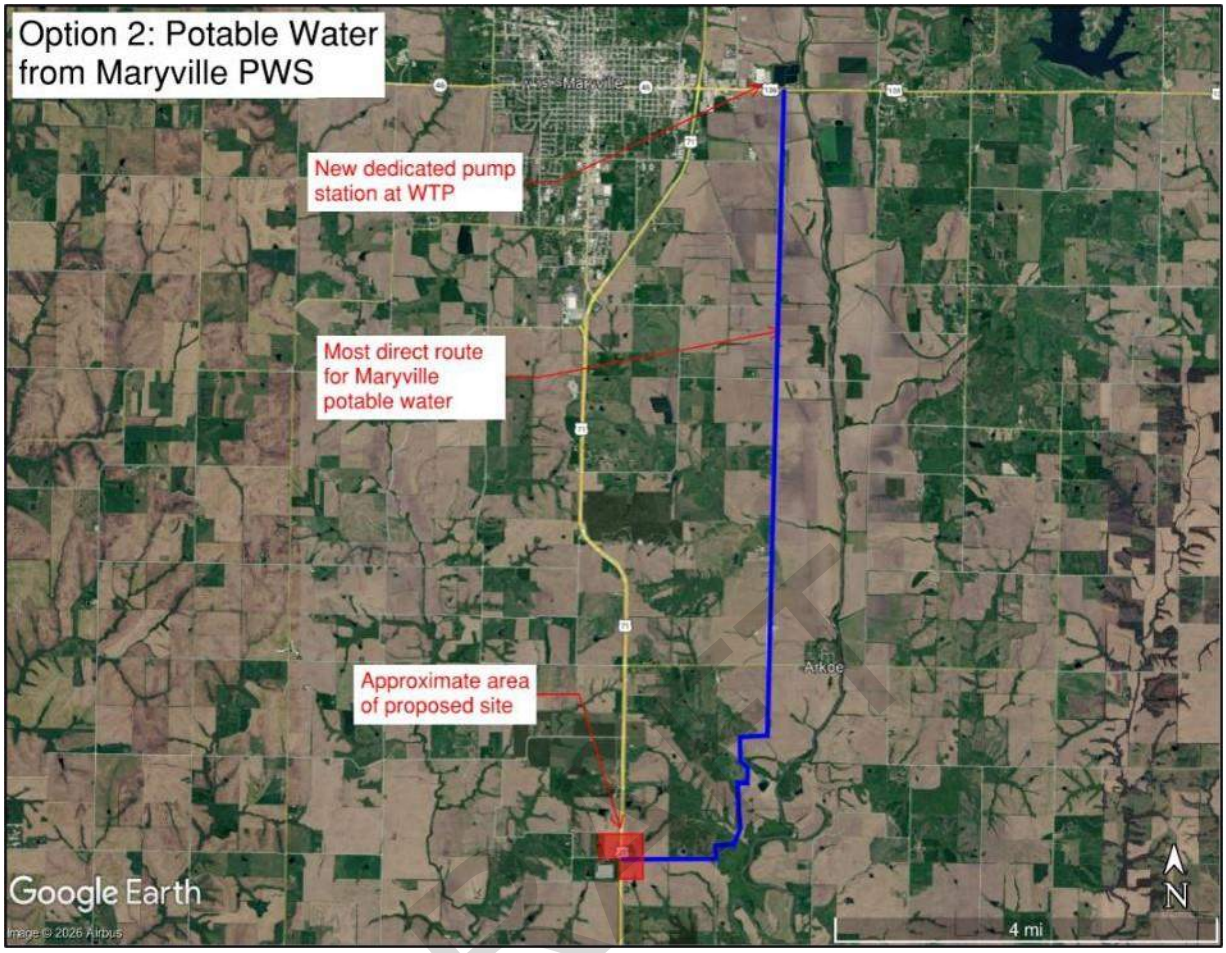

Figure 6: Probable route for conveying potable water from Maryville WTP to proposed project site

5.1.3 Option 3: Onsite Wells

Many users in the area obtain water from wells on their property, though this region of Missouri is noted as having variable groundwater yield due to the thickness of glacial drift in the subsurface. Figure 7 shows how the thickness of this layer (which is where the highest water yields would come from) varies significantly across the region, with the proposed project area in one of the gray areas of lowest water yield.

Though this water source option would incur the lowest capital cost, it is unknown whether local aquifers could even meet the water demands of the industrial user. At this time, the uncertainty around this option renders it infeasible, but additional work of drilling test wells (outside this report's scope) could determine whether the opportunity is realistic.

Costs would be incurred by the industrial user to install wells on the project site, conveyance, and treatment.

Advantages:

- Minimal additional treatment needed by industrial user.
- No need to acquire right-of-way or easements.
- No need for industrial user to coordinate with municipalities or other government entities (other than regulators).
- No off-site pipeline construction required.

Disadvantages:

- Would require test wells and drawdown studies to determine if this option is feasible.
- No additional revenue generation for City of Maryville or Nodaway County PWSD No. 1.
- Poor optics from using potentially scarce groundwater for industrial purposes.
- No backup to another public water system if supplemental water is needed, either due to a drop in quality or quantity of the groundwater.

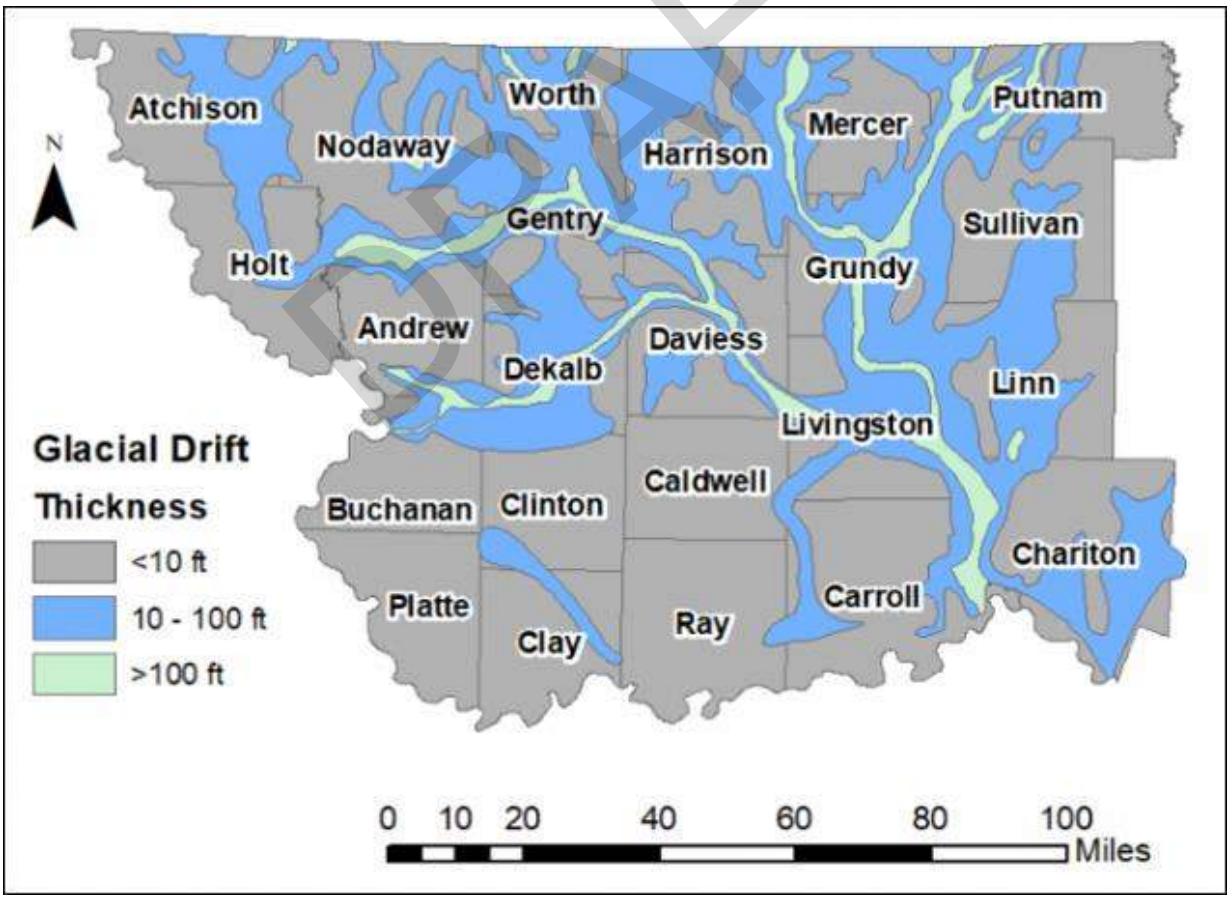

Figure 7: Thickness of Glacial Drift in Northwest Missouri, from MDNR website

5.1.4 Option 4: Effluent from Maryville WWTF

Rather than use treated, potable water from the Maryville or Nodaway County PWS, effluent from the Maryville WWTF (the largest in the county) could be reclaimed for industrial use. This option includes construction of a pump station at the effluent of the Maryville WWTF and force main piping to the proposed industrial site. It is assumed that the industrial user would construct and operate their own water storage buffer (tank or pond) and any treatment required to meet cooling water specifications.

As permitted, the WWTF discharges 2.6 million gallons per day (MGD) as a monthly average, which is enough to cover the site water demands of 12,000 gpd (domestic only), 82,000 gpd (total demand), or 112,000 gpd (future total); an infrequent maximum flow rate of 500,000 gpd would also be possible for the starting fill of the cooling system. The receiving stream – One Hundred and Two River – has a flow range of 100 to 300 cubic feet per second (cfs) under normal conditions, which means the plant effluent (averaging 4 cfs) contributes a small percentage of the total flow and therefore could be fully allocated elsewhere without disrupting ecosystem services.

As with Option 2, this option would require construction of a dedicated pump station and pipeline to convey water to the proposed site, with a probable route shown in Figure 8. This route uses only right-of-way along existing roads and is likely the most direct route.

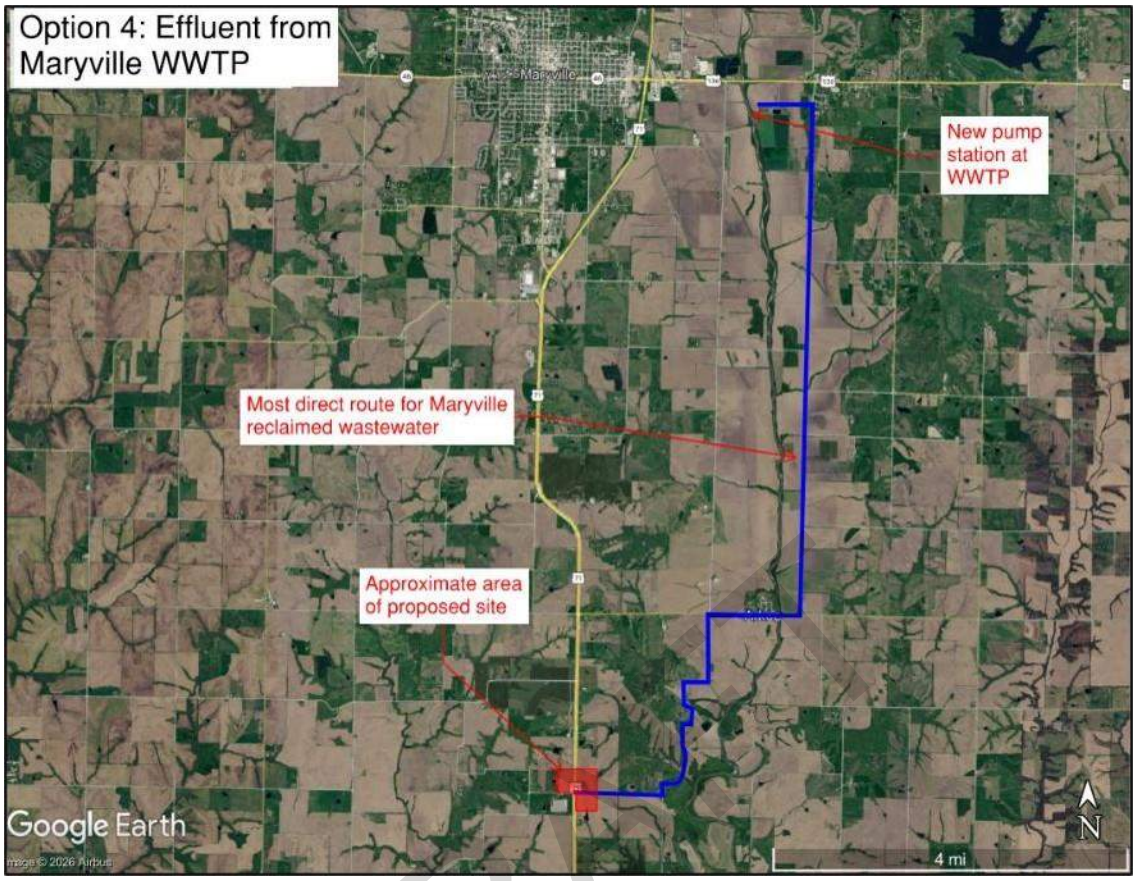

Figure 8: Probable route for conveying effluent from the Maryville WWTF to proposed project site

Maryville WWTF effluent could technically be used to either meet the industrial user's entire water demand or just the demand for potable water, with the assumption that onsite water treatment would have to be installed at the user's expense. However, it is very unlikely that wastewater effluent would only be used as a raw water supply for domestic usage, while industrial water would be supplied by a cleaner source (potable or well water). Additionally, the marginal increase in pump and force main size – between just supplying the industrial water demand versus the whole site demand – is assumed to be small enough not to consider the option of just supplying industrial raw water. Therefore, only this variation of Option 4 is presented in Table 8.

Table 8: Estimated costs for Option 4

Cost Component	Whole water demand
Pump station (wet well, equipment, instrumentation and controls, installation)	$1,400,000
Force main: 12" line, 500 gpm (design, materials, permitting, construction)	$4,950,000
Total	**$6,350,000**

Advantages:

- New source of revenue for Maryville.
- No need to acquire right-of-way or easements.
- Ability to use same trench and right-of-way to send wastewater back to WWTF.
- Better optics for both industrial user and government by avoiding use of fresh or potable water.

Disadvantages:

- More water treatment needed for use as cooling or domestic water.
- Water quality may vary and would be vulnerable to upsets at WWTF.

5.1.5 Option 5: Effluent from Other WWTFs

As an alternative to reclaiming effluent from the Maryville WWTF, the industrial user could follow the same strategy from other area wastewater sources, though multiple sources would be necessary to meet the water demand. The two nearest sources to the proposed site are the ANR Pipeline Company's Maitland Compressor Station and the City of Barnard WWTF, as shown in Figure 9 and with effluent quality and quantity summarized in Table 9.

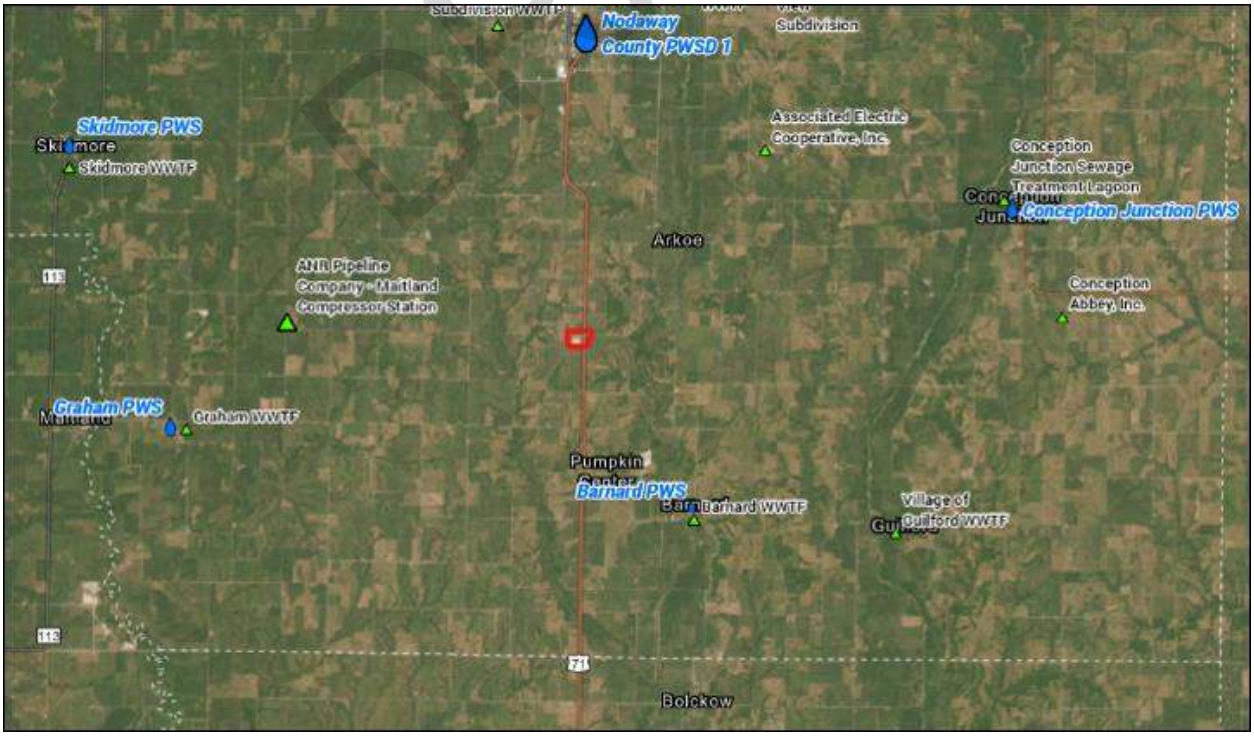

Figure 9: Location of project site shown in red outline, with nearby WWTFs marked with green triangles

Table 9: Historical effluent quality (2021-2025) from the two nearest WWTFs to the proposed project site

Parameter	ANR Compressor Station			Bernard WWTF		
	Min	Avg	Max	Min	Avg	Max
Flow (MGD)	0.0015	0.017	0.24	0.010	0.072	0.72
Flow (gpd)	1,500	17,000	240,000	10,000	72,000	720,000
Oil & grease (mg/)	4.9	5.3	8.9	0.3	1.3	4.0
pH	7.4	8.1	8.9	7.0	7.7	8.68
Total suspended solids (mg/L)	5.0	13.9	46.7	8.5	37.6	102.7
BOD_5 (mg/L)	Not measured			7.0	23.7	54.2
E. coli (#/100mL)	Not measured			28	462	1615
Ammonia-N (mg-L)	Not measured			0.1	10.4	28.5

Given the projected average monthly demand of 70,000 gpd for cooling water, combining both nearby effluent streams (89,000 gpd on average) should be able to meet the site's water requirements, though onsite storage and equalization would be essential due to the possibility that, at minimum flow, even both plants together could not meet site water demand. Since this is a far less certain water supply than Options 1, 2, and 4, this option is not explored further.

5.1.6 Option 6: Surface Water Supply

The nearby One Hundred and Two River, with its flow range of 100-300 cfs (64 to 193 MGD), could easily satisfy even the future total water demand of the proposed industrial facility (0.5 to 0.6 MGD). Using existing rights-of-way to route water to the proposed site would require just over one mile of piping, plus a pump station near the river to draw water; see Figure 10 for a likely route.

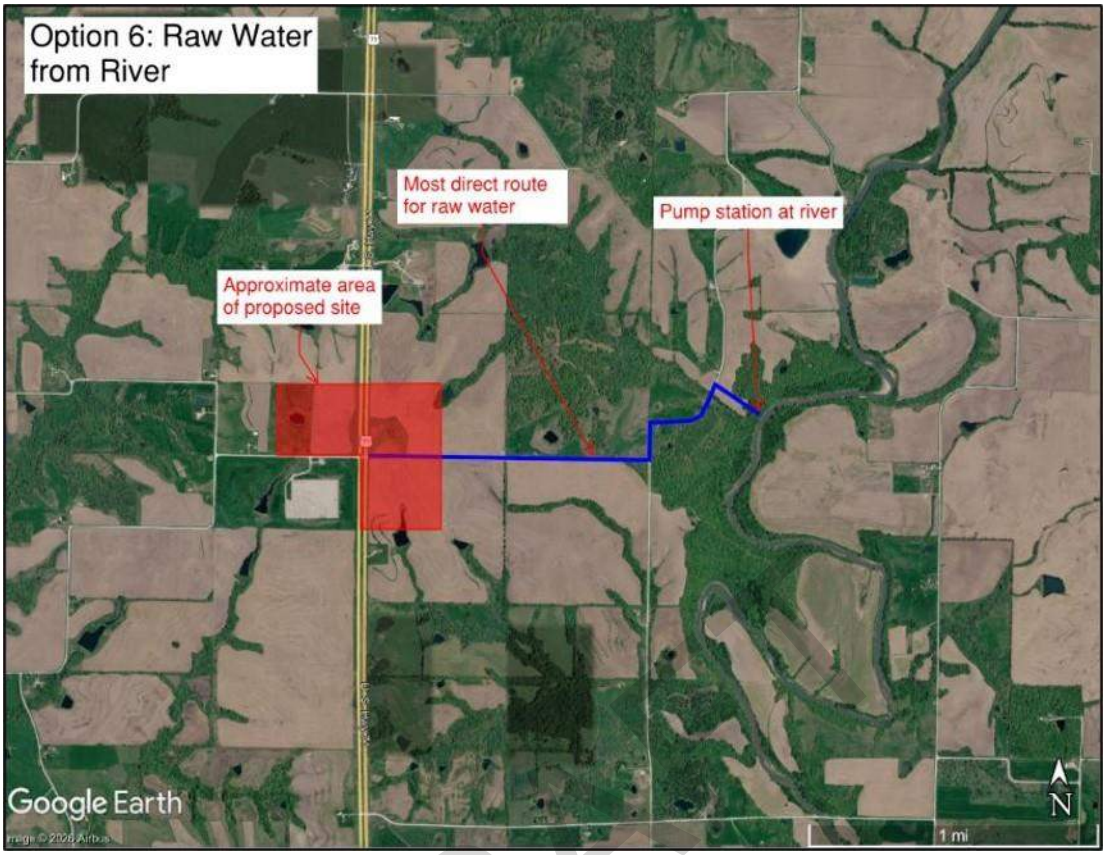

Figure 10: Most likely water supply route from the One Hundred and Two River to industrial site

Water quality data is available through the United States Geologic Service (USGS), with a summary of available data from 2021-2025 shown in Table 10. Parameters not shown were either not measured (such as specific metals) or not relevant (such as barometric pressure).

