

**BEFORE THE
DEPARTMENT OF NATURAL RESOURCES
STATE OF MISSOURI**

IN THE MATTER OF:

**City of Ewing
102 South Gilead St.
Ewing, MO 63440-0346**

SERVE:

**The Honorable John Logan, Mayor
City of Ewing**

No. 2016-WPCB-1401

ABATEMENT ORDER ON CONSENT

NOTICE TO RECIPIENTS OF ABATEMENT ORDERS

The issuing of this Abatement Order on Consent (AOC) No. 2016-WPCB-1401, by the Department of Natural Resources, is a formal administrative action by the state of Missouri and is being issued because the wastewater treatment facility (WWTF) serving the city of Ewing violated the Missouri Clean Water Law (MCWL). This AOC is issued under the authorities of Sections 640.130, 640.131, 644.056 and 644.079, RSMo. Failure to comply with this AOC is, by itself, a violation of the MCWL Section 644.076.1, RSMo. Litigation may occur without further administrative notice if there is not compliance with the requirements of this AOC. This AOC does not constitute a waiver or a modification of any requirements for the MCWL, or its implementing regulations, all of which remain in full force and effect. Compliance with the terms of this AOC shall not relieve the city of liability for, or preclude the department from, initiating an administrative or judicial enforcement action to recover civil penalties for any future violations of the MCWL, or to seek injunctive relief, pursuant to Chapter 644, RSMo.

FINDINGS OF FACT

1. The city of Ewing is a fourth class municipality with a population of 456 people (according to the 2010 United States census) and as part of its business owns and operates a WWTF located in the SE ¼, SE ¼, Section 6, Township 60 North, Range 7 West, Lewis County, Missouri. The WWTF, which receives wastewater generated from approximately 208 connections and consists of a three-cell lagoon. The WWTF has a design population equivalent of 600, a design flow of 60,000 gallons per day (gpd), and an actual flow of 43,000 gpd. Sludge is retained in the lagoon. Effluent from the WWTF discharges to an unclassified tributary to Middle Fabius River, pursuant to the conditions and requirements of Missouri State Operating Permit (MSOP) No. MO-0104671, which expires by its own terms on December 31, 2016. The tributary to Middle Fabius River was reclassified on August 20, 2013, to a Class C receiving stream with whole body contact B, with the beneficial uses of irrigation, Livestock and Wildlife watering, Protection of Warm Water Aquatic Life, Human Health-Fish Consumption, Secondary Contact Recreation.

2. Middle Fabius River and its tributaries are waters of the state as the term is defined by Section 644.016(27) RSMo.

3. Domestic wastewater is a water contaminant as the term is defined in Section 644.016(24), RSMo.

4. The MSOP was issued to the city on December 1, 2014, and will expire by its own terms on December 31, 2016. The MSOP requires the city to sample the effluent discharged from Outfall No. 001 and chemically analyze the effluent sample for the water contaminants listed in Part "A" every month. The MSOP also requires the effluent to comply with the limitations contained in Part "A" and requires the results of the analysis to be submitted

to the department on monthly Discharge Monitoring Reports (DMRs) by the 28th day of the month following the reporting period.

5. The MSOP issued on August 24, 2001, included a Schedule of Compliance (SOC) requiring the city to complete improvements necessary to comply with the final permitted limits for Fecal Coliform on or before May 1, 2003. The city was required to follow the following activity schedule: 1) during the interim period (August 24, 2001 - May 1, 2003) of the MSOP, if the city can demonstrate that Fecal Coliform limits can be met without disinfection or that neither the public's health nor the water quality will be endangered by failure to disinfect, the MSOP may be reopened and modified to remove the requirement for disinfection., 2) by February 28, 2003, the permittee shall have submitted a report certified by a professional engineer detailing that Fecal Coliform limits can be met without disinfection, and 3) on May 1, 2003, final effluent limitations become effective.

6. Monthly DMRs submitted to the department document that the effluent discharged from the city's WWTF failed to comply with the applicable permitted effluent limitations for Fecal Coliform during the months of June and July 2011, May 2012, June 2013, June and August 2014, and June through August 2015.

7. Monthly DMRs submitted to the department document that the effluent discharged from the city's WWTF failed to comply with the applicable permitted effluent limitations for Biochemical Oxygen Demand (BOD) during the months of October 2014, and March 2015

8. On February 26, 2012, the city experienced a Sanitary Sewer Overflow, which was caused by a grease blockage. The operator at the time verbally reported the event to the

department within 24 hours, and submitted a written report to the department within five days of the event. There were no remarks of any impacts to the receiving stream.