Table 10: Summary of available water quality data for One Hundred and Two River from 2021 to 2025

Parameter	Minimum	Average	Maximum
Temperature (°C)	0.2	16.7	28.8
Dissolved oxygen (mg/L)	6.6	10.7	17.0
pH	7.3	8.1	9.0
Ammonia (mg/L N)	0.2	0.11	0.40
Total Kjeldahl Nitrogen (mg/L N)	0.5	1.1	5.4
Total phosphorus (mg/L P)	0.07	0.27	1.2
Specific conductivity (µS/cm @ 25°C)	140	390	494
Nitrate (mg/L)	0.1	2.5	4.3
Nitrite (mg/L)	0.003	0.05	0.28

Based on constructing a pump station for raw water intake and a 12" pipeline to the industrial site, the estimated costs of Option 6 are presented in Table 11. Note that these are only the costs for off-site capital costs as paid by the industrial customer. The costs of treatment equipment on the industrial site would be greater due to the higher variability of water quality inherent in a surface water source, and cannot be determined without knowing the required water quality for cooling use, or a full water quality analysis of the surface water. Operational costs may be similar to other options, since there are no water procurement costs beyond pump power, but treatment operating costs (chemicals, power, operations) are expected to be higher relative to treating potable water or treated effluent wastewater.

Table 11: Estimated costs for Option 6

Cost Component	Estimated Cost
Pump station (wet well, equipment, instrumentation and controls, installation)	$1,400,000
Force main: 12" line, 500 gpm (design, materials, permitting, construction)	$500,000
Total	**$1,900,000**

Advantages:

- Minimal right-of-way or easement acquisition.
- Ability to use same trench and right-of-way to discharge wastewater to river, if using that option (next section).
- No unit cost for raw water.
- Short pipeline route from river to site.

Disadvantages:

- Variable water quality and quantity may require increased water treatment, equalization, and/or storage.
- Poor optics of using surface water in a region where droughts have occurred.
- No new source of revenue for Maryville or Nodaway County PWSD No. 1.
- Water availability subject to drought conditions.

5.2 Wastewater Treatment

The proposed industrial user is expected to generate approximately 35,000 gpd of industrial wastewater, which will be concentrated after use in the cooling system. This flow may increase substantially if full build-out is achieved, but assuming the same level of concentration as for initial buildout (70,000 gpd in, 35,000 gpd out), industrial wastewater could be up to 50,000 gpd at the future potential water demand of 100,000

gpd. Note that the high flow requirement for initial system fill (up to 500,000 gpd) does not correspond to a need to discharge a proportional amount of wastewater (250,000). An additional 12,000 gpd of domestic wastewater is expected based on the required input. Both of these streams require treatment before discharge to surface or groundwater.

5.2.1 Option 1: Treat Onsite and Discharge to Surface Water

Other large water users in the area that are far from publicly operated treatment works (POTWs) typically have National Pollutant Discharge Elimination System (NPDES) permits administered through MDNR, requiring some form of treatment –physical, chemical, biological, or a combination – and an outfall to a surface water body. Based on the proposed location of the industrial use, the nearest surface water body would be One Hundred and Two River, the same river that the larger Maryville WWTF discharges to. Figure 11 shows the most direct route from the general area of the proposed industrial use to the river, a distance of about one mile.

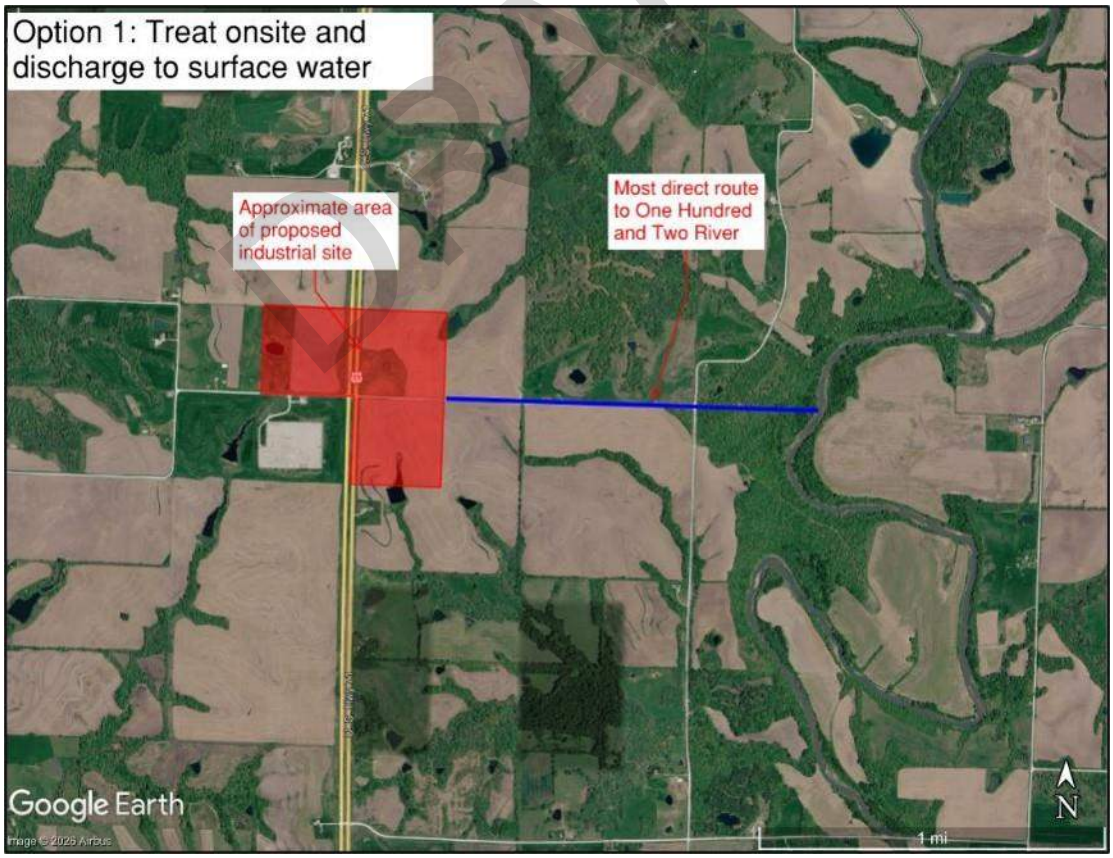

Figure 11: Probable pipe route for discharge to One Hundred and Two River

Evaluation of treatment feasibility is limited because the wastewater quality of the industrial site is unknown and because discharge permit limits depend on the receiving water body and are not set until DNR review. Estimated costs that would be incurred by the industrial user are shown in Table 12, less treatment processes. A pump station and force main are assumed, since, even though gravity discharge may be possible given the overall elevation difference, a detailed study would be required for proper routing to ensure sufficient pipe slope. Note that costs are based on the highest potential flow rate, assuming planning for full build-out, but could be reduced if this ultimate flow rate is not required.

Table 12: Estimated costs for discharge to surface water

Cost Component	Estimated Cost
Pump station (wet well, equipment, instrumentation and controls, installation)	$1,400,000
Force main: 4" line, 50 gpm (design, materials, permitting, construction)	$500,000
Total	**$1,900,000**

Advantages:

- No additional hydraulic or organic capacity required for any area POTW.
- Minimal need to acquire right-of-way or easements.
- Limited coordination required with government entities outside MDNR.
- Nearby receiving water that is used by multiple other POTWs.

Disadvantages:

- Uncertain discharge limits make it difficult to select treatment technology.
- Higher upfront costs.
- Requirement for the industrial user to operate a wastewater treatment plant onsite and maintain a discharge permit.
- No new user fees generated for Maryville WWTF.

5.2.2 Option 2: Send All Raw Wastewater to Maryville WWTF

Rather than construct and operate wastewater treatment onsite, the industrial user could instead send wastewater directly to the nearest POTW, potentially capable of accepting the expected volume to be generated. This would involve constructing a pump station and force main to pipe the wastewater to the Maryville WWTF, though there are multiple technical hurdles that prevent this option from being viable:

- **Hydraulic limitations:** The Maryville WWTF has an average additional capacity of 1.25 MGD based on average daily influent flows (0.75 MGD) and the permitted design flow of 2.0 MGD. However, this does not take into account the daily maximum flow of 5.6 MGD that the plant must also handle in its lagoons, so incorporating significant additional influent flow would require a more detailed hydraulic analysis of the mechanical and lagoon portions of the WWTF.
- **Pretreatment requirements:** Though it would save the industrial user on capital costs (CapEx) to not construct any onsite treatment, the ongoing operational costs (OpEx) of paying industrial pretreatment surcharges may compensate for those savings. The required influent water quality for industrial wastewater was discussed in the Organic Capacity Determination section, and since the water quality of the industrial facility's effluent is unknown, this ongoing cost cannot be determined at this point.

The pump station and force main required for sending wastewater to Maryville WWTF would likely be borne by the industrial user, with costs shown in Table 13. Note that the costs shown in Table 13 is the same as with Option 4 for water supply because the flow rate and pipeline route are the same.

Table 13: Estimated costs for sending all industrial site wastewater to the Maryville WWTF

Cost Component	Estimated Cost
Pump station (wet well, equipment, instrumentation and controls, installation)	$400,000
Force main: 4" line, 50 gpm (design, materials, permitting, construction)	$970,000
Total	**$1,370,000**

Advantages:

- Minimal need to acquire right-of-way or easements.
- No discharge permit required.
- No capital costs for onsite treatment plant.
- Industrial user does not have to run a treatment plant, just a pump station.
- New sewer customer for City of Maryville.
- Construction could potentially benefit from including raw water supply line from either the Maryville WTP or WWTF.

Disadvantages:

- Uncertain capacity for flow or pollutants at Maryville WWTF; would need in-depth evaluation once effluent quality and quantity are determined.
- Potentially high operating costs for industrial user from industrial pretreatment surcharges on untreated wastewater.

5.2.3 Option 3: Send Domestic Wastewater to Maryville WWTF

Similar to Option 2, a pump station and force main would convey sewage to the Maryville WWTF, but in this case, only the expected 12,000 gpd of domestic sewage. Unlike the larger flow of total industrial wastewater, the site's domestic wastewater is very likely to fit within the WWTF's hydraulic and organic capacity. This option assumes that the industrial user would either treat and discharge the spent cooling water, dispose of it onsite through evaporation, reuse, or deep-well injection, or transport off-site for other disposal. Figure 12 shows the route a force main would most likely take for both this option and Option 2.

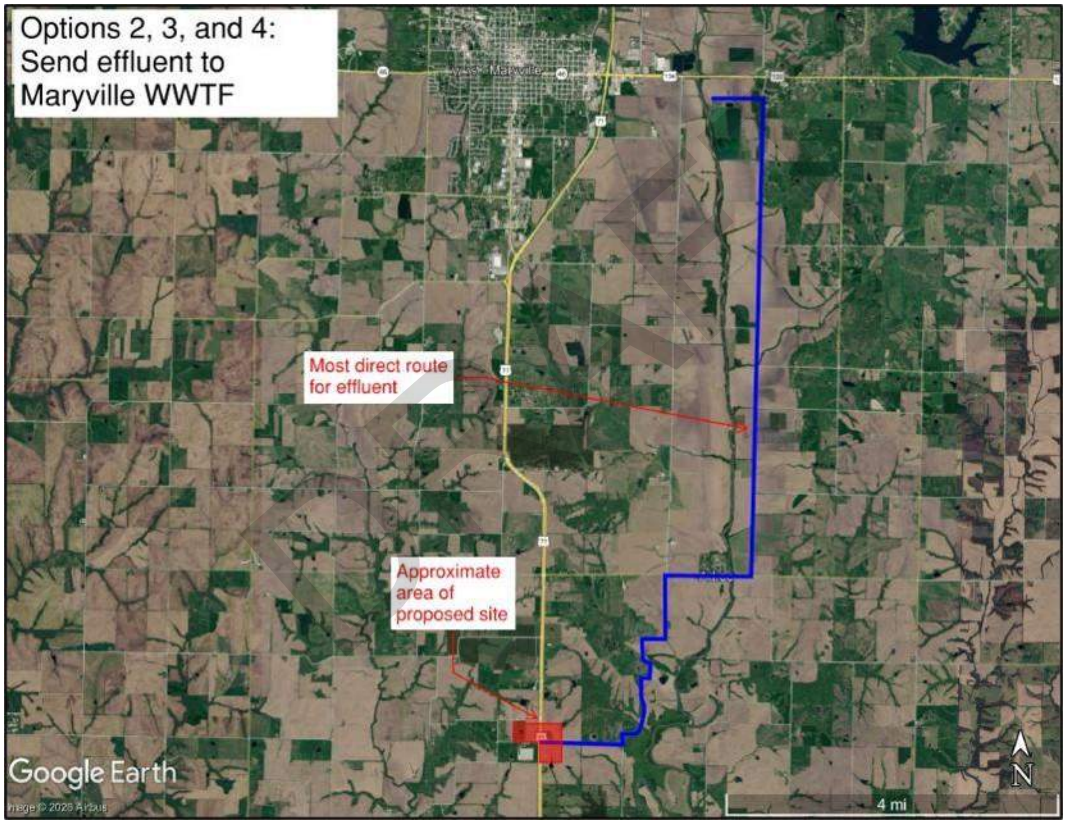

Figure 12: Most likely route of pipeline to convey wastewater from industrial site to Maryville WWTF

Cost assumptions are the same as for Option 2, with both the pump station and force main paid for by the industrial user; costs are shown in Table 14.

Table 14: Estimated costs for sending domestic wastewater to the Maryville WWTF

Cost Component	Estimated Cost
Pump station (wet well, equipment, instrumentation and controls, installation)	$300,000
Force main: 2" line, 20 gpm (design, materials, permitting, construction)	$870,000
Total	**$1,170,000**

Advantages:

- Minimal need to acquire right-of-way or easements.
- No discharge permit required for domestic wastewater.
- No capital costs for installing treatment plant for domestic wastewater
- New sewer customer for City of Maryville.
- Construction could potentially benefit from including raw water supply line from either the Maryville WTP or WWTF.
- Maryville WWTF can handle both the hydraulic and organic load.

Disadvantages:

- Does not address the much larger flow of industrial wastewater from the site, which may incur high costs for management.
- Not as cost effective to install just a small-diameter pipeline without piggybacking on other utility lines in the same or nearby trenches.

5.2.4 Option 4: Send Pretreated Wastewater to Maryville WWTF

Since there is uncertainty over the quality and quantity of wastewater generated at the proposed industrial site, as well as potential discharge permit limits, it is not possible to determine what type of treatment would be needed to either meet an NPDES permit or how much of an industrial surcharge fee would be levied on untreated wastewater sent to the Maryville WWTF. Therefore, this "middle option" of pretreating all site-generated wastewater prior to sending to the Maryville WWTF aims to increase certainty around lifecycle costs. The industrial user would be required to treat onsite-generated wastewater to at least the quality required for influent industrial wastewater per the City's pretreatment program, as shown in Table 5, though required BOD removal levels will not be known until this option is evaluated by the City's pretreatment coordinator. Pretreated wastewater would then be conveyed from a pump station through a force main to the Maryville WWTF for further processing; see Figure 8 for the proposed alignment.

As with the previous two options presented, Option 4 assumes the pump station and force main would be paid for by the industrial user.

Table 15: Estimated costs for sending pretreated wastewater to the Maryville WWTF

Cost Component	Estimated Cost
Pump station (wet well, equipment, instrumentation and controls, installation)	$400,000
Force main: 4" line, 50 gpm (design, materials, permitting, construction)	$950,000
Total	**$1,350,000**

Advantages:

- Minimal need to acquire right-of-way or easements.
- No surface water discharge permit required, though industrial pretreatment permit is required.
- New sewer customer for City of Maryville.
- Construction could potentially benefit from including raw water supply line from either the Maryville WTP or WWTF.
- More manageable organic loading for WWTF to handle, though hydraulic loading needs further evaluation.

Disadvantages:

- Capital cost to industrial user to install onsite pretreatment and conveyance infrastructure.
- Cannot combine potable water and wastewater piping in the same trench.

5.2.5 Option 5: Send Wastewater to New WWTF

As an alternative to sending the site's wastewater north to Maryville, a force main could instead be run to the Barnard area, which is closer (approximately 6.5 miles versus 11 miles). The current Barnard WWTF is a lagoon system with a design flow of 26,000 gpd, but actual flow closer to 50,000 gpd. With no capacity left at the WWTF, a new plant would be required to treat the wastewater of both the industrial site and the City of Barnard. A joint venture between the two entities could be formed to design, construct, and operate a new WWTF that would accommodate both flows, and there is precedent in Missouri for this arrangement: a new mechanical plant is nearing completion near Wright City (near St Louis) that is being financed and constructed in collaboration with America's Heartland Packing, which operates a new facility just east of the city. This new plant will treat mostly industrial wastewater from the packing facility, but also enable compliance with stricter discharge permits for the municipality as well. Figure 13 shows the most likely route from the industrial site to the current location of the Barnard lagoons, assuming that any new mechanical plant will be nearby to take advantage of existing hydraulics.

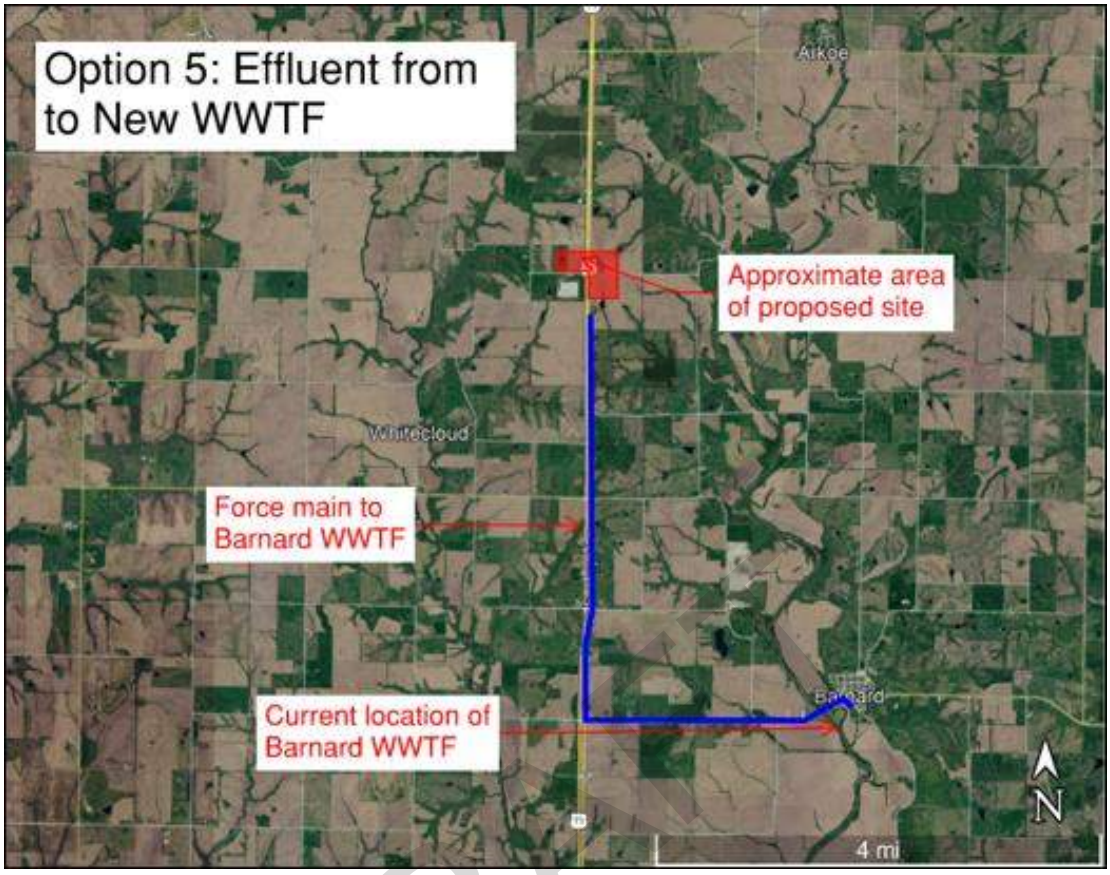

Figure 13: Most likely route to potential site of new Barnard WWTF

Combining the current wastewater flow of Barnard (assumed to stay at 50,000 gpd based on population growth trends) and the full build-out flow of the industrial user (50,000 gpd), a new plant would need at least 0.1 MGD of capacity, but will be rounded up to 0.5 MGD given the possibility of other new industrial development in the area. Based on the EPA's *Cost and Performance Estimation Approaches for the Individual Lagoon Tool and Small Community Economic Streamlining Tool* (2025), a 0.5-MGD mechanical plant to replace an existing lagoon system is expected to cost approximately $6,000,000 to $7,000,000 in capital expenses, for biological treatment based on oxidation ditches or a sequencing batch reactor, respectively. Given the uncertainty of what is required for these combined wastewater streams, the high end of the CapEx is assumed for this report. Costs for this option are summarized in Table 13; as with other options, these costs would be reduced if the effluent flow never reaches full build-out levels. Additionally, the party responsible for each cost would require further collaboration and negotiation between the industrial user and the City of Barnard.

Table 16: Estimated costs for sending wastewater to a new WWTF

Cost Component	Cost
Mechanical treatment plant (0.5 MGD), sequencing batch reactors	$7,000,000
Pump station (wet well, equipment, instrumentation and controls, installation)	$400,000
Force main: 4" line, 50 gpm (design, materials, permitting, construction)	$640,000
Total	**$8,040,000**

6 Recommended Project Alternative Summary and Justification

The industrial user will need both raw water supply and wastewater management, so the recommended alternative combines options from both components:

- Water Supply Option 1: Potable water from Nodaway County PWSD No. 1
- Water Supply Option 4: Treated effluent from Maryville WWTF
- Wastewater Treatment Option 4: Send pretreated industrial wastewater to Maryville WWTF

Other options are technically viable, such as obtaining potable water from a PWS or having the industrial user treat their own wastewater and discharge to surface water, but a few key issues influenced the recommendation above:

- Though a potable water line could share the same route as a wastewater or reclaimed water line, these services require separation: either 10 ft of horizontal separation or, if approved by MDNR, vertical separation with concrete encasement to ensure no communication between the two services. This means that force main construction would not be able to take advantage of the economies of scale otherwise afforded by combining pipe routes; instead, a larger trench or more expensive installation would undercut any other savings. This conflict disfavors any combination of potable and effluent water from Maryville.
- Potential future population growth and public optics considerations could come into conflict with using treated potable water for this new industrial use. The same situation applies to ground and surface water, since the area is prone to droughts per the U.S. Drought Monitor (available through the University of Nebraska-Lincoln).
- Constructing a new WWTF would likely be the most expensive possible option, unattractive to whichever party has to fund it.

Figure 14 shows the conceptual overall water recommendation with the three combined options.

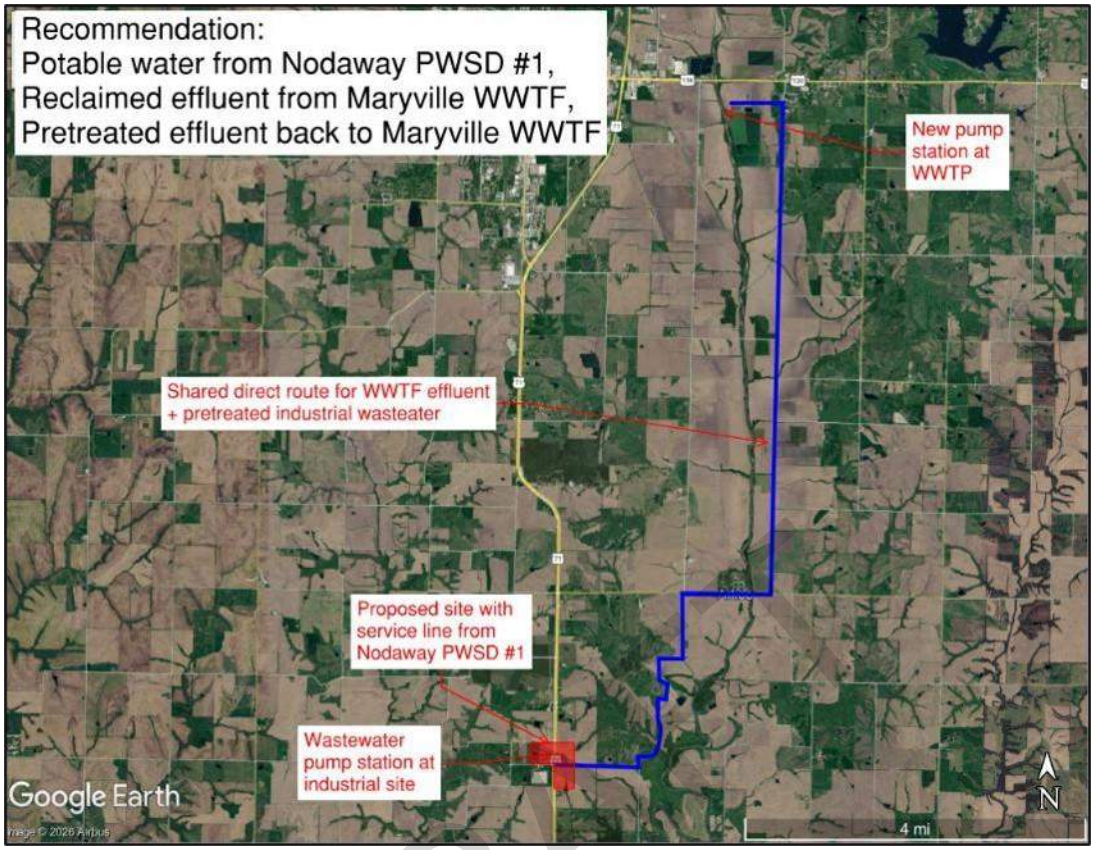

Figure 14: Conceptual water system for industrial site

7 NEXT STEPS

To further refine the scope and costs of a water system for the proposed new industrial facility in Nodaway County, the following is recommended:

- Discussion between Nodaway County PWSD No. 1, the City of Maryville, and the industrial user to determine who pays for which components of the system, how any cost share may work, and how funding responsibilities may affect water and sewer rates.
- Estimation of projected water quality for the industrial user to determine the extent and estimate costs of pretreatment required onsite.
- Evaluation of non-measured water quality parameters at the Maryville WWTF that may be in higher-than-normal concentrations in the industrial wastewater, such as hardness, alkalinity, and any other metals or nutrients that can be concentrated in cycled cooling water. This will help further refine required pretreatment at the site beyond treatment of compliance-based pollutants.
- Finalization of industrial water demand, both quality and quantity. If any phasing is expected, this must be determined prior to sizing pipes, pump stations, and water treatment.

Leaving a Legacy

Appendix A

Maryville Wastewater Discharge Permit

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-0033286
Owner:	City of Maryville
Address:	415 North Market Street, Maryville, MO 64468
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	Maryville Wastewater Treatment Plant
Facility Address:	29600 Highway 136, Maryville, MO 64468
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

See Page 2

This permit authorizes only wastewater and 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 Section 621.250 RSMo, Section 640.013 RSMo and Section 644.051.6 of the Law.

February 1, 2018
Effective Date

August 1, 2018
Modification Date

Edward B. Galbraith, Director, Division of Environmental Quality

September 30, 2022
Expiration Date

Chris Wieberg, Director, Water Protection Program

FACILITY DESCRIPTION (continued):

Outfall #001 – POTW – SIC #4952
The use or operation of this facility shall be by or under the supervision of a Certified "B" Operator.
Influent lift station / four-cell flow equalization basin / manual bar screen / mechanical fine screen / vortex grit chamber / aeration basin / two (2) final clarifiers / UV disinfection / effluent reaeration / sludge storage basin / sludge is land applied.

Design population equivalent is 20,000.
Design flow is 2.0 MGD.
Actual flow is 1.8 MGD.
Design sludge production is 290 dry tons/year.

Legal Description:	Sec. 22, T64N, R35W, Nodaway County
UTM Coordinates:	X= 344578, Y= 4467097
Receiving Stream:	One Hundred and Two River (P)
First Classified Stream and ID:	One Hundred and Two River (P) (342)
USGS Basin & Sub-watershed No.:	(10240013-0304)

Permitted Feature SM1 – Instream Monitoring
Instream monitoring location – Upstream – See Special Condition #23

Legal Description:	Sec. 22, T64N, R35W, Nodaway County
Receiving Stream and ID:	One Hundred and Two River (P) (342)
USGS Basin & Sub-watershed No.:	(10240013-0304)

Permitted Feature SM2 – Instream Monitoring
Instream monitoring location – Downstream – near the southwest corner of flow equalization basins

Legal Description:	Sec. 22, T64N, R35W, Nodaway County
UTM Coordinates:	X= 344741, Y= 4466049
Receiving Stream and ID:	One Hundred and Two River (P) (342)
USGS Basin & Sub-watershed No.:	(10240013-0304)

OUTFALL #001	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 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 PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow	MGD	*		*	once/day	24 hr. total
Biochemical Oxygen Demand$_5$	mg/L		45	30	once/week	composite**
Total Suspended Solids	mg/L		45	30	once/week	composite**
E. coli (Note 1)	#/100mL		1,030	206	once/week	grab
Ammonia as N (Apr 1 – Sep 30) (Oct 1 – Mar 31)	mg/L	* 12.4		* 2.6	once/month	grab

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.

EFFLUENT PARAMETER(S)	UNITS	MINIMUM		MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH – Units ***	SU	6.0		9.0	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2018.

EFFLUENT PARAMETER(S)	UNITS	MONTHLY AVERAGE MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Biochemical Oxygen Demand$_5$ – Percent Removal (Note 2)	%	85	once/month	calculated
Total Suspended Solids – Percent Removal (Note 2)	%	85	once/month	calculated

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE MARCH 28, 2018.

* Monitoring requirement only.
** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
*** pH is measured in pH units and is not to be averaged.

Note 1 - Effluent limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean. The Weekly Average for *E. coli* will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

Note 2 – Influent sampling is not required when the facility does not discharge effluent during the reporting period. Samples are to be collected prior to any treatment process. Percent Removal is calculated by the following formula: [(Influent –Effluent) / Influent] x 100% = Percent Removal. The Monthly Average Minimum Percent Removal is to be reported as the average of all daily calculated removal efficiencies. Influent samples are to be collected as a 24-hour composite sample, composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.

OUTFALL #001	TABLE A-2 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 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 PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Oil & Grease	mg/L	15		10	once/quarter****	grab
Total Phosphorus	mg/L	*		*	once/quarter****	grab
Total Nitrogen	mg/L	*		*	once/quarter****	grab
Cyanide, Amenable to Chlorination (Note 3)	µg/L	< 10		< 10	once/quarter****	composite**
Cadmium, Total Recoverable	µg/L	*		*	once/quarter****	composite**
Copper, Total Recoverable	µg/L	22.4		11.2	once/quarter****	composite**
Lead, Total Recoverable	µg/L	11.2		5.6	once/quarter****	composite**
Zinc, Total Recoverable	µg/L	183.6		91.5	once/quarter****	composite**

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2018.

* Monitoring requirement only.
** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
**** See table below for quarterly sampling requirements.

Quarterly Minimum Sampling Requirements

Quarter	Months	Requirement	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

Note 3 – The water quality based effluent limit for Cyanide, Amenable to Chlorination was calculated to be 9.5 µg/L as a daily maximum and 4.8 µg/L as a monthly average. These limits are below the minimum quantification level (ML). The Department has determined the current acceptable ML of Cyanide amenable to chlorination to be 10 µg/L when using SM 4500-CN^-G. Cyanides Amenable to Chlorination after Distillation in *Standard Methods for the Examination of Water and Wastewater*, 22nd Edition. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 10 µg/L will be considered violations of the permit and values less than the minimum quantification level of 10 µg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of Cyanide in excess of the effluent limits stated in the permit.

OUTFALL #001	TABLE A-3 WHOLE EFFLUENT TOXICITY 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 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 PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Acute Whole Effluent Toxicity (Note 4)	TU_a	*			once/year	composite**
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE MARCH 28, 2018.						
Chronic Whole Effluent Toxicity (Note 5)	TU_c	*			once/permit cycle	composite**
WET TEST REPORTS SHALL BE SUBMITTED ONCE PER PERMIT CYCLE; THE FIRST REPORT IS DUE MARCH 28, 2021.						

PERMITTED FEATURE SM1	TABLE B-1 INSTREAM MONITORING REQUIREMENTS

The monitoring requirements shall become effective on **February 1, 2018** and remain in effect until expiration of the permit. The stream shall be monitored by the permittee as specified below:

PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM		MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Total Phosphorus	mg/L	*		*	once/quarter****	grab
Total Nitrogen	mg/L	*		*	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2018.						

PERMITTED FEATURE SM2	TABLE B-2 INSTREAM MONITORING REQUIREMENTS

The monitoring requirements shall become effective on **February 1, 2018** and remain in effect until expiration of the permit. The stream shall be monitored by the permittee as specified below:

PARAMETER(S)	UNITS	MONITORING REQUIREMENTS				
		DAILY MAXIMUM		MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Hardness, Total	mg/L	*		*	once/quarter****	grab
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE APRIL 28, 2018.						

* Monitoring requirement only.
** A 24-hour composite sample is composed of 48 aliquots (subsamples) collected at 30 minute intervals by an automatic sampling device.
**** See table on Page 4 for quarterly sampling requirements.

Note 4 – The Acute WET test shall be conducted once per year during the 1st, 2nd, 3rd, and 5th year of the permit cycle. See Special Condition #21 for additional requirements.

Note 5 –The Chronic WET test shall be conducted during the 4th year of the permit cycle. See Special Condition #22 for additional requirements.

C. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Parts I, II, & III standard conditions dated August 1, 2014, May 1, 2013, and March 1, 2015, and hereby incorporated as though fully set forth herein.

D. SPECIAL CONDITIONS

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) Collection System Maintenance Annual Reports;
      (2) Sludge/Biosolids Annual Reports;
         i. In addition to the annual Sludge/Biosolids report submitted to the Department, the permittee must submit Sludge/Biosolids Annual Reports electronically using EPA's NPDES Electronic Reporting Tool ("NeT") (https://cdx.epa.gov/).
      (3) Pretreatment Program Reports; and
      (4) 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); and
      (4) Bypass reporting, See Special Condition #11 for 24-hr. bypass reporting requirements.
   (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 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 Clean Water Act (CWA) section 402(k); however, this permit may be reopened and modified, or alternatively revoked and reissued:
   (a) 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 CWA, if the effluent standard or limitation so issued or approved:
      (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
      (2) controls any pollutant not limited in the permit.
   (b) To incorporate an approved pretreatment program pursuant to 40 CFR 403.8(a).

3. All outfalls must be clearly marked in the field. This does not include instream monitoring locations.

4. Permittee will cease discharge by connection to a facility with an area-wide management plan per 10 CSR 20-6.010(3)(B) within 90 days of notice of its availability.

5. Report as no-discharge when a discharge does not occur during the report period. For instream samples, report as "no flow" if no stream flow occurs during the report period.

D. SPECIAL CONDITIONS (continued)

6. Changes in existing pollutants or the addition of new pollutants to the treatment facility
The permittee must provide adequate notice to the Director of the following:
   (a) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and
   (b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
   (c) For purposes of this paragraph, adequate notice shall include information on;
      (1) the quality and quantity of effluent introduced into the POTW, and
      (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

7. 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 provide the "Non-Detect" sample 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 method 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).

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

9. The permittee shall comply with any applicable requirements listed in 10 CSR 20-9. The permittee has been granted approval for an alternative operational monitoring schedule in accordance with 10 CSR 20-9.010(3). This approval is limited to operational monitoring parameters listed in the table below and does not apply to the certified operator requirements of 10 CSR 20-9.020. Applicable operational monitoring parameters with alternate frequencies for this facility are:

Operational Monitoring Parameter	Adjusted Frequency
Weather Conditions – Ambient Temperature, Cloud Cover, and Precipitation	Weekdays
pH – Influent	Weekdays
Settleability – Mixed Liquor	Weekdays
Dissolved Oxygen – Mixed Liquor	Weekdays

10. The permittee shall develop and implement a program for maintenance and repair of the collection system. The recommended guidance is the US EPA's Guide for Evaluating Capacity, Management, Operation, And Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (Document number EPA 305-B-05-002) or the Departments' CMOM Model located at http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc. For additional information regarding the Departments' CMOM Model, see the CMOM Plan Model Guidance document at http://dnr.mo.gov/pubs/pub2574.htm.

The permittee shall also submit a report via the Electronic Discharge Monitoring Report (eDMR) Submission System annually, by January 28th, for the previous calendar year. The report shall contain the following information:
   (a) A summary of the efforts to locate and eliminate sources of excessive infiltration and inflow into the collection system serving the facility for the previous year.
   (b) A summary of the general maintenance and repairs to the collection system serving the facility for the previous year.
   (c) A summary of any planned maintenance and repairs to the collection system serving the facility for the upcoming calendar year. This list shall include locations (GPS, 911 address, manhole number, etc.) and actions to be taken.

D. SPECIAL CONDITIONS (continued)

11. Bypasses are not authorized at this facility unless they meet the criteria in 40 CFR 122.41(m). If a bypass occurs, the permittee shall report in accordance to 40 CFR 122.41(m)(3), and with Standard Condition Part I, Section B, subsection 2.b. Bypasses are to be reported to the Kansas City Regional Office during normal business hours or by using the online Sanitary Sewer Overflow/Facility Bypass Application located at: http://dnr.mo.gov/modnrcag/ or the Environmental Emergency Response spill-line at 573-634-2436 outside of normal business hours. Once an electronic reporting system compliant with 40 CFR Part 127, the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, is available all bypasses must be reported electronically via the new system. Blending, which is the practice of combining a partially-treated wastewater process stream with a fully-treated wastewater process stream prior to discharge, is not considered a form of bypass. If the permittee wishes to utilize blending, the permittee shall file an application to modify this permit to facilitate the inclusion of appropriate monitoring conditions.

12. The facility must be sufficiently secured to restrict entry by children, livestock and unauthorized persons as well as to protect the facility from vandalism.

13. At least one gate must be provided to access the wastewater treatment facility and provide for maintenance and mowing. The gate shall remain closed except when temporarily opened by the permittee to access the facility to perform operational monitoring, sampling, maintenance, or mowing. The gates shall also be temporarily opened for inspections by the Department. The gate shall be closed and locked when the facility is not staffed.

14. At least one (1) warning sign shall be placed on each side of the facility enclosure in such positions as to be clearly visible from all directions of approach. There shall also be one (1) sign placed for every five hundred feet (500') (150 m) of the perimeter fence. A sign shall also be placed on each gate. Minimum wording shall be SEWAGE TREATMENT FACILITY—KEEP OUT. Signs shall be made of durable materials with characters at least two inches (2") high and shall be securely fastened to the fence, equipment or other suitable locations.

15. An Operation and Maintenance (O & M) manual shall be maintained by the permittee and made available to the operator. The O & M manual shall include key operating procedures and a brief summary of the operation of the facility.

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

17. The discharge from the wastewater treatment facility shall be conveyed to the receiving stream via a closed pipe or a paved or rip-rapped open channel. Sheet or meandering drainage is not acceptable. The outfall sewer shall be protected against the effects of floodwater, ice or other hazards as to reasonably insure its structural stability and freedom from stoppage. The outfall shall be maintained so that a sample of the effluent can be obtained at a point after the final treatment process and before the discharge mixes with the receiving waters.

18. Land application of biosolids shall be conducted in accordance with Standard Conditions III and a Department approved biosolids management plan. Land application of biosolids during frozen, snow covered, or saturated soil conditions in accordance with the additional requirements specified in WQ426 shall occur only with prior approval from the Department.

19. The berms of the storage basins shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.

20. The facility shall ensure that adequate provisions are provided to prevent surface water intrusion into the storage basins and to divert stormwater runoff around the basins and protect embankments from erosion.

D. SPECIAL CONDITIONS (continued)

21. Acute Whole Effluent Toxicity (WET) tests shall be conducted as follows:
    (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the acute toxicity of NPDES effluents are found in the most recent edition of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/821/R-02/012; Table IA, 40 CFR Part 136). The permittee shall concurrently conduct 48-hour, static, non-renewal toxicity tests with the following species:
        - The fathead minnow, *Pimephales promelas* (Acute Toxicity EPA Test Method 2000.0).
        - The daphnid, *Ceriodaphnia dubia* (Acute Toxicity EPA Test Method 2002.0).
    (b) Chemical and physical analysis of the upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
    (c) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
    (d) The Allowable Effluent Concentration (AEC) for this facility is 98% with the dilution series being: 100%, 50%, 25%, 12.5%, and 6.25%.
    (e) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
    (f) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of acute toxic units ($TU_a = 100/LC_{50}$) reported according to the test methods manual chapter on report preparation and test review. The Lethal Concentration 50 Percent (LC_{50}) is the effluent concentration that would cause death in 50 percent of the test organisms at a specific time.

22. Chronic Whole Effluent Toxicity (WET) tests shall be conducted as follows:
    (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the most recent edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013; Table IA, 40 CFR Part 136).* The permittee shall concurrently conduct 7-day, static, renewal toxicity tests with the following species:
        - The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
        - The daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
    (b) Chemical and physical analysis of the upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
    (c) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
    (d) The Allowable Effluent Concentration (AEC) is 86%, the dilution series is: 86%, 43%, 21.5%, 10.75%, and 5.38%.
    (e) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.
    (f) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of chronic toxic units ($TU_c = 100/IC_{25}$) reported according to the *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* chapter on report preparation and test review. The 25 percent Inhibition Effect Concentration (IC_{25}) is the toxic or effluent concentration that would cause 25 percent reduction in mean young per female or in growth for the test populations.

23. Receiving Water Monitoring Conditions:
    (a) Downstream receiving water samples should be taken at the location(s) specified on Page 2 of this permit. In the event that a safe, accessible location is not present at the location(s) listed, a suitable location can be negotiated with the Department. Samples should be taken at least four feet from the bank or from the middle of the stream (whichever is less) and 6-inches below the surface if possible. The upstream receiving water sample should be collected at a point upstream from any influence of the effluent, where the water is visibly flowing down stream.
    (b) When conducting in-stream monitoring, the permittee shall record observations that include: the time of day, weather conditions, unusual stream characteristics (e.g., septic conditions, algae growth, etc.), the stream segment (e.g., riffle, pool or run) from where the sample was collected. These observations shall be submitted with the sample results.
    (c) Samples shall not be collected from areas with especially turbulent flow, still water or from the stream bank, unless these conditions are representative of the stream reach or no other areas are available for sample collection. Sampling should not be made when significant precipitation has occurred recently. The sampling event should be terminated and rescheduled if any of the following conditions occur:
        - If turbidity in the stream increases notably; or
        - If rainfall over the past two weeks exceeds 2.5 inches or exceeds 1 inch in the last 24 hours
    (d) Always use the correct sampling technique and handling procedure specified for the parameter of interest. Please refer to the latest edition of Standard Methods for the Examination of Water and Wastewater for further discussion of proper sampling techniques. All analyses must be conducted in accordance with an approved EPA method. Meters shall be calibrated immediately (within 1 hour) prior to the sampling event.

D. SPECIAL CONDITIONS (continued)

24. Stormwater Pollution Prevention Plan (SWPPP): A SWPPP must be implemented upon permit issuance. Through implementation of the SWPPP, the permittee shalt minimize the release of pollutants in stormwater from the facility to the waters of the state. The SWPPP shall be developed in consultation with the concepts and methods described in the following document: 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.
    (a) The SWPPP must identify any stormwater outfall from the facility and Best Management Practices (BMPs) used to prevent or reduce the discharge of contaminants in stormwater. The stormwater outfalls shall either be marked in the field or clearly marked on a map and maintained with the SWPPP.
    (b) The SWPPP must include a schedule and procedures for a once per month routine site inspection.
        (1) The monthly routine inspection shall be documented in a brief written report, which shall include:
            i. The person(s) conducting the inspection.
            ii. The inspection date and time.
            iii. Weather information for the day of the inspection.
            iv. Precipitation information for the entire period since the last inspection.
            v. Description of the discharges observed, including visual quality of the discharges (sheen, turbid, etc.).
            vi. Condition of BMPs
            vii. If BMPs were replaced or repaired.
            viii. Observations and evaluations of BMP effectiveness.
        (2) Any deficiency observed during the routine inspection must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report.
        (3) The routine inspection reports must be kept onsite with the SWPPP and maintained for a period of five (5) years.
        (4) The routine inspection reports shall be made available to Department personnel upon request.
    (c) The SWPPP must include a schedule and procedures for a once per year comprehensive site inspection.
        (1) The annual comprehensive inspection shall be documented in a written report, which shall include:
            i. The person(s) conducting the inspection.
            ii. The inspection date and time.
            iii. Findings from the areas of your facility that were examined;
            iv. All observations relating to the implementation of your control measures including:
                1. Previously unidentified discharges from the site,
                2. Previously unidentified pollutants in existing discharges,
                3. Evidence of, or the potential for, pollutants entering the drainage system;
                4. Evidence of pollutants discharging to receiving waters at all facility outfall(s), and the condition of and around the outfall, and
                5. Additional control measures needed to address any conditions requiring corrective action identified during the inspection.
            v. Any required revisions to the SWPPP resulting from the inspection;
            vi. Any incidence of noncompliance observed or a certification stating that the facility is in compliance with Special Condition D.25.
        (2) Any deficiency observed during the comprehensive inspection must be corrected within seven (7) days and the actions taken to correct the deficiencies shall be included with the written report.
        (3) The comprehensive inspection reports must be kept onsite with the SWPPP and maintained for a period of five (5) years.
        (4) The comprehensive inspection reports shall be made available to Department personnel upon request.
    (d) The SWPPP must be kept on-site and should not be sent to the Department unless specifically requested.
    (e) The SWPPP must be reviewed and updated at a minimum once per permit cycle, as site conditions or control measures change.