9. On April 23, 2012, the department issued a Letter of Warning (LOW) to the city for exceeding effluent limits for Fecal Coliform for the monitoring period ending July 2011. The LOW required the city to submit a written report by May 14, 2012, which explained the cause for the non-compliance and what steps the city will take to prevent a reoccurrence of the violation. Records do not indicate a response was received.

10. On September 24, 2013, department staff conducted a routine compliance inspection of the WWTF serving the city. Staff met with the City Clerk, who granted staff access to the site and spoke with the city's contract operator, by phone. Staff asked the City Clerk if the city had any plans for upgrading the lagoon, and she informed staff that the city has not yet taken any steps to address the SOC. During the inspection, staff documented that a third of the primary cell was covered in duckweed, and the water was tinted green. Staff observed several holes in the top of berm and noted a faint earthy odor near the lagoon.

11. On October 11, 2013, the department issued the city Notice of Violation (NOV) No. NER2013100214235178 based upon violations documented by department staff during the September 24, 2013, inspection and file review, for the following violations of the MCWL: failed to upgrade WWTFs for disinfection, failed to comply with effluent limits, and failed to collect an influent sample in order to ensure a removal efficiency of 65 percent is being met by the wastewater treatment system. The inspection report associated with the NOV required the city to coordinate with the department to address the violations and to collect a wastewater influent sample at least once per year while discharging.

12. On November 22, 2013, the department received written correspondence from the city's Mayor regarding the NOV. The Mayor stated that the city council is developing a plan to convert the WWTF to a no discharge land application system to address the exceedances of Fecal Coliform and future effluent limitations for Ammonia as Nitrogen.

13. On February 17, 2015 the department received an engineering report from Klinger & Associates, P.C. on the behalf of the city. The engineering report recommended converting the existing WWTF to a no discharge land application system.

14. The city has applied for funding from the United States Department of Agriculture (USDA) to fund their project of a no-discharge system with an estimated cost of \$954,000.00. Based on information provided by USDA staff, the city has been approved for a Rural Development Loan in the amount of \$882,000.00 and the city will contribute an additional \$100,000.00 towards completing the project.

15. Section 644.076.1, RSMo, makes it unlawful to violate the MCWL and regulations promulgated pursuant thereto and establishes civil penalties of up to \$10,000.00 per day per violation.

STATEMENT OF VIOLATIONS

The city has violated the MCWL and its implementing regulations as follows:

16. Failed to upgrade WWTFs as required in Part "B" Standard Conditions, and Part "D", SOC of MSOP No. MO-0104671, in violation of Sections 644.076.1 RSMo, and 10 CSR 20-6.010(7)(A).

17. Failed to comply with the effluent limits contained in Part "A" of MSOP No. MO-0104671, in violation of Sections 644.051.1(3) and 644.076.1, RSMo.

18. Caused pollution of a tributary to a tributary to Middle Fabius River, waters of the state, or placed, or caused or permitted to be placed water contaminants in a location where it is reasonably certain to cause pollution of waters of the state in violation of Sections 644.051.1(1) and 644.076.1, RSMo.

19. Failed to collect an influent sample in order to ensure a removal efficiency of 65 percent is being met by the wastewater treatment system, as required by the effluent limitations and monitoring requirements of MSOP MO-0104671, in violation of Section 644.076.1, RSMO.

AGREEMENT

20. The department and the city desire to amicably resolve all claims that may be brought against the city for violations alleged above in Section III, Citations and Conclusions of Law, without the city admitting to the validity or accuracy of such claims.

21. The provisions of this AOC shall apply to and be binding upon the parties executing this AOC, their successors, assigns, agents, subsidiaries, affiliates, and lessees, including the officers, agents, servants, corporations, and any persons acting under, through, or for the parties. Any changes in ownership or corporate status, including but not limited to any transfer of assets or real or personal property, shall not affect the responsibilities of the city under this AOC.

22. The city, in compromise and satisfaction of the department's claims relating to the above-referenced violations, agrees, without admitting liability or fault, to pay a civil penalty in the amount of \$6,000.00. The department and city further agrees that \$6,000.00 of the civil penalty shall be suspended for a period of two years on the condition that the city does not violate the MCWL and its implementing regulations or the terms of this AOC.

23. Upon determination that the city has failed to meet the terms of this AOC, including the SOC set out in Paragraphs 24 through 32 the department shall send a written demand for the suspended penalty in the amount of \$6,000.00 to the city. The city shall have 15 days from its receipt of the written demand to submit the suspended penalty in the form of a certified check or cashier's check made payable to "Lewis County Treasurer, as custodian of the Lewis County School Fund." The check shall be delivered to:

Accounting Program
Department of Natural Resources
P.O. Box 477
Jefferson City, MO 65102-0477

24. In the period of time from the effective date of this AOC until the new or upgraded WWTF is completed, the city agrees and is ordered to operate and maintain the existing WWTF at all times in compliance with the conditions and requirements of MSOP No. MO-0104671. All units or components of the existing WWTF shall be maintained in an operable condition, even if this requires the purchase and installation of new parts or equipment, or repair of the WWTF.

25. The city agrees and is ordered to respond in writing to the department addressing all department comments on the engineering report within the time frames specified in the department's letter.

27. On or before June 1, 2018, the city agrees and is ordered to submit to the department for review and approval, a complete application for a construction permit including the applicable fee, design summary, plans and specifications signed and sealed by a professional engineer licensed to practice in the state of Missouri for improvements that will result in compliance with the MCWL and its implementing regulations.

28. Within 30 days of receipt of department comments on the city's construction permit application, the city shall respond to and adequately address, to the department's satisfaction, all of the department's comments on the construction permit application.

29. On or before December 31, 2019, the city agrees and is ordered to complete construction of the improvements as approved by the department.

30. Within 60 days of completing construction, the city shall submit to the department a Statement of Work Complete Form, signed, sealed and dated by a professional engineer registered in the state of Missouri certifying that the project is complete and operable in accordance with department approved plans and specifications, and a complete application with the applicable fee to modify the MSOP.

31. Within 60 days of completing construction of the improvements, the city agrees and is ordered to achieve compliance with the final effluent limitations contained in Part "A" of the MSOP.

32. Within 90 days of completing construction, the city agrees and is ordered to develop and implement an Operations and Maintenance (O&M) manual for the city's wastewater collection and land application systems and submit the O&M manual to the department for review. The O&M manual, at a minimum, shall include 1) operating procedures for the mechanical equipment, 2) a schedule for routine and systematic inspections of the WWTF, 3) an inspection and maintenance schedule of the collection and land application systems to identify all short and long term capital investment projects and activities that will be necessary to ensure current and long term compliance with the city's MSOP; and 4) a process to reevaluate the assumptions, schedules, and conclusions of the city's O&M manual at a minimum of every two years or as necessary to ensure it continues to provide a viable planning tool.

SUBMISSIONS

33. All other documentation submitted to the department for compliance with this order shall be submitted within the timeframes specified to:

Kurtis Cooper
Department of Natural Resources
Water Protection Program
Compliance and Enforcement Section
P.O. Box 176
Jefferson City, Missouri 65102-0176

OTHER PROVISIONS

34. Immediately upon becoming aware that a deadline or milestone as set forth in this AOC will not be completed by the required deadline, the city shall notify the department by telephone or electronic mail i) identifying the deadline that will not be completed; ii) identifying the reason for failing to meet the deadline; and iii) proposing an extension to the deadline.

Within five days of notifying the department, the city shall submit to the department for review and approval a written request containing the same basic provisions of i, ii, and iii listed above. The department may grant an extension if it deems appropriate. Failure to submit a written notice to the department may constitute a waiver of the city's right to request an extension and may be grounds for the department to deny the city an extension.

35. Should the city fail to meet the terms of this AOC, including the deadlines for completion of construction set out in Paragraphs 24 through 32 the city shall be subject to pay stipulated penalties in the following amount:

<u>Days of Violation</u>	<u>Amount of Penalty</u>
1 to 30 days	\$100.00 per day
31 to 90 days	\$250.00 per day
91 days and above	\$500.00 per day

36. Stipulated penalties will be paid in the form of a certified or cashier's check made payable to "Lewis County Treasurer, as custodian of the Lewis County School Fund."

Any such stipulated penalty shall be paid within ten days of demand by the department and shall be delivered to:

Accounting Program
Department of Natural Resources
P.O. Box 477
Jefferson City, MO 65102-0477

37. Compliance with this AOC resolves only the specific violations described herein, and this AOC shall not be construed as a waiver or modification or any other requirements of the MCWL and regulations, or any other source of law. Nor does this order resolve any future violations of this order or any law or regulation. Consistent with 10 CSR 20-3.010(5), this order shall not be construed as satisfying any claim by the state or federal government for natural resource damages.