D. SPECIAL CONDITIONS (continued)

25. The permittee shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP. Permittee shall adhere to the following minimum Best Management Practices (BMPs):
    (a) Minimize the exposure of industrial material storage areas, loading and unloading areas, dumpsters and other disposal areas, maintenance activities, and fueling operations to rain, snow, snowmelt, and runoff, by locating industrial materials and activities inside or protecting them with storm resistant coverings, if warranted and practicable.
    (b) Provide good housekeeping practices on the site to prevent potential pollution sources from coming into contact with stormwater and provide collection facilities and arrange for proper disposal of waste products, including sludge.
    (c) Implement a maintenance program to ensure that the structural control measures and industrial equipment is kept in good operating condition and to prevent or minimize leaks and other releases of pollutants.
    (d) Prevent or minimize the spillage or leaks of fluids, oil, grease, fuel, etc. from equipment and vehicle maintenance, equipment and vehicle cleaning, or activities.
    (e) Provide sediment and erosion control sufficient to prevent or control sediment loss off of the property. This could include the use of straw bales, silt fences, or sediment basins, if needed.
    (f) Provide stormwater runoff controls to divert, infiltrate, reuse, contain, or otherwise minimize pollutants in the stormwater discharge.
    (g) Enclose or cover storage piles of salt or piles containing salt, used for deicing or other commercial or industrial purposes.
    (h) Provide training to all employees who; work in areas where industrial materials or activities are exposed to stormwater, are responsible for stormwater inspections, are members of the Pollution Prevention Team. Training must cover the specific control measures and monitoring, inspection, planning, reporting and documentation requirements of this permit. Training is recommended annually for any applicable staff and whenever a new employee is hired who meets the description above.
    (i) Eliminate and prevent unauthorized non-stormwater discharges at the facility.
    (j) Minimize generation of dust and off-site tracking of raw, final, or waste materials by implementing appropriate control measures.

26. Pretreatment: The permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of 10 CSR 20-6.100. The city's approved pretreatment program that was modified according to 40 CFR 403.18 and approved by the Department on the modification date of this permit is hereby incorporated by reference.
    (a) The permittee shall submit to the Department via the Electronic Discharge Monitoring Report (eDMR) Submission System on or before March 31st of each year a report briefly describing its pretreatment activities during the previous calendar year. At a minimum, the report shall include the following:
        (1) An updated list of the Permittee's Industrial Users, including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Permittee shall provide a brief explanation of each deletion. This list shall identify which Industrial Users are subject to categorical pretreatment Standards and specify which Standards are applicable to each Industrial User. The list shall indicate which Industrial Users are subject to local standards that are more stringent than the categorical Pretreatment Standards. The Permittee shall also list the Industrial Users that are subject only to local Requirements;
        (2) A summary of the status of Industrial User compliance over the reporting period;
        (3) A summary of compliance and enforcement activities (including inspections) conducted by the Permittee during the reporting period; and
        (4) Any other relevant information requested by the Department.
    (b) Pursuant to 40 CFR 122.44(j)(2)(ii), the permittee shall submit to the Department a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1) within **180 days from permit issuance**. Please contact the department's pretreatment coordinator for further guidance. Should revision of local limits be deemed necessary, it is recommended that revisions follow the US Environmental Protection Agency's guidance document *Local Limits Development Guidance.* EPA833-R04-002A. July 2004.

Missouri Department of Natural Resources
Factsheet Addendum
For Pretreatment Program Modification
#MO-0033286
City of Maryville Wastewater Treatment Facility

This addendum gives pertinent information regarding minor/simple modification(s) to the above listed operating permit for a public comment process.

An addendum is not an enforceable part of a Missouri State Operating Permit.

In accordance with the state Clean Water Law, Chapter 644, RSMo and the Federal Clean Water Act, the City of Maryville has an approved pretreatment program to meet the requirements of 40 CFR Part 403 and 10 CSR 20-6.100. The Department, as Approval Authority, reviewed the proposed program modifications and, by issuance if this permit, grants its approval as required by 40 CFR 403.18 and 10 CSR 20-6.100.

Part I – Proposed Pretreatment Program Modification

The pretreatment program modification is to convert the local limit for Five-Day Biochemical Oxygen Demand (BOD) to a mass limit in the sewer use ordinance and in the industrial user discharge permits. A portion of the Maximum Allowable Industrial Loading (MAIL) will be allocated to the city's Industrial Users in their discharge permits. To restate the supplied information state below in Section 715.130 of Maryville's Sewer Use Ordinance, the total mass of pollutant to be allocated would be 1141 pounds per day BOD. Reallocation of the MAIL, which does not increase the total mass of pollutant discharged by the city's industrial users is not a substantial change to the pretreatment program pursuant to 40 CFR 403.18(b)(2). Due to this conversion to a mass limit, the city will need to modify existing permits to ensure the MAIL for BOD is not exceeded. The basis for allocating the BOD pollutant loading should be attached to the industry's discharge permit.

SECTION 715.130: LOCAL LIMITS

The following pollutant limits are established to protect against pass through and interference. No person shall discharge wastewater containing in excess of the following [instantaneous maximum allowable limits]:

Pollutant	Limit	Pollutant	Limit
Arsenic	0.269 mg/l	zinc	2.986 mg/l
p.H.	>=5.5, <=9.5	cadmium	0.077 mg/l
BOD_5	See below	copper	0.47 mg/l
chromium	6.026 mg/l	lead	0.183 mg/l
mercury	0.001 mg/l	nickel	1.117 mg/l
oil and grease	75 mg/l	silver	0.205 mg/l
molybdenum	0.249 mg/l	total suspended solids	805 mg/l
cyanide	1.072 mg/l	selenium	0.121 mg/l

BOD_5 shall not exceed 1141 lbs/day and shall be distributed at the discretion of the pretreatment coordinator via Pretreatment Program permits to each Significant Industrial User as necessary. The sum total of each permitted limit for BOD_5 shall not exceed the mass value of 1141 lbs/day. At the discretion of the pretreatment coordinator BOD_5 limits established in Pretreatment permits may be imposed as BOD_5concentrations using appropriate conversion methods.

The above limits apply at the point where the wastewater is discharged to the POTW. All concentrations for metallic substances are for "total" metal unless indicated otherwise. The Wastewater Treatment Superintendent may impose mass limitations in addition to, or in place of, the concentration-based limitations above.

☒ - The Department is not required public notice this program modification

This is a non-substantial modification of the city's pretreatment program, according to the 40 CFR 403.18(b)(1). These changes do not require public notice and are hereby approved pursuant to 40 CFR 403.18 (adopted in 10 CSR 20-6.100) and the city of Maryville should proceed to implement the pretreatment program requirements.

Part II – Reason for the NPDES Permit Modification

In accordance with 40 CFR 403.18(e), "all modifications shall be incorporated into the POTW's NPDES permit upon approval. The permit will be modified to incorporate the approved modification in accordance with 40 CFR 122.63(g)." Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with part 124 draft permit and public notice as required in § 122.62. Minor modifications include:

(g) Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR 403.18) as enforceable conditions of the POTW's permits.

Date of addendum: 07/18/2018

Completed by:

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Pretreatment Coordinator
Water Protection Program
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MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL
OF
MO-0033286
MARYVILLE WASTEWATER TREATMENT PLANT

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (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.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Factsheet is not an enforceable part of an operating permit.

This Factsheet is for a Major facility.

Part I – Facility Information

Facility Type: POTW - SIC #4952

Facility Description: Influent lift station / four-cell flow equalization basin / manual bar screen / mechanical fine screen / vortex grit chamber / aeration basin / two (2) final clarifiers / UV disinfection / effluent reaeration / sludge storage basin / sludge is land applied.

Application Date: 04/10/17
Expiration Date: 09/30/17

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	3.1	Secondary	Domestic

Facility Performance History:
This facility was last inspected on September 25, 2013. The conditions of the facility at the time of inspection were found to be satisfactory. A review of the past five years of monitoring data submitted by the permittee shows the following exceedances (month/year): Copper in 9/15, 12/15, 3/16, 6/16; Lead in 12/15, 3/16, 6/16; and TSS in 4/17.

Comments:
Changes in this permit include the removal of Dissolved Oxygen limits and monitoring for Mercury and Nickel. See Part VI of the Fact Sheet for further information regarding the removal of effluent parameters.

Part II – Operator Certification Requirements

As per [10 CSR 20-6.010(8) Terms and Conditions of a Permit], the permittee shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations. Operators or supervisors of operations at regulated wastewater treatment facilities shall be certified in accordance with [10 CSR 20-9.020(2)] and any other applicable state law or regulation. As per [10 CSR 20-9.020(2)(A)], requirements for operation by certified personnel shall apply to all wastewater treatment systems, if applicable, as listed below:

Owned or operated by or for a

- ☒ - Municipalities
- ☐ - Federal agency
- ☐ - County
- ☐ - Public Sewer District
- ☐ - State agency
- ☐ - Private Sewer Company regulated by the Public Service Commission
- ☐ - Public Water Supply Districts

Each of the above entities are only applicable if they have a Population Equivalent greater than two hundred (200) or fifty (50) or more service connections.

This facility currently requires an operator with a B Certification Level. Please see **Appendix - Classification Worksheet**. Modifications made to the wastewater treatment facility may cause the classification to be modified.

Operator's Name: Steve Guthrie
Certification Number: 5920
Certification Level: A

The listing of the operator above only signifies that staff drafting this operating permit have reviewed appropriate Department records and determined that the name listed on the operating permit application has the correct and applicable Certification Level.

Part III– Operational Monitoring

☒ - As per [10 CSR 20-9.010(4))], the facility is required to conduct operational monitoring.

Part IV – Receiving Stream Information

RECEIVING STREAM(S) TABLE: OUTFALL #001

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
One Hundred and Two River	P	342	AQL, WBC-B, SCR, HHP, IRR, LWW, DWS	10240013-0304	Direct Discharge

*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; **CDF** = Cold-water fishery (Current narrative use is cold-water habitat.); **CLF** = Cool-water fishery (Current narrative use is cool-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 that supports swimming uses and has public access;
WBC-B = Whole body contact recreation that supports 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(S) LOW-FLOW VALUES:

RECEIVING STREAM (C, E, P, P1)	LOW-FLOW VALUES (CFS)*		
	1Q10	7Q10	30Q10
One Hundred and Two River	1.3	2.0	3.4

* - Data from USGS Gauge Station #06819500 located on One Hundred and Two River at Maryville, MO

MIXING CONSIDERATIONS TABLE:

MIXING ZONE (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(a)]			ZONE OF INITIAL DILUTION (CFS) [10 CSR 20-7.031(5)(A)4.B.(II)(b)]		
1Q10	7Q10	30Q10	1Q10	7Q10	30Q10
0.325	0.500	0.850	0.0325	0.0500	NA

RECEIVING STREAM MONITORING REQUIREMENTS:

Permitted Feature #SM1 – Upstream – See Special Condition #24
Facilities with a design flow greater than 100,000 gallons per day are required to sample their effluent quarterly for Total Phosphorus and Total Nitrogen per 10 CSR 20-7.015(9)(D)7. Upstream monitoring for these parameters is necessary to determine background concentrations in order to complete calculations related to future effluent limit derivation where necessary or appropriate.

Permitted Feature #SM2 – Downstream – See Page 2 of the permit
Downstream hardness monitoring is required in this permit in order to develop a site-specific hardness for determining reasonable potential and calculating hardness-dependent metals limits.

Part V – 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.

☒ - 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:
A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(o); 40 CFR Part 122.44(l)] that requires a reissued permit to be as stringent as the previous permit with some exceptions. Limitations in this operating permit for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

☒ - Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

- **Cadmium**. Effluent limits have been replaced by monitoring requirements as statistical analysis conducted determined there to be no reasonable potential for this parameters to cause or contribute to an instream excursion of water quality standards.
- **Ammonia as N (summer months)**. Effluent limits have been replaced by monitoring requirements as statistical analysis conducted determined there to be no reasonable potential for this parameters to cause or contribute to an instream excursion of water quality standards.
- **Ammonia as N (winter months)**. Effluent limitations were re-calculated for Ammonia based on new information derived from discharge monitoring reports, mixing zone calculations, and on the current Missouri Water Quality Standards for Ammonia. The newly established limitations are still protective of water quality.
- **Dissolved Oxygen**. Effluent limits have been removed as it has been determined that there is no reasonable potential for the discharge to cause or contribute to an instream excursion of water quality standards for dissolved oxygen.
- **Copper, Cyanide, Lead, and Zinc**. Effluent limitations were re-calculated for these parameters based on new information derived from discharge monitoring reports, mixing zone calculations, and on the current Missouri Water Quality Standards. The newly established limitations are still protective of water quality.
- **pH**. 6.0-9.0 SU. pH limitations [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the buffering capacity of the mixing zone.

☒ - The Department determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b).

- **General Criteria**. The previous permit contained a special condition which described a specific set of prohibitions related to general criteria found in 10 CSR 20-7.031(4). In order to comply with 40 CFR 122.44(d)(1), the permit writer has conducted reasonable potential determinations for each general criterion and established numeric effluent limitations where reasonable potential exists. While the removal of the previous permit special condition creates the appearance of backsliding, since this permit establishes numeric limitations where reasonable potential to cause or contribute to an excursion of the general criteria exists the permit maintains sufficient effluent limitations and monitoring requirements in order to protect water quality, this permit is equally protective as compared to the previous permit. Therefore, given this new information, and the fact that the previous permit special condition was not consistent with 40 CFR 122.44(d)(1), an error occurred in the establishment of the general criteria as a special condition of the previous permit. Please see Part VI – Effluent Limits Determination for more information regarding the reasonable potential determinations for each general criterion related to this facility.

ANTIDEGRADATION:

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(3)], for domestic wastewater discharge with new, altered, or expanding discharges, the Department is to document by means of Antidegradation Review that 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

☒ - No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

For stormwater 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.

☒ - The facility must review and maintain stormwater BMPs as appropriate.

AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:

As per [10 CSR 20-6.010(3)(B)], …An applicant may utilize a lower preference continuing authority by submitting, as part of the application, a statement waiving preferential status from each existing higher preference authority, providing the waiver does not conflict with any area-wide management plan approved under section 208 of the Federal Clean Water Act or any other regional sewage service and treatment plan approved for higher preference authority by the Department.

BIOSOLIDS & SEWAGE SLUDGE:

Biosolids are solid materials resulting from domestic wastewater treatment that meet federal and state criteria for beneficial uses (i.e. fertilizer). Sewage sludge is solids, semi-solids, 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 a 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 regarding biosolids and sludge is located at the following web address: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74, items WQ422 through WQ449.

☒ - Permittee has a Department approved biosolids management plan, and is authorized to land apply biosolids in accordance with Standard Conditions III.

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.

☒ - The facility is not currently under Water Protection Program enforcement action.

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. This final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online. In an effort to aid facilities in the reporting of applicable information electronically, the Department has created several new forms including operational control monitoring forms and an I&I location and reduction form. These forms are for optional use and can be found on the Department's website at the following locations:

Operational Monitoring Lagoon: http://dnr.mo.gov/forms/780-2801-f.pdf
Operational Monitoring Mechanical: http://dnr.mo.gov/forms/780-2800-f.pdf
I&I Report: http://dnr.mo.gov/forms/780-2690-f.pdf

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a permittee must first submit an eDMR Waiver Request Form: http://dnr.mo.gov/forms/780-2692-f.pdf. A request must be made for each facility. If more than one facility is owned or operated by a single entity, then the entity must submit a separate request for each facility based on its specific circumstances. An approved waiver is non-transferable.

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

☒ - The permittee/facility is currently using the eDMR data reporting system.

PRETREATMENT PROGRAM:
The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].

Pretreatment programs are required at any POTW (or combination of POTW operated by the same authority) and/or municipality with a total design flow greater than 5.0 MGD and receiving industrial wastes that interfere with or pass through the treatment works or are otherwise subject to the pretreatment standards. Pretreatment programs can also be required at POTWs/municipals with a design flow less than 5.0 MGD if needed to prevent interference with operations or pass through.

Several special conditions pertaining to the permittee's pretreatment program may be included in the permit, and are as follows:
- Implementation and enforcement of the program,
- Annual pretreatment report submittal,
- Submittal of list of industrial users,
- Technical evaluation of need to establish local limitations, and
- Submittal of the results of the evaluation

☒ - This permittee has an approved pretreatment program in accordance with the requirements of [40 CFR Part 403] and [10 CSR 20-6.100] and is expected to implement and enforce its approved program.

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 that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard.

In accordance with [40 CFR Part 122.44(d)(1)(iii)] if the permit writer determines that any given pollutant has the reasonable potential to cause, or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant.

☒ - A RPA was conducted on appropriate parameters. Please see **APPENDIX – RPA RESULTS.**

REMOVAL EFFICIENCY:
Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals.

☒ - Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) & (b)(3)].

SANITARY SEWER OVERFLOWS (SSO) AND INFLOW AND INFILTRATION (I&I):
Sanitary Sewer Overflows (SSOs) are defined as untreated sewage releases and are considered bypassing under state regulation [10 CSR 20-2.010(11)] and should not be confused with the federal definition of bypass. SSOs result from a variety of causes including blockages, line breaks, and sewer defects that can either allow wastewater to backup within the collection system during dry weather conditions or allow excess stormwater and groundwater to enter and overload the collection system during wet weather conditions. SSOs can also result from lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. SSOs include overflows out of manholes, cleanouts, broken pipes, and other into waters of the state and onto city streets, sidewalks, and other terrestrial locations.

Inflow and Infiltration (I&I) is defined as unwanted intrusion of stormwater or groundwater into a collection system. This can occur from points of direct connection such as sump pumps, roof drain downspouts, foundation drains, and storm drain cross-connections or through cracks, holes, joint failures, faulty line connections, damaged manholes, and other openings in the collection system itself. I&I results from a variety of causes including line breaks, improperly sealed connections, cracks caused by soil erosion/settling, penetration of vegetative roots, and other sewer defects. In addition, excess stormwater and groundwater entering the collection system from line breaks and sewer defects have the potential to negatively impact the treatment facility.

Missouri RSMo §644.026.1.(13) mandates that the Department issue permits for discharges of water contaminants into the waters of this state, and also for the operation of sewer systems. Such permit conditions shall ensure compliance with all requirements as established by sections 644.006 to 644.141. Standard Conditions Part I, referenced in the permit, contains provisions requiring proper operation and maintenance of all facilities and systems of treatment and control. Missouri RSMo §644.026.1.(15) instructs the Department to require proper maintenance and operation of treatment facilities and sewer systems and proper disposal of residual waste from all such facilities. To ensure that public health and the environment are protected, any noncompliance which may endanger public health or the environment must be reported to the Department within 24 hours of the time the permittee becomes aware of the noncompliance. Standard Conditions Part I, referenced in the permit, contains the reporting requirements for the permittee when bypasses and upsets occur. The permit also contains requirements for permittees to develop and implement a program for maintenance and repair of the collection system. The permit requires that the permittee submit an annual report to the Department for the previous calendar year that contains a summary of efforts taken by the permittee to locate and eliminate sources of excess I & I, a summary of general maintenance and repairs to the collection system, and a summary of any planned maintenance and repairs to the collection system for the upcoming calendar year.

☒ - At this time, the Department recommends the US EPA's Guide for Evaluating Capacity, Management, Operation and Maintenance (CMOM) Programs at Sanitary Sewer Collection Systems (Document # EPA 305-B-05-002) or the Departments' CMOM Model located at http://dnr.mo.gov/env/wpp/permits/docs/cmom-template.doc. For additional information regarding the Departments' CMOM Model, see the CMOM Plan Model Guidance document at http://dnr.mo.gov/pubs/pub2574.htm. The CMOM identifies some of the criteria used to evaluate a collection system's management, operation, and maintenance and was intended for use by the EPA, state, regulated community, and/or third party entities. The CMOM is applicable to small, medium, and large systems; both public and privately owned; and both regional and satellite collection systems. The CMOM does not substitute for the Clean Water Act, the Missouri Clean Water Law, and both federal and state regulations, as it is not a regulation.

SCHEDULE OF COMPLIANCE (SOC):

Per 644.051.4 RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement, or if prohibited by other statute or regulation. A SOC includes an enforceable sequence of interim requirements (actions, 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. *See also* Section 502(17) of the Clean Water Act, and 40 CFR §122.2. For new effluent limitations, the permit includes interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR § 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, a SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

A SOC is not allowed:

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

In order to provide guidance to Permit Writers in developing SOCs, and attain a greater level of consistency, on April 9, 2015 the Department issued an updated policy on development of SOCs. This policy provides guidance to Permit Writers on the standard time frames for schedules for common activities, and guidance on factors that may modify the length of the schedule such as a Cost Analysis for Compliance.

☒ - This permit does not contain a SOC.

SEWER EXTENSION AUTHORITY SUPERVISED PROGRAM:

In accordance with [10 CSR 20-6.010(6)(A)], the Department may grant approval of a permittee's Sewer Extension Authority Supervised Program. These approved permittees regulate and approve construction of sanitary sewers and pump stations, which are tributary to this wastewater treatment facility. The permittee shall act as the continuing authority for the operation, maintenance, and modernization of the constructed collection system. See http://dnr.mo.gov/env/wpp/permits/sewer-extension.htm.

☒ - The permittee does not have a Department approved Sewer Extension Authority Supervised Program.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* 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 (regarding this operating permit) waters of the state. 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 stormwater discharges. 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)]. 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.

☒ - 10 CSR 20-6.200 and 40 CFR 122.26 includes treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that is located within the confines of the facility, with a design flow of 1.0 mgd or more, or are required to have an approved pretreatment program under 40 CFR part 403, as an industrial activity in which permit coverage is required.

In lieu of requiring sampling in the site-specific permit, the facility is required to develop and implement a Stormwater Pollution Prevention Plan (SWPPP). A facility can apply for conditional exclusion for "no exposure" of industrial activities and materials to stormwater by submitting a permit modification via Form B2 (http://dnr.mo.gov/forms/780-1805-f.pdf) appropriate application filing fees and a completed NPDES Form 3510-11 – No Exposure Certification for Exclusion from NPDES Stormwater Permitting (https://www3.epa.gov/npdes/pubs/msgp2008_appendixk.pdf) to the Department's Water Protection Program, Operating Permits Section. Upon approval of the No Exposure Certification, the permit will be modified and the Special Condition to develop and implement a SWPPP will be removed. This information will be reevaluated at the time of renewal.

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.

☒ - This operating permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:
As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant that may be discharged into that stream without endangering its water quality.

☒ - Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$Ce = \frac{(Qe + Qs)C - (Qs \times Cs)}{(Qe)}$$ (EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration Ce = effluent concentration
Cs = upstream concentration Qe = effluent flow
Qs = upstream flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Number of Samples "n":
Additionally, in accordance with the TSD for water quality-based permitting, effluent quality is determined by the underlying distribution of daily values, which is determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying distribution or treatment performance, which should be, at a minimum, be targeted to comply with the values dictated by the WLA. Therefore, it is recommended that the actual planned frequency of monitoring normally be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed using an assumed number of samples is "n = 4" at a minimum. For Total Ammonia as Nitrogen, "n = 30" is used.

WLA MODELING:
There are two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs). If TBELs do not provide adequate protection for the receiving waters, then WQBEL must be used.

☒ - 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.

☒ - The permittee is required to conduct WET test for this facility.

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 that the provisions in the 10 CSR 20-6.010(8)(A)7. and the Water Quality Standards 10 CSR 20-7.031(4)(D),(F),(G),(I)2.A & B are being met. Under [10 CSR 20-6.010(8)(A)4], the Department may require other terms and conditions that it deems necessary to assure compliance with the Clean Water Act and related regulations of the Missouri Clean Water Commission. In addition the following MCWL apply: §§§644.051.3 requires the Department to set permit conditions that comply 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, pretreatment, etc…); and 644.051.5 is the basic authority to require testing conditions. WET test will be required by facilities meeting the following criteria:

- ☒ Facility is a designated Major.
- ☐ Facility continuously or routinely exceeds its design flow.
- ☐ Facility exceeds its design population equivalent (PE) for BOD_5 whether or not its design flow is being exceeded.
- ☐ Facility (whether primarily domestic or industrial) alters its production process throughout the year.
- ☐ Facility handles large quantities of toxic substances, or substances that are toxic in large amounts.
- ☒ Facility has Water Quality-based Effluent Limitations for toxic substances (other than NH_3)
- ☒ Facility is a municipality with a Design Flow ≥ 22,500 gpd.
- ☐ Other – please justify.

40 CFR 122.41(M) - BYPASSES:
The federal Clean Water Act (CWA), Section 402 prohibits wastewater dischargers from "bypassing" untreated or partially treated sewage (wastewater) beyond the headworks. A bypass is defined as an intentional diversion of waste streams from any portion of a treatment facility, [40 CFR 122.41(m)(1)(i)]. Additionally, Missouri regulation 10 CSR 20-7.015(9)(G) states a bypass means the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending, to waters of the state. Only under exceptional and specified limitations do the federal regulations allow for a facility to bypass some or all of the flow from its treatment process. Bypasses are prohibited by the CWA unless a permittee can meet all of the criteria listed in 40 CFR 122.41(m)(4)(i)(A), (B), & (C). Any bypasses from this facility are subject to the reporting required in 40 CFR 122.41(l)(6) and per Missouri's Standard Conditions I, Section B, part 2.b. Additionally, Anticipated Bypasses include bypasses from peak flow basins or similar devices designed for peak wet weather flows.

☒ - This facility does not anticipate bypassing.

303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):
Section 303(d) of the federal Clean Water Act requires that each state identify waters that are 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 waters that are impaired but not addressed by normal water pollution control programs.

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. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

☒ - This facility does not discharge to a 303(d) listed stream.

Part VI – Effluent Limits Determination

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:
As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) 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 [10 CSR 20-7.015(2)]
- ☐ Lakes or Reservoirs [10 CSR 20-7.015(3)]
- ☐ Losing Streams [10 CSR 20-7.015(4)]
- ☐ Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- ☐ Special Streams [10 CSR 20-7.015(6)]
- ☐ Subsurface Waters [10 CSR 20-7.015(7)]
- ☒ All Other Waters [10 CSR 20-7.015(8)]

OUTFALL #001 – MAIN FACILITY OUTFALL

Effluent limitations derived and established in the below Effluent 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.

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ***
Flow	MGD	1	*		*	*/*	Daily	Monthly	T
BOD_5	mg/L	1		45	30	45/30	Weekly	monthly	C
TSS	mg/L	1		45	30	45/30	Weekly	Monthly	C
Escherichia coli **	#/100mL	1, 3		1,030	206	1,030/206	Weekly	Monthly	G
Ammonia as N (Apr 1 –Sep 30)	mg/L	2, 3	*		*	3.7/1.4	Monthly	Monthly	G
Ammonia as N (Oct 1 – Mar 31)	mg/L	2, 3	12.4		2.6	7.7/3.0	Monthly	Monthly	G
Oil & Grease	mg/L	1, 3	15		10	15/10	Quarterly	Quarterly	G
Total Nitrogen	mg/L	1	*		*	*/*	Quarterly	Quarterly	G
Total Phosphorus	mg/L	1	*		*	*/*	Quarterly	Quarterly	G
Cyanide, Amenable to Chlorination	µg/L	2, 3	< 10		< 10	< 10	Quarterly	Quarterly	C
Cadmium, Total Recoverable	µg/L	2, 3	*		*	0.51/0.26	Quarterly	Quarterly	C
Copper, Total Recoverable	µg/L	2, 3	22.4		11.2	18.3/9.1	Quarterly	Quarterly	C
Lead, Total Recoverable	µg/L	2, 3	11.2		5.6	9.0/4.5	Quarterly	Quarterly	C
Zinc, Total Recoverable	µg/L	2, 3	183.6		91.5	154.7/76.6	Quarterly	Quarterly	C
Acute Whole Effluent Toxicity	TUa	1, 9	*			*	Annually	Annually	C
Chronic Whole Effluent Toxicity	TUc	1, 9	*			*	Once/permit cycle	Once/permit cycle	C
PARAMETER	Unit	Basis for Limits	Minimum		Maximum	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
pH	SU	1	6.0		9.0	6.5-9.0	Monthly	Monthly	G
PARAMETER	Unit	Basis for Limits	Daily Minimum		Monthly Avg Min	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type
BOD_5 Percent Removal	%	1			85	85	Monthly	Monthly	M
TSS Percent Removal	%	1			85	85	Monthly	Monthly	M

* - Monitoring requirement only.
** - #/100mL; the Monthly Average for *E. coli* is a geometric mean.

*** - C = 24-hour composite
G = Grab
T = 24-hr. total
M = Measured/calculated

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
5. Antidegradation Policy
6. Water Quality Model
7. Best Professional Judgment
8. TMDL or Permit prior to TMDL
9. WET Test Policy
10. Multiple Discharger Variance

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **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.

- **Biochemical Oxygen Demand (BOD_5).** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Effluent Limits Determination.**

- **Total Suspended Solids (TSS).** Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Effluent Limits Determination.**

- ***Escherichia coli (E. coli)***. Monthly average of 206 per 100 mL as a geometric mean and Weekly Average of 1,030 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (B) designated use of the receiving stream, as per 10 CSR 20-7.031(5)(C). An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d). The Geometric Mean is calculated by multiplying all of the data points and then taking the nth root of this product, where n = # of samples collected. For example: Five *E. coli* samples were collected with results of 1, 4, 6, 10, and 5 (#/100mL). Geometric Mean = 5th root of (1)(4)(6)(10)(5) = 5th root of 1,200 = 4.1 #/100mL.

- **Total Ammonia Nitrogen**. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L.

Season	Temp (°C)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

Summer: April 1 – September 30
Monitoring only; statistical analysis conducted using effluent data provided by the permittee indicates there is no reasonable potential for this parameters to cause or contribute to an instream excursion of water quality standards during the summer months. Monitoring data will be used during the next renewal period to determine reasonable potential.

Winter: October 1 – March 31
Chronic WLA: $C_e = ((3.1 + 0.85)3.1 – (0.85 * 0.01))/3.1$
$C_e = 3.42$ mg/L

Acute WLA: $C_e = ((3.1 + 0.0325)12.1 – (0.0325 * 0.01))/3.1$
$C_e = 12.43$ mg/L

$LTA_c = 3.42$ mg/L (0.543) = 1.86 mg/L [CV = 1.56, 99th Percentile, 30 day avg.]
$LTA_a = 12.43$ mg/L (0.140) = 1.74 mg/L [CV = 1.56, 99th Percentile]

Use most protective number of LTA_c or LTA_a.

MDL = 1.74 mg/L (7.15) = **12.4 mg/L** [CV = 1.56, 99th Percentile]
AML = 1.74 mg/L (1.52) = **2.6 mg/L** [CV = 1.56, 95th Percentile, n =30]

- **Oil & Grease**. Conventional pollutant, effluent limitation for protection of aquatic life; 10 mg/L monthly average, 15 mg/L daily maximum.

- **Total Phosphorus and Total Nitrogen**. Monitoring required for facilities greater than 100,000 gpd design flow per 10 CSR 20-7.015(9)(D)7. Total Nitrogen shall be determined by testing for Total Kjeldahl Nitrogen (TKN) and Nitrate + Nitrite and reporting the sum of the results (reported as N). Nitrate + Nitrite can be analyzed together or separately.

- **Cyanide, Amenable to Chlorination.** Protection of Aquatic Life CCC = 5 µg/L, CMC = 22 µg/L, Background CN = 0 µg/L

  Chronic WLA: $C_e = ((3.1 + 0.5)5 - (0.5 * 0.0))/3.1$
  $C_e = 5.8$ µg/L

  Acute WLA: $C_e = ((3.1 + 0.05)22 - (0.05 * 0.0))/3.1$
  $C_e = 22.35$ µg/L

  $LTA_c = 5.8\ (0.527) = 3.1$ µg/L [CV = 0.6, 99th Percentile]
  $LTA_a = 22.35\ (0.321) = 7.2$ µg/L [CV = 0.6, 99th Percentile]

  Use most protective number of LTA_c or LTA_a.

  MDL = 3.1 (3.11) = **9.5 µg/L** [CV = 0.6, 99th Percentile]
  AML = 3.1 (1.55) = **4.8 µg/L** [CV = 0.6, 95th Percentile, n = 4]

  The Water Quality Based Effluent Limit for Cyanide amenable to chlorination was calculated to be 9.5 µg/L as a daily maximum and 4.8 µg/L as a monthly average. These limits are below the minimum quantification level (ML) of the most common and practical EPA approved Cyanide amenable to chlorination methods. The Department has determined the current acceptable ML of Cyanide Amenable to Chlorination (CATC) to be 10 µg/L when using SM 4500-CN⁻G. Cyanides Amenable to Chlorination after Distillation in *Standard Methods for the Examination of Water and Wastewater, 22nd*. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 10 µg/L will be considered violations of the permit and values less than the minimum quantification level of 10 µg/L will be considered to be in compliance with the permit limitation.

- **pH**. 6.0-9.0 SU. pH limitations [10 CSR 20-7.015] are protective of the water quality standard [10 CSR 20-7.031(5)(E)], due to the buffering capacity of the mixing zone.

- **Biochemical Oxygen Demand (BOD_5) Percent Removal**. In accordance with 40 CFR Part 133.102(a)(3) & (b)(3), removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for BOD_5.

- **Total Suspended Solids (TSS) Percent Removal**. In accordance with 40 CFR Part 133.105(a)(3) & (b)(3), removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD_5) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. This facility is required to meet 85% removal efficiency for TSS.

Metals

Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the "Technical Support Document for Water Quality-based Toxic Controls" (EPA/505/2-90-001) and "The Metals Translator: Guidance For Calculating a Total Recoverable Permit Limit from a Dissolved Criterion" (EPA 823-B-96-007). General warm-water fishery criteria apply and a water hardness of 162 mg/L is used in the conversion below.

Due to the absence of contemporaneous effluent and instream data for total recoverable metals, dissolved metals, hardness, and total suspended solids with which to calculate metals translators, partitioning between the dissolved and absorbed phases was assumed to be minimal (Section 5.7.3, EPA/505/2-90-001). Freshwater criteria conversion factors for dissolved metals were used as the metals translator as recommended in guidance (Section 1.3, 1.5.3, and Table 1, EPA 823-B-96-007). If concurrent site-specific data for total recoverable metals, dissolved metals, hardness, and total suspended solids are provided to the Department, partitioning evaluations may be considered and site-specific translators developed.

Metal	Conversion Factors	
	Acute	Chronic
Cadmium*	0.924	0.889
Copper	0.960	0.960
Lead*	0.721	0.721
Zinc	0.978	0.986

*Conversion factors for Cd and Pb are hardness dependent. Values calculated using equation found in Section 1.3 of EPA 823-B-96-007 and hardness = 162 mg/L.

- **Cadmium, Total Recoverable**. Monitoring only; statistical analysis conducted using effluent data provided by the permittee indicates there is no reasonable potential for this parameters to cause or contribute to an instream excursion of water quality standards. Quarterly monitoring data will be used during the next renewal period to determine reasonable potential.

- **Copper, Total Recoverable**. Protection of Aquatic Life Chronic Criteria = 13.5 µg/L, Acute Criteria = 21.17 µg/L.

  Chronic: 13.5/0.960 = 14.09 µg/L
  Acute: 21.17/0.960 = 22.05 µg/L

  Chronic WLA: $C_e = ((3.1 + 0.5)14.09 - (0.5 * 0.0))/3.1$
  $C_e = 16.36$ µg/L

  Acute WLA: $C_e = ((3.1 + 0.05)22.05 - (0.05 * 0.0))/3.1$
  $C_e = 22.40$ µg/L

  $LTA_c = 16.36\ (0.527) = 8.63$ µg/L [CV = 0.6, 99th Percentile]
  $LTA_a = 22.40\ (0.321) = 7.19$ µg/L [CV = 0.6, 99th Percentile]

  Use most protective number of LTA_c or LTA_a.

  MDL = 7.19 (3.11) = **22.4 µg/L** [CV = 0.6, 99th Percentile]
  AML = 7.19 (1.55) = **11.2 µg/L** [CV = 0.6, 95th Percentile, n = 4]

- **Lead, Total Recoverable**. Protection of Aquatic Life Chronic Criteria = 4.2 µg/L, Acute Criteria = 109 µg/L.

  Chronic: 4.2/0.721 = 5.88 µg/L
  Acute: 109/0.721 = 150.82 µg/L

  Chronic WLA: $C_e = ((3.1 + 0.5)5.88 - (0.5 * 0.0))/3.1$
  $C_e = 6.83$ µg/L

  Acute WLA: $C_e = ((3.1 + 0.05)150.82 - (0.05 * 0.0))/3.1$
  $C_e = 153.25$ µg/L

  $LTA_c = 6.83\ (0.527) = 3.60$ µg/L [CV = 0.6, 99th Percentile]
  $LTA_a = 153.25\ (0.321) = 49.21$ µg/L [CV = 0.6, 99th Percentile]

  Use most protective number of LTA_c or LTA_a.

  MDL = 3.60 (3.11) = **11.2 µg/L** [CV = 0.6, 99th Percentile]
  AML = 3.60 (1.55) = **5.6 µg/L** [CV = 0.6, 95th Percentile, n = 4]

- **Zinc, Total Recoverable**. Protection of Aquatic Life Chronic and Acute Criteria = 176.71 µg/L.

  Chronic: 176.71/0.986 = 179.22 µg/L
  Acute: 176.71/0.978 = 180.69 µg/L

  Chronic WLA: $C_e = ((3.1 + 0.5)179.22 - (0.5 * 0.0))/3.1$
  $C_e = 208.13$ µg/L

  Acute WLA: $C_e = ((3.1 + 0.05)18.069 - (0.05 * 0.0))/3.1$
  $C_e = 183.60$ µg/L

  $LTA_c = 208.13\ (0.527) = 109.8$ µg/L [CV = 0.6, 99th Percentile]
  $LTA_a = 183.60\ (0.321) = 58.95$ µg/L [CV = 0.6, 99th Percentile]

  Use most protective number of LTA_c or LTA_a.

  MDL = 58.95 (3.11) = **183.6 µg/L** [CV = 0.6, 99th Percentile]
  AML = 58.95 (1.55) = **91.5 µg/L** [CV = 0.6, 95th Percentile, n = 4]

Whole Effluent Toxicity

- **Acute Whole Effluent Toxicity**. Monitoring requirement only. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards.

  The acute Allowable Effluent Concentration (AEC) is determined as follows:
  Acute AEC% = $(((3.1 + 0.05) / 3.1)^{-1})100 = 98\%$
  The resulting dilution series is: 100%, 50%, 25%, 12.5%, and 6.25%.

- **Chronic Whole Effluent Toxicity**. Monitoring requirement only. Monitoring is required to determine if reasonable potential exists for this facility's discharge to exceed water quality standards.

  The chronic Allowable Effluent Concentration (AEC) is determined as follows:
  Chronic AEC% = $(((3.1 + 0.5) / 3.1)^{-1})100 = 86\%$
  The resulting dilution series is: 86%, 43%, 21.5%, 10.75%, and 5.38%.

Parameters Removed

- **Mercury and Nickel, Total Recoverable**. Statistical analysis conducted showed no reasonable potential for a water quality standard excursion for these parameters. As these parameters had a monitoring only requirement in the previous permit and not effluent limitations, a determination has been made to remove the monitoring requirement. These parameters will still be tested as a part of the expanded effluent testing requirement upon the next permit renewal.

Sampling Frequency Justification:
The sampling and reporting frequencies for all parameters have been reassessed from the previous permit. Oil and Grease frequencies have been reduced to quarterly and pH and ammonia frequencies have been reduced to monthly. These reductions are due to satisfactory facility performance and consistent effluent results. For all other parameters, the frequencies have been found to be appropriate; therefore, they have been retained from the previous permit.

Sampling Type Justification:
As per 10 CSR 20-7.015, BOD_5, TSS, and WET test samples collected for mechanical plants shall be a 24 hour composite sample. Grab samples, however, must be collected for pH, *E. coli*, Oil & Grease, and nutrient parameters. This is due to the holding time restriction for *E. coli*, and the fact that pH cannot be preserved and must be sampled in the field. As Oil & Grease and nutrient samples must be immediately preserved, these samples are to be collected as a grab. Metals samples must also be immediately preserved, but may be collected as composite as the permittee has an equipment setup to handle composite collections with immediate preservation.

OUTFALL #001 – GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into the permit for those pollutants which have been determined to cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The rule further states that 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. In order to comply with this regulation, the permit writer will complete reasonable potential determinations on whether the discharge will violate any 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)). 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 states 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. The discharge from this facility is made up of treated domestic wastewater. Based upon review of the most recent Report of Compliance Inspection dated September 25, 2013, no evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, this facility utilizes secondary treatment technology and is currently in compliance with the equivalent to secondary treatment technology based effluent limits established in this permit and there has been no indication to the Department that the stream has had issues maintaining beneficial uses as a result of this discharge. Based on the information reviewed during the drafting of this permit, these final effluent limitations appear to have protected against the excursion of this criterion in the past. Therefore, the discharge does not have the reasonable potential to cause or contribute to an excursion of this criterion.

(B) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses. Please see (A) above as justification is the same.

(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. Please see (A) above as justification is the same.

(D) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life. This permit contains final effluent limitations which are protective of both acute and chronic toxicity for various pollutants that are either expected to be discharged by domestic wastewater facilities or that were disclosed by this facility on the application for permit coverage. Based on the information reviewed during the drafting of this permit, it has been determined if the facility meets final effluent limitations established in this permit, there is no reasonable potential for the discharge to cause an excursion of this criterion.

(E) There shall be no significant human health hazard from incidental contact with the water. Please see (D) above as justification is the same.

(F) There shall be no acute toxicity to livestock or wildlife watering. Please see (D) above as justification is the same.

(G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community. Please see (A) above as justification is the same.

(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. The discharge from this facility is made up of treated domestic wastewater. No evidence of an excursion of this criterion has been observed by the Department in the past and the facility has not disclosed any other information related to the characteristics of the discharge on their permit application which has the potential to cause or contribute to an excursion of this narrative criterion. Additionally, any solid wastes received or produced at this facility are wholly contained in appropriate storage facilities, are not discharged, and are disposed of offsite. This discharge is subject to Standard Conditions Part III, which contains requirements for the management and disposal of sludge to prevent its discharge. Therefore, this discharge does not have reasonable potential to cause or contribute to an excursion of this criterion.

PERMITTED FEATURES SM1 AND SM2 – INSTREAM MONITORING

MONITORING REQUIREMENTS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average	Previous Permit Limit	Sampling Frequency	Reporting Frequency	Sample Type ***
Total Nitrogen	mg/L	7	*		*	*/*	Quarterly	Quarterly	G
Total Phosphorus	mg/L	7	*		*	*/*	Quarterly	Quarterly	G
Total Hardness	mg/L	7	*		*	*/*	Quarterly	Quarterly	G

* - Monitoring requirement only.
** - #/100mL; the Monthly Average for *E. coli* is a geometric mean.

*** - C = 24-hour composite
G = Grab

Basis for Limitations Codes:

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

PERMITTED FEATURES SM1 AND SM2 – DERIVATION AND DISCUSSION OF MONITORING REQUIREMENTS:

- **Total Phosphorus and Total Nitrogen**. Facilities with a design flow greater than 100,000 gallons per day are required to sample their effluent quarterly for Total Phosphorus and Total Nitrogen per 10 CSR 20-7.015(9)(D)7. Upstream monitoring for these parameters is necessary to determine background stream concentrations in order to complete calculations that determine instream nutrient loading.

- **Total Hardness**. Downstream hardness monitoring has been added to the permit in order to develop a site-specific hardness for determining reasonable potential and calculating hardness-dependent metals limits.

Sampling Frequency Justification:
The sampling and reporting frequency for Total Phosphorus and Total Nitrogen has been established to match the required sampling frequency of these parameters in the effluent. The sampling and reporting frequency for Total Hardness has been established to match the required sampling frequency of the metals parameters in the effluent.

Sampling Type Justification
As Total Phosphorus, Total Nitrogen, and Total Hardness samples must be immediately preserved; these samples are to be collected as a grab.

Part VII – Cost Analysis for Compliance

Pursuant to Section 644.145, RSMo, when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or [publicly owned] treatment works, the Department of Natural Resources shall make a "finding of affordability" on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

☒ - The Department is required to make a "finding of affordability" on the new environmental requirement(s) within the permit. However, due to no costs associated with the new requirement(s) the Department has determined the permit to be affordable based on the eight requirements listed in Section 644.145.4, RSMo.

Part VIII – 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. 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 4 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. With permit synchronization, this permit will expire in the 3rd Quarter of calendar year 2022.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in 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 was from November 17, 2017 – December 18, 2017. No comments were received.