38. Nothing in this AOC forgives the city from future non-compliance with the laws of the state of Missouri, nor requires the department or state of Missouri to forego pursuing by any legal means for any non-compliance with the laws of the state of Missouri. The terms stated herein constitute the entire and exclusive agreement of the parties. There are no other obligations of the parties, be they express or implied, oral or written, except those expressly set forth herein. The terms of this AOC supersede all previous memoranda or understanding, notes, conversations, and agreements, express or implied. This AOC may not be modified orally.

39. By signing this AOC, all signatories assert that they have read and understood the terms of this AOC, and that they have the authority to sign this AOC on behalf of their respective party.

40. The effective date of the AOC shall be the date the department signs the AOC.

The department shall send a fully executed copy of this AOC to the city for its records.

41. The city shall comply with the MCWL, Chapter 644, RSMo and its implementing regulations at all times in the future.

COST ANALYSIS FOR COMPLIANCE

Pursuant to Section 644.145, the Cost Analysis for Compliance (CAFCom), which addresses the obligations included within this Order through December 31, 2017 based upon the city's cost estimate of \$954,000.00 through completion of corrective actions outlined in the city's WWTF plan is attached hereto as Exhibit 1. In addition to the city's cost estimate, the department estimates the development of an O&M manual could cost an addition \$10,000.00. This CAFCom does not address future improvements that may be necessary to comply with the MCWL or its implementing regulations. This AOC requires the city to complete the construction of a WWTF in accordance with a department approved WWTF plan, designs, and specifications.

NOTICE OF APPEAL RIGHTS

By signing this AOC, the city consents to its terms and waives any right to appeal, seek judicial review, or otherwise challenge the terms and conditions of this AOC pursuant to Sections 621.250, 640.010, 640.013, 644.056.3, 644.079.2, Chapter 536 RSMo, 644.145, RSMo, 10 CSR 20-1.020, 10 CSR 20-3.010, 10 CSR 20-6.020(5), the Missouri Constitution, or any other source of law.

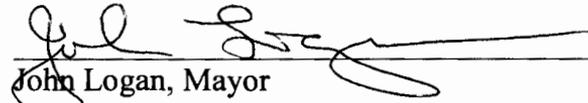
SIGNATORY AUTHORITY

Agreed to and Ordered this 19th day of April, 2016



John Madras, Director
Water Protection Program
Missouri Department of Natural Resources

Agreed to and Ordered this 11th day of APRIL, 2016



John Logan, Mayor
City of Ewing

Copies of the foregoing served by certified mail to:

The Honorable John Logan
102 South Gilead Street
Ewing, MO 63440-0346

CERTIFIED MAIL # 7012 2920 0002 0662 8728

c: Ms. Diane Huffman, Environmental Protection Agency
Mr. Chris Wieberg, Chief, Operating Permits Section
Ms. Irene Crawford, Director, Northeast Regional Office
Missouri Clean Water Commission

**Missouri Department of Natural Resources
Water Protection Program
Cost Analysis for Compliance
(In accordance with RSMo 644.145)**

**Ewing WWTF
City of Ewing
Missouri State Operating Permit #MO-0104671**

Section 644.145 RSMo requires the Department of Natural Resources to make a “finding of affordability” when “issuing permits under” or “enforcing provisions of” state or federal clean water laws “pertaining to any portion of a combined or separate sanitary sewer system for publicly-owned treatment works.”

This cost analysis is based on data available to the department as provided by the permittee and data obtained from readily available sources. For the most accurate analysis, it is essential that the permittee provides the department with current information about the city’s financial and socioeconomic situation.

Current Facility Description:

The wastewater treatment facility (WWTF) consisting of a three celled lagoon located in the SE ¼, SE ¼, Section 6, Township 60 North, Range 7 West, Lewis County, Missouri. The lagoon has a design population equivalent of 600, a design flow of 60,000 gallons per day (gpd), and an actual flow of 43,000 gpd. Sludge is retained in the lagoon. Effluent from the lagoon discharges to an unclassified tributary to Middle Fabius River, pursuant to the conditions and requirements of Missouri State Operating Permit (MSOP) No. MO-0104671. The tributary to Middle Fabius River was reclassified on August 20, 2013, to Class C with whole body contact B, with the beneficial uses of irrigation, Livestock and Wildlife watering, Protection of Warm Water Aquatic Life, Human Health-Fish Consumption, Secondary Contact Recreation.