DATE OF FACT SHEET: OCTOBER 11, 2017

COMPLETED BY:

ANGELA FALLS, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(573) 751-1419
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Appendices

APPENDIX - CLASSIFICATION WORKSHEET:

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
Maximum Population Equivalent (P.E.) served (Max 10 pts.)	1 pt./10,000 PE or major fraction thereof.	2
Maximum: 10 pt Design Flow (avg. day) or peak month; use greater (Max 10 pts.)	1 pt. / MGD or major fraction thereof.	2
EFFLUENT DISCHARGE RECEIVING WATER SENSITIVITY:		
Missouri or Mississippi River	0	-
All other stream discharges except to losing streams and stream reaches supporting whole body contact	1	-
Discharge to lake or reservoir outside of designated whole body contact recreational area	2	-
Discharge to losing stream, or stream, lake or reservoir area supporting whole body contact recreation	3	3
PRELIMINARY TREATMENT – Headworks		
Screening and/or comminution	3	3
Grit removal	3	3
Plant pumping of main flow (lift station at the headworks)	3	3
PRIMARY TREATMENT		
Primary clarifiers	5	-
Combined sedimentation/digestion	5	-
Chemical addition (except chlorine, enzymes)	4	-
REQUIRED LABORATORY CONTROL – performed by plant personnel (highest level only)		
Push – button or visual methods for simple test such as pH, Settleable solids	3	-
Additional procedures such as DO, COD, BOD, titrations, solids, volatile content	5	-
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	7	7
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph	10	-
ALTERNATIVE FATE OF EFFLUENT		
Direct reuse or recycle of effluent	6	-
Land Disposal – low rate	3	-
High rate	5	-
Overland flow	4	-
Total from page **ONE (1)**	----	23

APPENDIX - CLASSIFICATION WORKSHEET (CONTINUED):

ITEM	POINTS POSSIBLE	POINTS ASSIGNED
VARIATION IN RAW WASTE (highest level only) (DMR exceedances and Design Flow exceedances)		
Variation do not exceed those normally or typically expected	0	-
Recurring deviations or excessive variations of 100 to 200 % in strength and/or flow	2	2
Recurring deviations or excessive variations of more than 200 % in strength and/or flow	4	-
Raw wastes subject to toxic waste discharge	6	-
SECONDARY TREATMENT		
Trickling filter and other fixed film media with secondary clarifiers	10	-
Activated sludge with secondary clarifiers (including extended aeration and oxidation ditches)	15	15
Stabilization ponds without aeration	5	-
Aerated lagoon	8	-
Advanced Waste Treatment Polishing Pond	2	-
Chemical/physical – without secondary	15	-
Chemical/physical – following secondary	10	-
Biological or chemical/biological	12	-
Carbon regeneration	4	-
DISINFECTION		
Chlorination or comparable	5	-
Dechlorination	2	-
On-site generation of disinfectant (except UV light)	5	-
UV light	4	4
SOLIDS HANDLING – SLUDGE		
Solids Handling Thickening	5	5
Anaerobic digestion	10	-
Aerobic digestion	6	-
Evaporative sludge drying	2	-
Mechanical dewatering	8	-
Solids reduction (incineration, wet oxidation)	12	-
Land application	6	6
Total from page **TWO (2)**	----	32
Total from page **ONE (1)**	---	23
Grand Total	---	55

☐ - A: 71 points and greater
☒ - B: 51 points – 70 points
☐ - C: 26 points – 50 points
☐ - D: 0 points – 25 points

APPENDIX – RPA RESULTS:

Parameter	CMC*	RWC Acute*	CCC*	RWC Chronic*	n**	Range max/min	CV***	MF	RP Yes/No
Total Ammonia as Nitrogen (Summer) mg/L	12.1	0.49	1.5	0.46	14.00	0.3/0.15	0.30	1.68	NO
Total Ammonia as Nitrogen (Winter) mg/L	12.1	51.21	3.1	47.62	12.00	6.7/0.3	1.56	7.85	YES
Cadmium, Total Recoverable	8.2	0.17	0.4	0.15	8.00	0.086/0.04	0.6	2.00	NO
Copper, Total Recoverable	22.0	19.72	14.1	17.26	8.00	7/3.4	0.6	2.86	YES
Lead, Total Recoverable	150.8	14.81	5.9	12.96	8.00	5/0.4	0.6	3.01	YES
Mercury, Total Recoverable	*All reported values were non-detects*								NO
Nickel, Total Recoverable	*All reported values were non-detects*								NO
Zinc, Total Recoverable	180.7	235.17	179.2	205.78	8.00	73.8/2.5	0.6	3.24	YES
Cyanide, Amenable to Chlorination	22.0	14.94	5.0	13.08	8.00	7.6/2.5	0.6	2.00	YES

N/A – Not Applicable
* - Units are (µg/L) unless otherwise noted.
** - If the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent. If the number of samples is < 10, then the default CV value must be used in the WQBEL for the applicable constituent.
*** - Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the Mean of the same sample set.
RWC – Receiving Water Concentration. It is the concentration of a toxicant or the parameter toxicity in the receiving water after mixing (if applicable).
n – Is the number of samples.
MF – Multiplying Factor. 99% Confidence Level and 99% Probability Basis.
RP – Reasonable Potential. It is where an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Reasonable Potential Analysis is conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request.

APPENDIX – FACILITY LAYOUT:

APPENDIX – OUTFALL LOCATION:

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
APR 10 2017
Water Protection Program

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FINANCIAL QUESTIONNAIRE

NOTE ►	FINANCIAL INFORMATION THAT IS NOT PROVIDED THROUGH THIS FORM WILL BE OBTAINED BY THE DEPARTMENT FROM READILY AVAILABLE SOURCES.

1. GENERAL INFORMATION

FACILITY NAME	PERMIT NUMBER
Maryville WWTP	#MO- 0033286
CITY	**COUNTY**
Maryville	Nodaway
☒ PERMIT RENEWAL/MODIFICATION ☐ STATE REVOLVING FUND APPLICATION	SRF PROJECT NUMBER (IF APPLICABLE) C295_____

2. GENERAL FINANCIAL INFORMATION (ALL FACILITIES) Combined

2.1	Number of connections to the facility: Residential 3,279 Commercial 927 Industrial _____	
2.2	Current sewer user rate: *Based on a 5,000 gallon per month usage* $33.68	The sewer user rate is (check one): ☐ Rate Capacity (set rate) ☐ Pay as You Go
2.3	Current operating costs for the facility (excludes depreciation):	* 1,072,460
2.4	Bond Rating (if applicable):	A+ (AA- on G.O.)
2.5	Bonding Capacity: *General obligation bond capacity allowed by constitution: cities=up to 20% of taxable tangible property; sewer districts=up to 5% of taxable tangible property*	$24,651,668
2.6	Current outstanding debt relating to wastewater collection and treatment: *Debt information is typically available from your community's annual financial statements*	$13,060,000 as of 1-1-2017
2.7	Amount of current user rate per household per month used toward payments on wastewater debt:	
2.8	Net direct debt: *Net direct debt is the total amount of outstanding general obligation debt, including notes and short-term financing.*	$4,182,484
2.9	Overlapping debt: *Overlapping debt is the financial obligations of one political jurisdiction that also falls partly on a nearby jurisdiction.*	$14,265,243
2.10	Overall net debt: *Overall net debt is defined as debt repaid by property taxes within a utility/municipality's service area. It excludes debt that is repaid by special user fees (e.g. revenue bonds). Overall net debt = Net direct debt + Overlapping debt. Debt information is typically available from your community's annual financial statements*	$18,447,727
2.11	Attach any relevant financial statements.	

3. FINANCIAL INFORMATION SPECIFIC TO MUNICIPALITIES

3.1	Municipality's Full Market Property Value (FMPV): *FMPV data is typically available through your community or state assessor's office*	$559,413,210
3.2	Municipality's property tax revenues: *Property tax revenues are typically available from your community's annual financial statements*	$1,316,407
3.3	Municipality's property tax collection rate: *To determine the collection rate, you will need to divide property tax revenues by the property taxes levied. To calculate property taxes levied, multiply the assessed value of real property within your community/service area by the property tax rate. This information is typically available through your community or state assessor's office. Property tax revenues are typically available in your community's annual financial statements.*	99%

4. FINANCIAL INFORMATION SPECIFIC TO SEWER DISTRICTS

4.1 Total connections to the sewer district: Residential _____ Commercial _____ Industrial _____

4.2 When facilities require upgrades, how are the costs divided? Will the homes connected to the upgraded facility bear the costs? Will the costs be divided across the sewer district?

5. OTHER CONSIDERATIONS (ALL FACILITIES)

5.1 Provide a list of major infrastructure or other investments in environmental projects. Include project timing and costs and indicate any possible overlap or complications (attach sheets as necessary):

The city budgets annually to have projects to reduce inflow + infiltration. This year's budget includes $500,000. Staff will have a sewer main lining project as well as a manhole rehabilitation project

5.2 Provide a list of any other relevant local community economic conditions that may impact the ability to afford new permit requirements or the proposed SRF project. (See Community Supplemental Survey on the following page):

6. CERTIFICATION

FINANCIAL CONTACT	OFFICIAL TITLE
Denise Town	Finance Director
EMAIL ADDRESS	**TELEPHONE NUMBER WITH AREA CODE**
townden@maryville.org	660-562-8009

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
CE Goodall	Public Works Director
SIGNATURE	**DATE SIGNED**
CE Goodall	3-31-17

For additional guidance, see http://usmayors.org/urbanwater/media/2013/0529-report-WaterAffordability.pdf.

For more information regarding your Missouri State Operating Permit, contact the department's Water Protection Program at 573-751-1300, to speak with a permit writer in the domestic wastewater unit.

For more information regarding your State Revolving Fund Application, contact the department's Water Protection Program at 573-751-1300, to speak with a project coordinator in the Financial Assistance Center.

This completed form and any attachments should be submitted to one of the following:

For Submittal of Permit Renewal/Modification:	For Submittal of SRF Applications:
Department of Natural Resources Water Protection Program ATTN: NPDES Operating Permits Section P.O. Box 176 Jefferson City, MO 65102	Department of Natural Resources Water Protection Program ATTN: Financial Assistance Center P.O. Box 176 Jefferson City, MO 65102

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

Community Supplemental Survey

PLEASE ANSWER THE FOLLOWING APPLICABLE QUESTIONS. (ATTACH ADDITIONAL SHEETS AS NECESSARY)

1. Are there any significant transportation corridors within 20 miles of your community?
If yes, please explain. (Example: major interstate, railroad center)

71 HWY

2. Are there any significant manufacturing or employment centers within 20 miles of your community?
If yes, please explain. (Example: commercial farming, manufacturing, government operation, big box store)

3. Where do the majority of children in your community receive their education?
(Please check appropriate box for each education level)

Elementary	☒ Within your community	☐ Within 20 miles	☐ Farther than 20 miles
Middle School	☒ Within your community	☐ Within 20 miles	☐ Farther than 20 miles
High School	☒ Within your community	☐ Within 20 miles	☐ Farther than 20 miles

4. Considering your community's tax base, debt level, ability to bond capital improvement projects, or repay loans, how likely is it that your community could afford to pay for the following:

	Very Unlikely	Unlikely	Likely	Very Likely
4.1 An upgrade or replacements to your wastewater system costing $50,000				X
4.2 An upgrade or replacements to your wastewater system costing $250,000				X
4.3 An upgrade or replacements to your wastewater system costing $1 million			X	

5. Which of the following best describes anticipated population change for your community over the next ten years?
☐ Significant Decrease ☐ Decrease ☐ Remain the Same ☒ Increase ☐ Significant Increase

6. Check the appropriate boxes in the following statements as it relates to the population change you predicted in questions 5.

6.1 Over the past 20 years the population has:
☐ Significantly Decreased ☐ Decreased ☐ Remained the Same ☒ Increased ☐ Significantly Increased

6.2 The majority of the population in the community is retired or is near retirement.
☐ Definitely False ☒ Probably False ☐ Probably True ☐ True ☐ Unknown

6.3 The majority of young people leave the community in search of employment or education elsewhere.
☐ Definitely False ☐ Probably False ☒ Probably True ☐ True ☐ Unknown

6.4 In the foreseeable future, the employment opportunity in or around the community will:
☐ Significantly Decrease ☐ Decrease ☐ Remain the Same ☒ Increase ☐ Significantly Increase

6.5 In the foreseeable future the economic activity in or around the community will:
☐ Significantly Decrease ☐ Decrease ☐ Remain the Same ☒ Increase ☐ Significantly Increase

6.6 In the foreseeable future the tax base of the community will:
☐ Significantly Decrease ☐ Decrease ☐ Remain the Same ☒ Increase ☐ Significantly Increase

6.7 It is _____ for the community to meet its debt obligations.
☐ Difficult ☐ Somewhat Difficult ☒ Somewhat Easy ☐ Easy ☐ No Debt

7. What other issues or information should be considered when determining population stability or the financial ability for your community to pay for significant capital investments? Attach sheets as necessary.
(Example: Seasonal population changes, natural resources (lakes, rivers), age of infrastructure, significant employment changes, etc.)

NONE

8. Should an existing or proposed regional wastewater district be willing to connect, own, or operate your current facility, how likely would you be to consider this as an option?

Very Unlikely	Unlikely	Likely	Very Likely
	X		

INSTRUCTIONS FOR COMPLETING FORM B2
APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY, Form 780-1805
(Facilities less than or equal to 100,000 gallons per day of domestic waste must use Form B, 780-1512.)

PART A – BASIC APPLICATION INFORMATION

1. Check the appropriate box. **Do not check more than one item.** Operating permits refer to permits issued by the Department of Natural Resources, Water Protection Program. If an Antidegradation Review has not been conducted, submit the application located at the following link, to the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102: dnr.mo.gov/forms/780-1893-f.pdf.

1.1 **Fees Information:**

DOMESTIC OPERATING PERMIT FEES – PRIVATE

Annual operating permit fees are based on flow.

Annual fee/Design flow	Annual fee/Design flow	Annual fee/Design flow
$150.....<5,000 gpd	$1,000.....15,000-24,999 gpd	$4,000.....100,000-249,999 gpd
$300.....5,000-9,999 gpd	$1,500.....25,000-29,999 gpd	$5,000.....≥250,000 gpd
$600.....10,000-14,999 gpd	$3,000.....30,000-99,999 gpd	

New domestic wastewater treatment facilities must submit the annual fee with the original application.

If the application is for a site-specific permit re-issuance, send no fees. You will be invoiced separately by the department on the anniversary date of the original permit. Permit fees must be current for the department to reissue the operating permit. Late fees of two percent per month are charged and added to outstanding annual fees.

PUBLIC SEWER SYSTEM OPERATING PERMIT FEES (City, public sewer district, public water district, or other publicly owned treatment works) Annual fee is based on number of service connections. Fees listings are found in 10 CSR 20-6.011 which is available at http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf. New public sewer system facilities should not submit any fee as the department will invoice the permittee.

OPERATING PERMIT MODIFICATIONS, including transfers, are subject to the following fees:

a. Publicly Owned Treatment Works (POTWs) - $200 each.
b. Non-POTWs – $100 each for a minor modification (name changes, address changes, other non-substantive changes) or a fee equal to 25 percent of the facility's annual operating fee for a major modification.

2. Name of Facility – Include the name by which this facility is locally known. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the names of the closest intersection, highway, country road, etc.

2.1 Self-explanatory.

2.2 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at www.dnr.mo.gov/internetmapviewer/.

2.3-2.4 Self-explanatory.

3. Owner – Provide the legal name, mailing address, phone number, and email address of the owner.

3.1 Prior to submitting a permit to public notice, the Department of Natural Resources shall provide the permit applicant 15 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice.

3.2-3.4 Self-explanatory.

4. Continuing Authority – Provide information for the permanent organization which will serve as the continuing authority for the operation, maintenance, and modernization of the facility. The regulatory requirement regarding continuing authority is available at http://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf or contact the Department of Natural Resources Water Protection Program (see contact information below).

5. Operator – Provide the name, certificate number, title, mailing address, phone number, and email address of the operator of the facility.

6. Provide the name, title, mailing address, work phone number, and email address of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department.

INSTRUCTIONS FOR COMPLETING FORM B2
APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY
(continued)

PART B – ADDITIONAL APPLICATION INFORMATION

10.-14. Self-explanatory

PART C – CERTIFICATION

15. Electronic Discharge Monitoring Report (eDMR) Submission System – Visit the eDMR site at http://dnr.mo.gov/env/wpp/edmr.htm and click on the "Facility Participation Package" link. The eDMR Permit Holder and Certifier Registration Form and information about the eDMR system can be found in the Facility Participation Package.

Waivers to electronic reporting may be granted by the Department per 40 CFR 127.15 under certain, special circumstances. A written request must be submitted to the Department for approval. Waivers may be granted to facilities owned or operated by:

a. members of religious communities that choose not to use certain technologies or
b. permittees located in areas with limited broadband access. The National Telecommunications and Information Administration (NTIA) in collaboration with the Federal Communications Commission (FCC) have created a broadband internet availability map: http://www.broadbandmap.gov/. Please contact the Department if you need assistance.

16. Signature – All applications must be signed as follows and the signatures must be original:

a. For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
b. For a partnership or sole proprietorship, by a general partner or the proprietor.
c. For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.

PART D – EXPANDED EFFLUENT TESTING DATA

17. Self-explanatory. ML/MDL means minimum limit or minimum detection limit.

PART E – TOXICITY TESTING DATA

18. Self- explanatory.

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

19. Federal regulations are available through the U.S. Government Printing Office at https://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR.

19.1 Self – explanatory

19.2 A noncategorical significant industrial user is an industrial user that is not a CIU and meets one or more of the following:

i. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
ii. Contributes a process waste stream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant.
iii. Is designated as an SIU by the control authority.

20.-22.4 Self-explanatory.

PART G – COMBINED SEWER SYSTEMS

23.-24.4 Self-explanatory.

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

This completed form and any attachments along with the applicable permit fees, should be submitted to:

Department of Natural Resources
Water Protection Program
ATTN: NPDES Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176

Map of regional offices with addresses and phone numbers are available on the web at http://dnr.mo.gov/regions/. If there are any questions concerning this form, contact the appropriate regional office or the Department of Natural Resources, Water Protection Program, Operating Permits Section at 800-361-4827 or 573-751-6825.

RECEIVED

APR 10 2017

Water Protection Program

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

FORM B2 – APPLICATION FOR OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FACILITY NAME: Maryville WWTP

PERMIT NO.: 0033286

COUNTY: Nodaway

APPLICATION OVERVIEW

Form B2 has been developed in a modular format and consists of Parts A, B and C and a Supplemental Application Information (Parts D, E, F and G) packet. All applicants must complete Parts A, B and C. Some applicants must also complete parts of the Supplemental Application Information packet. The following items explain which parts of Form B2 you must complete. Submittal of an incomplete application may result in the application being returned.

BASIC APPLICATION INFORMATION

A. Basic application information for all applicants. All applicants must complete Part A.

B. Additional application information for all applicants. All applicants must complete Part B.

C. Certification. All applicants must complete Part C.

SUPPLEMENTAL APPLICATION INFORMATION

D. Expanded Effluent Testing Data. A treatment works that discharges effluent to surface water of the United States and meets one or more of the following criteria must complete *Part D - Expanded Effluent Testing Data*:

1. Has a design flow rate greater than or equal to 1 million gallons per day.
2. Is required to have or currently has a pretreatment program.
3. Is otherwise required by the permitting authority to provide the information.

E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete *Part E - Toxicity Testing Data*:

1. Has a design flow rate greater than or equal to 1 million gallons per day.
2. Is required to have or currently has a pretreatment program.
3. Is otherwise required by the permitting authority to provide the information.

F. Industrial User Discharges and Resource Conservation and Recovery Act / Comprehensive Environmental Response, Compensation and Liability Act Wastes. A treatment works that accepts process wastewater from any significant industrial users, also known as SIUs, or receives a Resource Conservation and Recovery Act or CERCLA wastes must complete *Part F - Industrial User Discharges and Resource Conservation and Recovery Act /CERCLA Wastes*.

SIUs are defined as:

1. All Categorical Industrial Users, or CIUs, subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations 403.6 and 40 Code of Federal Regulations 403.6 and 40 CFR Chapter 1, Subchapter N.
2. Any other industrial user that meets one or more of the following:
   - i. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
   - ii. Contributes a process waste stream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant.
   - iii. Is designated as an SIU by the control authority.
   - iv. Is otherwise required by the permitting authority to provide the information.

G. Combined Sewer Systems. A treatment works that has a combined sewer system must complete *Part G - Combined Sewer Systems*.

ALL APPLICANTS MUST COMPLETE PARTS A, B and C

26744

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APR 10 2017

MISSOURI DEPARTMENT OF NATURAL RESOURCES Water Protection Program
WATER PROTECTION PROGRAM

FORM B2 – APPLICATION FOR AN OPERATING PERMIT FOR FACILITIES THAT RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED
4-10-17	0

PART A – BASIC APPLICATION INFORMATION

1. THIS APPLICATION IS FOR:

☐ An operating permit for a new or unpermitted facility. Construction Permit # _____
(Include completed Antidegradation Review or request to conduct an Antidegradation Review, see instructions)
☒ An operating permit renewal: Permit #MO- 0033286 Expiration Date September 30, 2017
☐ An operating permit modification: Permit #MO-_____ 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
Maryville WWTP			660-562-2250
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
29600 HIGHWAY 136 East	Maryville	MO	64468

2.1 LEGAL DESCRIPTION (Facility Site): ¼, SE ¼, NW ¼, Sec. 22, T 64, R 35 COUNTY: Nodaway

2.2 UTM Coordinates Easting (X): 22 Northing (Y): 64
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: 102 River

2.4 Number of Outfalls: 1 wastewater outfalls, stormwater outfalls, instream monitoring sites

3. OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE
City of Maryville (CE Goodall)	cgoodall@maryville.org	660-562-8012
ADDRESS	CITY	STATE / ZIP CODE
415 N. Market	Maryville	MO 64468

3.1 Request review of draft permit prior to Public Notice? ☑ YES ☐ NO

3.2 Are you a Publically Owned Treatment Works (POTW)? ☑ YES ☐ NO
If yes, is the Financial Questionnaire attached? ☐ YES ☑ NO

3.3 Are you a Privately Owned Treatment Facility? ☐ YES ☑ NO

3.4 Are you a Privately Owned Treatment Facility regulated by the Public Service Commission (PSC)? ☐ YES ☑ NO

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

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE
City of Maryville (CE Goodall)	cgoodall@maryville.org	660-562-8012
ADDRESS	CITY	STATE / ZIP CODE
415 N. Market	Maryville	MO 64468

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 (IF APPLICABLE)
Steve Guthrie	Contract operator- People Services	5920
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Sguthrie@peopleservice.com	712-242-5217	

6. FACILITY CONTACT

NAME	TITLE	
City of Maryville (CE Goodall)	Director of Public Works	
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
cgoodall@maryville.org	660-562-8012	
ADDRESS	CITY	STATE / ZIP CODE
415 N. Market	Maryville	MO 64468

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART A – BASIC APPLICATION INFORMATION

7. FACILITY INFORMATION

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.

See attached for flow diagram

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART A – BASIC APPLICATION INFORMATION

7. FACILITY INFORMATION (continued)

7.2 Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information.

a. The area surrounding the treatment plant, including all unit processes.
b. The location of the downstream landowner(s). (See Item 10.)
c. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
d. The actual point of discharge.
e. Wells, springs, other surface water bodies and drinking water wells that are: 1) within ¼ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
f. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
g. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, or disposed.

7.3 Facility SIC Code:	Discharge SIC Code:
1542.	4952.

7.4 Number of people presently connected or population equivalent (P.E.): 12,000 Design P.E. 20,000

7.5 Connections to the facility:

Number of units presently connected:

Homes 3233 Trailers ____ Apartments ____ Other (including industrial) 832

Number of Commercial Establishments: ____

7.6 Design Flow	Actual Flow
2 MGD	1.7 MGD

7.7 Will discharge be continuous through the year? Yes ☒ No ☐

Discharge will occur during the following months: How many days of the week will discharge occur?

7.8 Is industrial wastewater discharged to the facility? Yes ☒ No ☐

If yes, describe the number and types of industries that discharge to your facility. Attach sheets as necessary

See pre-treatment annual report

Refer to the APPLICATION OVERVIEW to determine whether additional information is needed for Part F.

7.9	Does the facility accept or process leachate from landfills?:	Yes ☐	No ☒
7.10	Is wastewater land applied? If yes, is Form I attached?	Yes ☐ Yes ☐	No ☒ No ☐
7.11	Does the facility discharge to a losing stream or sinkhole?	Yes ☐	No ☒
7.12	Has a wasteload allocation study been completed for this facility?	Yes ☒	No ☐

8. 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, settleable 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 ☒

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART A – BASIC APPLICATION INFORMATION

9. SLUDGE HANDLING, USE AND DISPOSAL

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

9.2 Sludge production (Including sludge received from others): Design Dry Tons/Year 290 Actual Dry Tons/Year

9.3 Sludge storage provided: 4.7M Cubic feet; >15yr Days of storage; 3% Average percent solids of sludge;

☐ No sludge storage is provided. ☑ Sludge is stored in lagoon.

9.4 Type of storage:
☐ Holding Tank ☐ Building
☐ Basin ☑ Lagoon
☐ Concrete Pad ☐ Other (Describe) ____

9.5 Sludge Treatment:

☐ Anaerobic Digester ☐ Storage Tank ☐ Lime Stabilization ☑ Lagoon
☐ Aerobic Digester ☐ Air or Heat Drying ☐ Composting ☐ Other (Attach Description)

9.6 Sludge use or disposal:

☑ Land Application ☐ Contract Hauler ☐ Hauled to Another Treatment Facility ☐ Solid Waste Landfill
☐ Surface Disposal (Sludge Disposal Lagoon, Sludge Held For More Than Two Years) ☐ Incineration
☐ Other (Attach Explanation Sheet) ____

9.7 Person responsible for hauling sludge to disposal facility:
☑ By Applicant ☐ By Others (complete below)

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

9.8 Sludge use or disposal facility:
☑ By Applicant ☐ By Others (Complete below)

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

9.9 Does the sludge or biosolids disposal comply with Federal Sludge Regulation 40 CFR 503?
☑ Yes ☐ No (Explain)

END OF PART A

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO-0031286	001

PART B – ADDITIONAL APPLICATION INFORMATION

10. COLLECTION SYSTEM

10.1 Length of sanitary sewer collection system in miles

80

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:

The city has spent in excess of $1,000,000 over the past 4 years to address inflow and infiltration into the collection system. The 2016-17 Budget contains another $700,000 that will go toward I+I repairs. The majority of the funds spent + allocated have been used to line sewer mains + manholes.

11. BYPASSING

Does any bypassing occur anywhere in the collection system or at the treatment facility? Yes ☑ No ☐

If yes, explain:

Not recently. Only occurs in very high rainfall.

12. OPERATION AND MAINTENANCE PERFORMED BY CONTRACTOR(S)

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of the contractor?

Yes ☑ No ☐

If Yes, list the name, address, telephone number and status of each contractor and describe the contractor's responsibilities. (Attach additional pages if necessary.)

NAME

People Services - Contract Operations company

MAILING ADDRESS

3613 E. First Street, Maryville, MO 64468

TELEPHONE NUMBER WITH AREA CODE

712-242-5208

EMAIL ADDRESS

Sguthrie@peopleservice.com

RESPONSIBILITIES OF CONTRACTOR

WWTP Operations

WTP operations

13. SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

Provide information about any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses for each.

NONE

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO-0033286	001

PART B – ADDITIONAL APPLICATION INFORMATION

14. EFFLUENT TESTING DATA

Applicants must provide effluent testing data for the following parameters. Provide the indicated effluent data **for each outfall through which effluent is discharged**. Do not include information of combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least **three samples** and must be no more than four and one-half years apart.

Outfall Number

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	7.14	S.U.	7.40	S.U.	4
pH (Maximum)	7.51	S.U.	7.40	S.U.	4
Flow Rate	2.86	MGD	1.05	MGD	31

*For pH report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
		Conc.	Units	Conc.	Units	Number of Samples		
Conventional and Nonconventional Compounds								
BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD_5	5	mg/L	2.38	mg/L	4		
	$CBOD_5$		mg/L		mg/L			
E. COLI		15.1	#/100 mL	10.2	#/100 mL	3		
TOTAL SUSPENDED SOLIDS (TSS)		12	mg/L	5.75	mg/L	4		
AMMONIA (as N)		<0.3	mg/L	<0.3	mg/L	4		
CHLORINE* (TOTAL RESIDUAL, TRC)			mg/L		mg/L			
DISSOLVED OXYGEN		9.64	mg/L		mg/L	4		
OIL and GREASE		.3	mg/L		mg/L	3		
OTHER			mg/L		mg/L			

*Report only if facility chlorinates

END OF PART B

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART C – CERTIFICATION

15. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

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

☐ - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.

☑ - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.

☐ - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

16. CERTIFICATION

All applicants must complete the Certification Section. This certification must be signed by an officer of the company or city official. All applicants must complete all applicable sections as explained in the Application Overview. By signing this certification statement, applicants confirm that they have reviewed the entire form and have completed all sections that apply to the facility for which this application is submitted.

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

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

PRINTED NAME	OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL)
CE Goodall	Director of Public Works

SIGNATURE: CE Goodall

TELEPHONE NUMBER WITH AREA CODE: 660-562-8012

DATE SIGNED: 3-23-17

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

Send Completed Form to:

Department of Natural Resources
Water Protection Program
ATTN: NPDES Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176

END OF PART C
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH PARTS OF FORM B2 YOU MUST COMPLETE.

Do not complete the remainder of this application, unless at least one of the following statements applies to your facility:

1. Your facility design flow is equal to or greater than 1,000,000 gallons per day.
2. Your facility is a pretreatment treatment works.
3. Your facility is a combined sewer system.

Submittal of an incomplete application may result in the application being returned. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Marville WWTP	MO- 0033286	001

PART D – EXPANDED EFFLUENT TESTING DATA

17. EXPANDED EFFLUENT TESTING DATA

Refer to the APPLICATION OVERVIEW to determine whether Part D applies to the treatment works.

If the treatment works has a design flow greater than or equal to 1 million gallons per day or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information **for each outfall through which effluent is discharged**. Do not include information of combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least **three pollutant scans** and must be no more than four and one-half years apart.

Outfall Number (Complete Once for Each Outfall Discharging Effluent to Waters of the State.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS AND HARDNESS											
ALUMINUM											
ANTIMONY											
ARSENIC											
BERYLLIUM											
CADMIUM	.086	ug/L			.029	ug/L			3	EPA. 200.8	
CHROMIUM III	ND	ug/L			ND	ug/L			3	EPA 200.7	
CHROMIUM VI											
COPPER	4.5	ug/L			3.8	ug/L			3	EPA 200.8	
IRON											
LEAD	1.6	ug/L			.99	ug/L					
MERCURY	ND	ug/L			ND	ug/L			3	EPA 245.1	
NICKEL	ND	ug/L			ND	ug/L			3	EPA 200.7	
SELENIUM											
SILVER	ND	ug/L			ND	ug/L			3	EPA 200.7	
THALLIUM											
ZINC	66.8	ug/L			41.1	ug/L			3	EPA 200.7	
CYANIDE	ND	ug/L			ND	ug/L			3	SM 4500-CN-E	
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (as $CaCO_3$)											
VOLATILE ORGANIC COMPOUNDS											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART D – EXPANDED EFFLUENT TESTING DATA

17. EXPANDED EFFLUENT TESTING DATA

Complete Once for Each Outfall Discharging Effluent to Waters of the State

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
CHLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLORO-ETHANE											
1,2-DICHLORO-ETHANE											
TRANS-1,2-DICHLOROETHYLENE											
1,1-DICHLORO-ETHYLENE											
1,2-DICHLORO-PROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRA-CHLOROETHANE											
TETRACHLORO-ETHANE											
TOLUENE											
1,1,1-TRICHLORO-ETHANE											
1,1,2-TRICHLORO-ETHANE											
TRICHLORETHYLENE											
VINYL CHLORIDE											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART D – EXPANDED EFFLUENT TESTING DATA

17. EXPANDED EFFLUENT TESTING DATA

Complete Once for Each Outfall Discharging Effluent to Waters of the State.

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
BASE-NEUTRAL COMPOUNDS											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											
3,4-BENZO-FLUORANTHENE											
BENZO(GH) PHERYLENE											
BENZO(K) FLUORANTHENE											
BIS (2-CHLOROTHOXY) METHANE											
BIS (2-CHLOROETHYL) – ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPH-THALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO (A,H) ANTHRACENE											
1,2-DICHLORO-BENZENE											
1,3-DICHLORO-BENZENE											
1,4-DICHLORO-BENZENE											
3,3-DICHLORO-BENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											

FACILITY NAME	PERMIT NO.	OUTFALL NO.
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PART D – EXPANDED EFFLUENT TESTING DATA

17. EXPANDED EFFLUENT TESTING DATA

Complete Once for Each Outfall Discharging Effluent to Waters of the State.

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	No. of Samples		
2,4-DINITRO-TOLUENE											
2,6-DINITRO-TOLUENE											
1,2-DIPHENYL-HYDRAZINE											
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO (1,2,3-CD) PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-PROPYLAMINE											
N-NITROSODI-METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											

Use this space (or a separate sheet) to provide information on other pollutants not specifically listed in this form.

END OF PART D

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
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PART E – TOXICITY TESTING DATA

18. TOXICITY TESTING DATA

Refer to the APPLICATION OVERVIEW to determine whether Part E applies to the treatment works.

Publicly owned treatment works, or POTWs, meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points.

A. POTWs with a design flow rate greater than or equal to 1 million gallons per day
B. POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403)
C. POTWs required by the permitting authority to submit data for these parameters

- At a minimum, these results must include quarterly testing for a 12-month period within the past one year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute or chronic toxicity, depending on the range of receiving water dilution. Do not include information about combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- If EPA methods were not used, report the reason for using alternative methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E. If no biomonitoring data is required, do not complete Part E. Refer to the application overview for directions on which other sections of the form to complete.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years: 0 chronic 2 acute

Complete the following chart **for the last three whole effluent toxicity tests.** Allow one column per test. Copy this page if more than three tests are being reported.

	Most Recent	2ND Most Recent	3RD Most Recent
A. Test Information			
Test Method Number		EPA 821/R-02/012	EPA 821/R-02/012
Final Report Number			
Outfall Number		001	001
Dates Sample Collected		9-14-16	9/23/15
Date Test Started		9-15-16	9/23/15
Duration		48 hrs	48 hrs
B. Toxicity Test Methods Followed			
Manual Title			
Edition Number and Year of Publication			
Page Number(s)			
C. Sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used			
24-Hour Composite			
Grab		Grab	Grab
D. Indicate where the sample was taken in relation to disinfection (Check all that apply for each)			
Before Disinfection	☐	☐	☐
After Disinfection	☐	☒	☒
After Dechlorination	☐	☐	☐
E. Describe the point in the treatment process at which the sample was collected			
Sample Was Collected:		WWTP Discharge Effluent	WWTP Discharge Effluent
F. Indicate whether the test was intended to assess chronic toxicity, acute toxicity, or both			
Chronic Toxicity	☐	☐	☐
Acute Toxicity	☐	☒	☒
G. Provide the type of test performed			
Static	☐	☒	☒
Static-renewal	☐	☐	☐
Flow-through	☐	☐	☐
H. Source of dilution water. If laboratory water, specify type; if receiving water, specify source			
Laboratory Water	☐	☐	☐
Receiving Water	☐	☐	☐

FACILITY NAME	PERMIT NO.	OUTFALL NO.
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PART E - TOXICITY TESTING DATA

18. TOXICITY TESTING DATA (continued)

	Most Recent	Second Most Recent	Third Most Recent
I. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh Water			
Salt Water			
J. Percentage of effluent used for all concentrations in the test series			
		100%	100%
K. Parameters measured during the test (State whether parameter meets test method specifications)			
pH		7.64 Met	7.60 Met
Salinity			
Temperature		25°C	25°C Met
Ammonia			
Dissolved Oxygen		8.60 Met	7.80 Met
L. Test Results			
Acute:			
Percent Survival in 100% Effluent		100%	100%
LC_{50}		>100%	>100%
95% C.I.			
Control Percent Survival			
Other (Describe)			
Chronic:			
NOEC			
IC_{25}			
Control Percent Survival			
Other (Describe)			
M. Quality Control/ Quality Assurance			
Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (Describe)			

Is the treatment works involved in a toxicity reduction evaluation? ☐ Yes ☒ No

If yes, describe:

If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date Submitted (MM/DD/YYYY)

Summary of Results (See Instructions)

END OF PART E

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.

19. GENERAL INFORMATION

19.1 Does the treatment works have, or is it subject to, an approved pretreatment program?

☑ Yes ☐ No

19.2 Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:

Number of non-categorical SIUs 0

Number of CIUs 4

20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME: Federal Mogul Corporation

MAILING ADDRESS	CITY	STATE	ZIP CODE
2002 East First Street	Maryville	MO	64468

20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge

Metal Removal

20.2 Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

Principal Product(s): Car Chassis

Raw Material(s): Various Metals

20.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

3,500 gpd ☑ Continuous ☐ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

16,000 gpd ☑ Continuous ☐ Intermittent

20.4 Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local Limits ☑ Yes ☐ No

b. Categorical Pretreatment Standards ☑ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☑ No

If Yes, describe each episode

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.

19. GENERAL INFORMATION

19.1 Does the treatment works have, or is it subject to, an approved pretreatment program?

☑ Yes ☐ No

19.2 Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:

Number of non-categorical SIUs 0

Number of CIUs 4

20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME: LaClede Chain Manufacturing Company

MAILING ADDRESS	CITY	STATE	ZIP CODE
2500 East First	Maryville	MO	64468

20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge

Chain manufacturing

20.2 Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

Principal Product(s): Chain

Raw Material(s): steel

20.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

4,900 gpd ☑ Continuous ☐ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

7,500 gpd ☑ Continuous ☐ Intermittent

20.4 Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local Limits ☑ Yes ☐ No

b. Categorical Pretreatment Standards ☑ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☑ No

If Yes, describe each episode

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.

19. GENERAL INFORMATION

19.1 Does the treatment works have, or is it subject to, an approved pretreatment program?
☑ Yes ☐ No

19.2 Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:
Number of non-categorical SIUs 0
Number of CIUs 4

20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME			
Kawasaki Motors Manufacturing			
MAILING ADDRESS	**CITY**	**STATE**	**ZIP CODE**
28147 S. Bus. Highway 71	Maryville	MO	64468

20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge
Aluminum die casting and metal molding

20.2 Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.
Principal Product(s): small motors
Raw Material(s): aluminum, steel

20.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.
8,000 gpd ☑ Continuous ☐ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.
10,000 gpd ☑ Continuous ☐ Intermittent

20.4 Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local Limits ☑ Yes ☐ No

b. Categorical Pretreatment Standards ☑ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?
☐ Yes ☑ No

If Yes, describe each episode

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

Refer to the APPLICATION OVERVIEW to determine whether Part F applies to the treatment works.

19. GENERAL INFORMATION

19.1 Does the treatment works have, or is it subject to, an approved pretreatment program?

☑ Yes ☐ No

19.2 Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works:

Number of non-categorical SIUs 0

Number of CIUs 4

20. INDUSTRIES CONTRIBUTING MORE THAN 5 PERCENT OF THE ACTUAL FLOW TO THE FACILITY OR OTHER SIGNIFICANT INDUSTRIAL USERS INFORMATION

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME: Nucor-LMP, Inc.

MAILING ADDRESS	CITY	STATE	ZIP CODE
2000 East First	Maryville	MO	64468

20.1 Describe all of the industrial processes that affect or contribute to the SIU's discharge

Steel manufacturing

20.2 Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

Principal Product(s): steel products

Raw Material(s): steel

20.3 Flow Rate

a. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

61,000 gpd ☑ Continuous ☐ Intermittent

b. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.

2,500 gpd ☑ Continuous ☐ Intermittent

20.4 Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local Limits ☑ Yes ☐ No

b. Categorical Pretreatment Standards ☑ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

20.5 Problems at the treatment works attributed to waste discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☑ No

If Yes, describe each episode

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART F – INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

21. RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE

21.1 Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe? ☐ Yes ☑ No

21.2 Method by which RCRA waste is received. (Check all that apply)
☐ Truck ☐ Rail ☐ Dedicated Pipe

21.3 Waste Description

EPA Hazardous Waste Number	Amount (volume or mass)	Units

22. CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER

22.1 Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?
☐ Yes ☑ No
Provide a list of sites and the requested information for each current and future site.

22.2 Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

22.3 List the hazardous constituents that are received (or are expected to be received). Included data on volume and concentration, if known. (Attach additional sheets if necessary)

22.4 Waste Treatment

a. Is this waste treated (or will it be treated) prior to entering the treatment works?
☐ Yes ☐ No

If Yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?
☐ Continuous ☐ Intermittent

If intermittent, describe the discharge schedule:

END OF PART F
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL

FACILITY NAME	PERMIT NO.	OUTFALL NO.
Maryville WWTP	MO- 0033286	001

PART G – COMBINED SEWER SYSTEMS

Refer to the APPLICATION OVERVIEW to determine whether Part G applies to the treatment works.

23. GENERAL INFORMATION

23.1 System Map. Provide a map indicating the following: (May be included with basic application information.)

A. All CSO Discharges.
B. Sensitive Use Areas Potentially Affected by CSOs. (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems and Outstanding Natural Resource Waters.)
C. Waters that Support Threatened and Endangered Species Potentially Affected by CSOs.

23.2 System Diagram. Provide a diagram, either in the map provided above or on a separate drawing, of the Combined Sewer Collection System that includes the following information:

A. Locations of Major Sewer Trunk Lines, Both Combined and Separate Sanitary.
B. Locations of Points where Separate Sanitary Sewers Feed Into the Combined Sewer System.
C. Locations of In-Line or Off-Line Storage Structures.
D. Locations of Flow-Regulating Devices.
E. Locations of Pump Stations.

23.3 Percent of collection system that is combined sewer

23.4 Population served by combined sewer collection system

23.5 Name of any satellite community with combined sewer collection system

24. CSO OUTFALLS. COMPLETE THE FOLLOWING ONCE FOR EACH CSO DISCHARGE POINT

24.1 Description of Outfall

a. Outfall Number
b. Location

c. Distance from Shore (if applicable) _____ ft
d. Depth Below Surface (if applicable) _____ ft
e. Which of the following were monitored during the last year for this CSO?

☐ Rainfall ☐ CSO Pollutant Concentrations ☐ CSO
☐ CSO Flow Volume ☐ Receiving Water Quality

f. How many storm events were monitored last year?

24.2 CSO Events

a. Give the Number of CSO Events in the Last Year Events ☐ Actual ☐ Approximate
b. Give the Average Duration Per CSO Event
Hours ☐ Actual ☐ Approximate
c. Give the Average Volume Per CSO Event
Million Gallons ☐ Actual ☐ Approximate
d. Give the minimum rainfall that caused a CSO event in the last year _____ inches of rainfall

24.3 Description of Receiving Waters

a. Name of Receiving Water
b. Name of Watershed/River/Stream System
c. U.S. Soil Conservation Service 14-Digit Watershed Code (If Known)
d. Name of State Management/River Basin
e. U.S. Geological Survey 8- Digit Hydrologic Cataloging Unit Code (If Known)

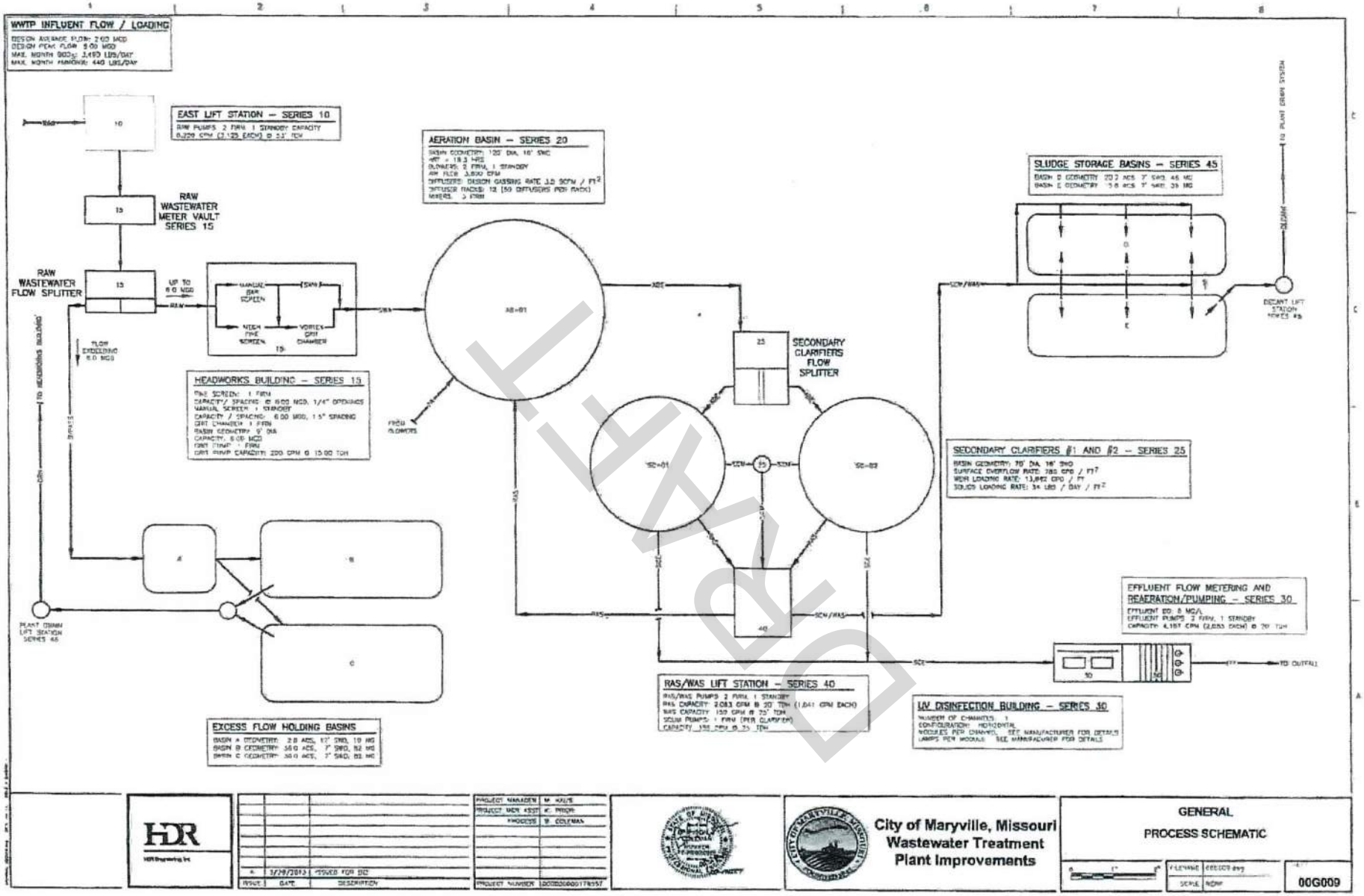
24.4 CSO Operations

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shellfish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable state water quality standard.)

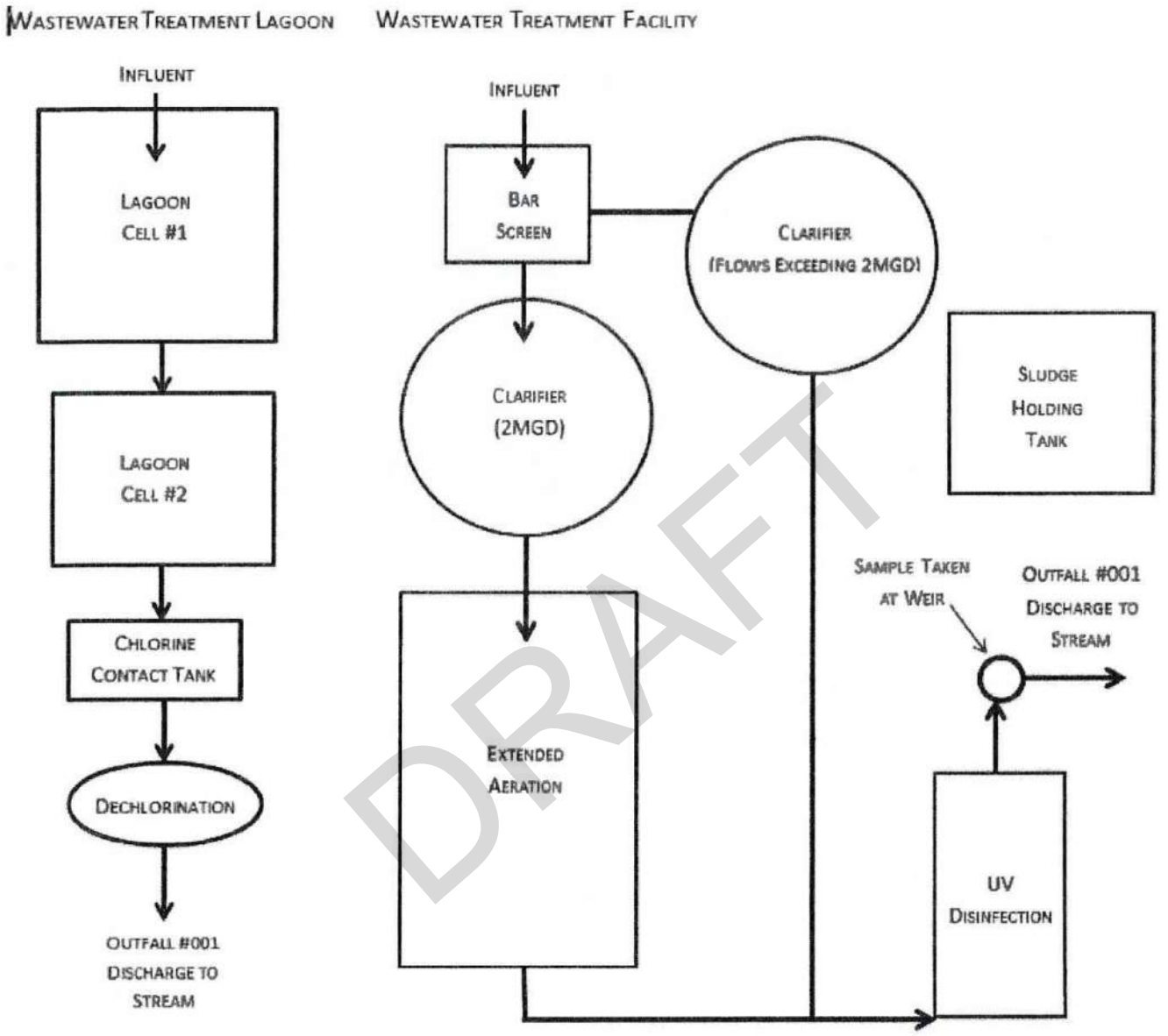
END OF PART G

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

NEW MECHANICAL WWTP
POINT OF DISCHARGE
DRAFT



7.1 Process Flow Diagram Examples



7.2 A topographic map is available on the web at www.dnr.mo.gov/internetmapviewer/ or from the Department of Natural Resources' Geological Survey in Rolla at 573-368-2125.

7.3 For Standard Industrial Codes visit www.osha.gov/pls/imis/sicsearch.html and for the North American Industry Classification System, visit www.census.gov/naics or contact the Department of Natural Resources' Water Protection Program.

7.4-7.8 Self – explanatory.

7.9 If wastewater is land-applied submit form I: www.dnr.mo.gov/forms/780-1686-f.pdf.

7.10-8. Self-explanatory

9.1 A copy of 10 CSR 25 is available at www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-25.

9.2-9.9 Self – explanatory.

MARYVILLE
MO-0033286
PRETREATMENT IMPLEMENTATION ANNUAL REPORT
CALENDAR YEAR 2016

Using the attached table please provide a list of all Significant Industrial Users and the other requested information for those facilities regulated by your Pretreatment Program. If any facility was in Significant Noncompliance (SNC) during a six month reporting period be sure to indicate whether this was for a violation of discharge standards, reporting or both. If the data is kept by you in a spreadsheet or database a printout can be substituted instead.

With respect to the industries regulated under the City's Pretreatment Program, please answer the following questions. Use additional paper if necessary.

1. List by name, Those SIUs that did not have a valid control mechanism (i.e. expired or unissued) as of December 31, 2016. Of these industries, indicate those that have been without a control mechanism for greater than 180 days. If your approved Pretreatment program does not require you to issue permits, please indicate.

   None

2. List by names those SIUs not sampled by the POTW at least once during calendar year 2016.

   None

3. List by name those SIUs on a compliance schedule as of December 31, 2016, for achieving compliance with discharge standards. Provide the date of projected final compliance. Indicate those facilities currently in violation of any compliance schedule milestones by 90 days or greater.

   None

4. List by name those industries for which civil or criminal judicial actions were initiated in the past year. Indicate the amount of any proposed penalties and the amount of penalties collected.

   None

5. List by name those industries for which written Notices of Violation (NOV'S), Administrative Orders (AO's) or the equivalent was issued in response to noncompliance events that occurred in the past calendar year. For each industry indicate the total number of each enforcement action type and the amount of penalties collected, if any.

   None

6. List by name those industries that were in Significant Noncompliance (SNC) at any time during the calendar year and public noticed in the largest local newspaper. Provide the date of publication. If publication has not yet occurred, please provide the expected date of publication.

   None

7. Did the POTW have any numerical NPDES violations in 2016? If so, describe.

   None

Were any NPDES violations attributed to interference or pass through?

None

List by name any industry that:

(a) Caused interference at the POTW
(b) Caused pass through of pollutants at the WWTP
(c) Caused health problems to POTW workers
(d) Caused water quality violations (violations of city's NPDES permit).

None

For each industry provide details including information on enforcement actions taken by the city to resolve the violations.

NA

Signature | Logistics Manager (Title) | 3-21-16 (Date)

Appendix B

Nodaway County PWSD No. 1 Permit to Dispense Drinking Water

January 8, 2025

Norman Wilson, President
Nodaway County PWSD 1
120 East Third Street
Maryville, MO 64468

RE: Nodaway County PWSD 1, MO1024428, Nodaway County, Review Number 1000104-23

Dear Norman Wilson:

Enclosed is the Permit to Dispense Water to the Public for the above stated system. This permit replaces your previously issued Permit to Dispense Water. Please review this document carefully. Operation of the public water system in accordance with the rules and regulations cited in this document is necessary to maintain compliance. It is very important that you read and understand the requirements contained in the permit. The document entitled "Description of Nodaway County Public Water Supply District 1's Public Water System" is part of the permit and should be kept with the certificate in your files.

The permit signifies that your water system is a public water system and that it is in compliance with the permitting requirements of the Missouri Safe Drinking Water Law and Regulations. The permit will remain valid as long as the facilities are properly operated and maintained, the water produced and distributed continues to meet chemical and microbiological standards, and the ownership remains unchanged.

The enclosed document has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri. If you have any questions regarding this permit, please contact Conrad Blume, P.E., Permits and Engineering Unit Chief, at 573-751-5924, or by mail at Missouri Department of Natural Resources, Water Protection Program, Public Drinking Water Branch, P.O. Box 176, Jefferson City, MO 65102.

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the Administrative Hearing Commission (AHC). To appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

Any appeal must be directed to: Administrative Hearing Commission, United States Post Office Building, Third Floor, 131 West High Street, P.O. Box 1557, Jefferson City, MO 65102. Phone: 573-751-2422, fax: 573-751-5018, and website: www.oa.mo.gov/ahc.

Sincerely,

WATER PROTECTION PROGRAM

David J. Lamb
Public Drinking Water Branch Chief

DJL:tks

Enclosure

c: Kansas City Regional Office

MISSOURI DEPARTMENT OF NATURAL RESOURCES

PERMIT OF APPROVAL

FOR A COMMUNITY WATER SYSTEM
TO DISPENSE WATER TO THE PUBLIC

PERMIT NO. 1000104-23

ISSUED TO

MO1024428

Public Water Supply District # 1 of Nodaway County and the Board of Directors

ISSUED IN ACCORDANCE WITH SECTION 640.115

REVISED STATUTES OF MISSOURI AND REGULATIONS (10 CSR 60)

PROMULGATED UNDER SECTION 640.100, RSMo.

This permit applies only to community water systems with approval to dispense water to the public; it does not apply to other environmentally regulated areas.

January 8, 2025

Date Issued

David J Lamb

David J. Lamb, Chief, Public Drinking Water Branch

I. Description of Nodaway County PWSD 1's Public Water System as of December 16, 2024

A. System Type: Community Public Water System

Community Public Water System: A public water system which serves at least fifteen (15) service connections and is operated on a year-round basis or regularly serves at least twenty-five (25) residents on a year-round basis.

B. Operator Certification Requirements:

Water Treatment System Classification	N/A
Water Distribution System Classification	II

1. All Public Water Systems classified as Community, Nontransient Noncommunity and those Transient Noncommunity systems that use surface water or groundwater under the direct influence of surface water are required by 10 CSR 60-14 to hire a Certified Operator with the appropriate certification.

2. Water Treatment System Classifications: A, B, C, or D per Missouri Safe Drinking Water Law and Regulations 10 CSR 60-14.010 Table 1, as determined by the department.

3. Water Distribution System Classifications: DS I, DS II, or DS III, per Missouri Safe Drinking Water Law and Regulations 10 CSR 60-14.010 Table 2, as determined by the department.

C. Average Number of Persons Per Day Using System: 6,428

D. Number and Type of Service Connections: 2,716

Type of Connection	Count
Combined	59
Residential	2,657

E. Sources/Interconnections:

Interconnection System's ID Number	Interconnection System's Name	Connection ID	Purpose of Interconnection	Status	Maximum Daily Rate (GPD)
MO1010508	Maryville PWS	CC 80302	Purchase	No Construction Permit	647,000
MO1010046	Barnard PWS	CC 80688	Wholesale	Emergency Waiver dated 12/17/2012	46,148
MO1010173	Clearmont PWS	CC 80630	Wholesale	Construction Permit 14062-09	23,668
MO1010744	Skidmore PWS	CC 80686	Wholesale	Construction Permit* 13570-06	71,699
MO1010739	Sheridan PWS	CC 80731	Wholesale	Emergency Waiver dated 12/17/2012	60,196
MO1010182	Conception Junction PWS	CC 80822	Emergency	Construction Permit 14154-10	Emergency
MO1010378	Hopkins PWS	CC 80745	Emergency	Construction Permit 14078-09	Emergency
MO1010627	Parnell PWS	CC 80891	Emergency	Construction Permit 13576-06	Emergency
MO1010673	Ravenwood PWS	CC 80726	Emergency	Construction Permit 13576-06	Emergency

*Construction Permit 13570-06 was issued to Skidmore PWS (MO1010744).

F. Treatment: None

G. Pumps:

Pump Name	Purpose	Type	Location (Lat/Long)	Pump ID	Status	Number	Capacity (gpm)
Route E Booster Station #2	Booster	Vertical Turbine	40.3474 -94.7222	PF 90380	Construction Permit 1102-81	2	160
Icon Road 1 Pump	Booster	Unknown	40.43943 -94.89056	PF 91200	Construction Permit 13106-04	2	360
Icon Rd Booster Station	Booster	Submersible	40.36763 -94.89184	PF 90383	No Construction Permit	1	100
Conception Booster Station	Booster	Submersible	40.2808 -94.6893	PF 90382	No Construction Permit	2	360
Katy Road Booster Station	Booster	Vertical Turbine	40.5400 -94.8215	PF 90384	Construction Permit 13740-07R	2	240
Ravenwood Booster Station	Booster	Vertical Turbine	40.3507 -94.6631	PF 90381	Construction Permit 13640-06	2	240
RT 136 Pump Station	Booster	Vertical Turbine	40.3444 -94.8726	PF 90379	No Construction Permit	2	200
Eagle Rd Booster Pump	Booster	Vertical Turbine	40.440882 -95.044041	PF 90904	No Construction Permit	2	180

H. Storage:

Storage Name	Type of Storage	Location (Lat/Long)	Storage ID	Status	Total Capacity (gallons)
Icon Rd Clearwell	Clearwell	40.4394 -94.8904	ST 62398	Construction Permit 13106-04	50,000
Conception Clearwell	Clearwell	40.2808 -94.6893	ST 62397	No Construction Permit	50,000
Mozingo North Standpipe	Standpipe	40.3462 -94.7602	ST 62390	Construction Permit 11274-94	100,000
Mozingo South Standpipe		40.3370 -94.7594	ST 62391	No Construction Permit	120,000
Route E Standpipe		40.4626 -94.7207	ST 62393	No Construction Permit	120,000
Knorr Standpipe		40.4393 -94.8733	ST 62395	No Construction Permit	100,000
Rte JJ Standpipe		40.5480 -94.8881	ST 62396	Construction Permit 13106-04	150,000
Conception Standpipe		40.2434 -94.6859	ST 62392	No Construction Permit	120,000
Route E and 246 Hwy Standpipe		40.5503 -94.7070	ST 62394	Construction Permit 13740-07	150,000
Eagle Road Holding Cell		40.4408 -95.0440	ST 63717	No Construction Permit	180,000
Apollo Standpipe		40.4387 -95.1682	ST 66035	Construction Permit 1054769-16	125,000
TOTAL STORAGE					**1,265,000**

I. System Status Dates:

System Dates	
Last Permit to Dispense Issued	08/15/1980
Original Permit to Dispense Issued	12/01/1976
System Commenced Operation	01/01/1975
System Activated as a Public Water System	01/01/1975

J. The water system meets the contaminant levels and monitoring schedule requirements at the time of issuing the permit.

K. Special Conditions: None

L. Staff Recommendations:

On the basis of the review conducted in accordance with the Missouri Safe Drinking Water Law and Regulations 10 CSR 60-3.010, I recommend this Permit to Dispense Water be granted approval.

Tasneem Khan — 12/16/2024

Tasneem Khan, P.E.
Permits and Engineering Unit
Public Drinking Water Branch

DATE

Conrad Blume — 12/16/2024

Conrad Blume, P.E.
Permits and Engineering Unit Chief
Public Drinking Water Branch

DATE

II. General Conditions and Requirements

A. Duty to Comply

The Permittee shall comply with all applicable portions of the Safe Drinking Water Act, Missouri Safe Drinking Water Law and Regulations and the Revised Statutes of Missouri, to include all conditions and requirements of this permit. Failure to comply with any portion of this permit constitutes a violation of the Safe Drinking Water Act, Missouri Safe Drinking Water Law and Regulations and/or the Revised Statutes of Missouri and is grounds for enforcement action.

B. Permit Revocation

In accordance with Missouri Safe Drinking Water Law and Regulations the department may modify or revoke this Permit to Dispense Water to the Public as listed in 10 CSR 60-3.010 (3) (B).

C. Permit Modification

Permit modification will be issued in accordance with Missouri Safe Drinking Water Law and Regulations 10 CSR 60-3.010.

The department may modify this Permit to Dispense Water to the Public at any time to include all newly promulgated requirements of the Safe Drinking Water Act, Missouri Safe Drinking Water Law and Regulations, and the Revised Statutes of Missouri, which are applicable to the public water system, to address requirements necessary to ensure compliance with the laws and regulations pertaining to safe drinking water, and to provide updated information as a result of any future permitted construction.

The Permittee must request a modification of the Permit to Dispense Water to the Public by notifying the department when major modifications (i.e. additions or changes to the source(s), treatment or storage utilized by the public water supply) to the drinking water system are completed.

D. Transfer of Permit to Dispense Water to the Public

This Permit to Dispense Water to the Public is non-transferable, except with prior approval of the department. To obtain department approval of the transfer of this Permit to Dispense Water to the Public, the Permittee shall submit written notification to the department at least ninety (90) days in advance of the proposed transfer. This notification shall include a Permit to Dispense Drinking Water application form which has been completed by the proposed new owner of the water system and proof of the pending transfer of ownership of the public water system. The proposed new owner must submit a managerial and financial review (as applicable) which illustrates how the system will be managed to ensure its long term viability. If the department approves the transfer, a new Permit to Dispense Water to the Public will be issued to the new owner of the system in accordance with 10 CSR 60-3.020.

E. Technical, Managerial, and Financial Capacity Requirements

Community water systems commencing operation after October 1, 1999, shall maintain compliance with the technical, managerial, and financial capacity requirements in accordance with 10 CSR 60-3.030.

F. Appeals

Any person aggrieved by an emergency order or the decision to revoke the Permit to Dispense may appeal within thirty days after the issuance of the order to the circuit court of the county in which the public water system is located or if the public water system is located in more than one county, to the circuit court of any such county. The circuit court shall within ten days after the filing of the appeal hear the cause and determine the same per the Revised Statutes of Missouri section 640.130.5.

Whenever a permit is issued, denied, suspended, or revoked by the department, any aggrieved person, by petition filed with the Administrative Hearing Commission (AHC) within thirty days of the decision, may appeal such decision as provided by the Revised Statutes of Missouri section 621.250 and 640.013. Once the AHC has reviewed the appeal, the AHC shall issue a recommended decision to the Safe Drinking Water Commission on permit issuance, denial, suspension, or revocation as per the Revised Statutes of Missouri section 640.115.5.

G. Annual Fees

The Permittee shall remit payment of the primacy fee, laboratory services and program administration fees to the department as required by 10 CSR 60 Chapter 16 and the Revised Statutes of Missouri RSMo 640.100, including any penalties or fines as authorized by Missouri Safe Drinking Water Law and Regulations and the Revised Statutes of Missouri.

Failure to remit the laboratory services and program administration fees will result in the Department of Natural Resources and Department of Health laboratory services being terminated for the calendar year and may result in the revocation of the Permit to Dispense Water to the Public.

H. Construction Permits

Construction, extension, alteration or modification of a public water system shall be in accordance with the rules and regulations of the safe drinking water commission. No construction, extension, alteration or modification can begin until written approval is given by the department based on 10 CSR 60-3.010.

I. Operation and Maintenance

The Permittee shall comply with the operation and maintenance requirements of the Missouri Safe Drinking Water Law and Regulations, the Revised Statutes of Missouri and the Safe Drinking Water Act.

All community, nontransient noncommunity water systems, and those transient noncommunity water systems using surface water or groundwater under the direct influence of surface water, must have a certified Chief Operator to be in responsible charge of the public water system, as per 10 CSR 60-14.010.

Because backflow may cause a health hazard through transmission of contaminants via the public water system, the Continuing Operating Authority must prevent and eliminate any cross-connections within the water system as required by 10 CSR 60-11.010.

J. Inspection and Entry

The Continuing Operating Authority shall allow authorized representatives of the department access to the system and records for the purpose of inspecting, monitoring, or sampling the public water supply source, distribution system or treatment facility for compliance with the Missouri Safe Drinking Water Law and Regulations. Authorized representatives of the department, shall be allowed by the Continuing Operating Authority, upon presentation of credentials and at reasonable times, to enter upon Continuing Operating Authority's premises in which a water supply source, distribution system or treatment facility is located or in which any records are required to be kept under terms and conditions of the permit and or the Missouri Safe Drinking Water Law and Regulation.

K. Sanitary Surveys and Inspections

Sanitary Surveys and Inspections for Ground Water Treatment will be conducted per Missouri Safe Drinking Water Law and Regulations 10 CSR 60-4.025.

Ground water systems must provide, at the department's request, any existing information that will enable the department to conduct a sanitary survey or inspection.

A sanitary survey includes, but is not limited to, an onsite review, under the supervision of an engineer, of the water source(s) (identifying sources of contamination by using results of source water assessments or other relevant information where available), facilities, equipment, operation, maintenance, and monitoring compliance of a public water system in order to evaluate the adequacy of the system, its sources and operations, and the distribution of safe drinking water.

If a significant deficiency is identified, unless the department directs the ground water system to implement a specific corrective action, the ground water system must consult with the department regarding the appropriate corrective action within thirty (30) days of receiving written notice from the department of a significant deficiency, written notice from a laboratory that a ground water source sample was found to be fecal indicator-positive, or direction from the department that a fecal indicator-positive sample collected requires corrective action.

L. Emergency Procedures

The Permittee shall prepare and maintain an up-to-date emergency preparedness plan in accordance with 10 CSR 60-12.010.

M. Monitoring and Reporting Requirements

The Permittee shall comply with the monitoring and reporting requirements of Missouri Safe Drinking Water Law and Regulations 10 CSR 60-4.010 through 10 CSR 60-4.110 and 10 CSR 60-7.010 through 10 CSR 60-7.020.

N. Civil and Criminal Liability

Except as authorized by statute and provided in permit conditions nothing in this permit shall be construed to relieve the Continuing Operating Authority from administrative, civil, or criminal penalties for noncompliance with the Missouri Safe Drinking Water Law and Regulation.

O. State and Federal Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Continuing Operating Authority from any responsibilities, liabilities, or penalties established pursuant to any applicable state statute or regulations.

P. Water Quality

In the event the Continuing Operating Authority becomes aware of any actual or imminent contamination or water system pressure dropping below 20 psi anywhere in the system (10 CSR 60-4.080) the Continuing Operating Authority will take immediate actions to avoid injury to consumers. These actions include, but are not limited to, customer notification and investigation into the sources(s) of contamination.

The Missouri public Drinking Water Regulations 10 CSR 60-7.010 requires systems to notify the department within 48 hours of failure to comply with any drinking water regulation except where a shorter period is specified by the department.

The Continuing Operating Authority shall provide water which meets all quality criteria of state and federal law.

Leaving a Legacy

Appendix C

Maryville PWS Permit to Dispense Drinking Water

STATE OF MISSOURI
Matt Blunt, Governor • Doyle Childers, Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov
P.O. Box 176, Jefferson City, MO 65102
573/751-5331

SEP 2 9 2005

Maryville, MO
Nodaway County
Permit No. MO1010508
Review No. 01080-05

Mr. Greg Decker, Director of Public Works
City of Maryville
P. O. Box 438
Maryville, Missouri 64468

Dear Mr. Decker:

As you requested, enclosed is your replacement PERMIT OF APPROVAL FOR A COMMUNITY WATER SUPPLY TO DISPENSE WATER TO THE PUBLIC (MO 1010508). It replaces the permit your public water supply currently holds. This new permit should be displayed where your old permit is currently located.

If you have any questions, please contact the Department of Natural Resources, Public Drinking Water Branch, or the Regional Office located in your area.

Sincerely,

WATER PROTECTION PROGRAM

Edward Galbraith
Director

EG:lde

Enclosure

c: Kansas City Regional Office

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

PERMIT OF APPROVAL

FOR A COMMUNITY WATER SYSTEM TO DISPENSE WATER TO THE PUBLIC

PERMIT NO. 1010508

ISSUED TO

CITY OF MARYVILLE

ISSUED IN ACCORDANCE WITH SECTION 640.115

MISSOURI REVISED STATUTES AND RULES AND REGULATIONS (10 CSR 60)

PROMULGATED UNDER SECTION 640.100

This permit applies only to community water systems with approval to dispense water to the public; it does not apply to other environmentally regulated areas.

SEP 2 9 2005

Date

Director, Water Protection Program

☒ Special Conditions do not apply

☐ Special Conditions apply per attached

Expiration Date: _____