Flow evaluated:

Residential Connections:	207 ⁱⁱ
Commercial Connections:	1 ⁱ
Industrial Connections:	
Total Connections for this facility:	208 ⁱⁱ

Requirements Now Being Enforced:

The MSOP issued to the city on August 24, 2001, included a Schedule of Compliance (SOC) requiring the city to comply with the final permitted limits for Fecal Coliform on or before May 1, 2003. The city was required to demonstrate during the interim period of the MSOP, that the city could meet Fecal Coliform limits without disinfection or that neither the public’s health nor the water quality would be endangered by failing to disinfect and submit a report certified by a professional engineer detailing that Fecal Coliform limits can be met without disinfection by February 28, 2003. Since June 2011, the WWTF has exceeded the limits for Fecal Coliform during the months of June and July 2011, May 2012, June 2013, June and August 2014, and June through August 2015.

Anticipated Costs Associated with Complying with the New Requirements:

On February 17, 2015, the department received an engineering report from Klingner & Associates, P.C., identifying and assessing conditions of the WWTF and proposing six options (see below) to bring the WWTF into compliance with current and future effluent limits. The engineering report recommended option six, a no-discharge system, due to the city “no longer falling under the continual tightening effluent regulations that may require additional upgrades within the next 10-20 years.”

Costs associated with the evaluation of the collection system:

Option 1: Advanced Treatment Lagoon Activated Sludge with Bio-Lac System	\$1,000,760.00 ⁱⁱ
Option 2: Extended Aeration Package Plant	\$1,294,003.00 ⁱⁱ
Option 3: Lagoon Cover	\$820,649.00 ⁱⁱ
Option 4: Bio-Domes (or Equal)	\$1,153,306.00 ⁱⁱ
Option 5: Nelson Environmental OPTAER SAGER (or Equal)	\$925,830.00 ⁱⁱ
Option 6: No Discharge System (Recommended Alternative)	\$954,000.00 ⁱⁱ

Based on these six options, the city chose to convert the current WWTF into a no-discharge irrigation system. Klingner & Associates, P.C. estimates the city of Ewing will spend \$954,000.00 to bring the WWTF into compliance with the Missouri Clean Water Law and its implementing regulations. The city will spend an estimated \$779,320.00 for construction and additional \$174,680.00 for technical and administrative costs. In addition to the city's estimated costs to bring the WWTF into compliance, the department estimates the development of an Operations and Maintenance manual for the system could cost an additional \$10,000.00.

(1) A community's financial capability and ability to raise or secure necessary funding;

Current User Rates:	<u>\$23.00ⁱⁱ</u>
Rate Capacity or Pay as You Go Option:	<u>Pay as You Go Option</u>
Municipal Bond Rating (if applicable):	<u>Information not provided by city at the time analysis was conducted^{iii&iv}</u>
Bonding Capacity:	<u>Information not provided by city at the time analysis was conductedⁱⁱⁱ</u>
<i>(General Obligation Bond capacity allowed by constitution: cities—up to 20% of taxable tangible property sewer districts or villages—up to 5% of taxable tangible property)</i>	
Current outstanding debt for the City:	<u>No Debt^v</u>
Amount within the current user rate used toward payments on outstanding debt related to the current wastewater infrastructure:	<u>\$0.00^v</u>
Consideration of integrated planning to address the most significant needs of the municipality	<u>Information not provided by city at the time analysis was conductedⁱⁱⁱ</u>

(2) Affordability of pollution control options for the individuals or households at or below the median household income level of the community;

A Current Costs	Information not provided by city at the time analysis was conducted ⁱⁱⁱ
Current operating costs (exclude depreciation):	<u>Information not provided by city at the time analysis was conductedⁱⁱⁱ</u>
Current user rate:	<u>\$23.00/month or \$276.00/yearⁱⁱ</u>
B Estimated Costs for System Upgrades and Land Acquisition and Application	Information not provided by city at the time analysis was conducted ⁱⁱⁱ
Estimated total present worth of pollution control:	<u>Information not provided by city at the time analysis was conductedⁱⁱⁱ</u>
Estimated capital cost of pollution control:	<u>\$954,000.00ⁱⁱ</u>
Annual cost of operation and maintenance:	<u>\$19,17.00ⁱⁱ</u>

Estimated resulting user cost per household per month:

\$54.14/month or \$649.68/yearⁱⁱ
\$54.34*/month or \$652.08

*Includes an additional \$0.20 for development of O&M manual [(\$10,000/20year)/208 connections]/12months=\$0.20

Estimated resulting user cost per household per month plus the amount within the current user rate used toward payments on outstanding debt:

No outstanding debt^v

Median household income(MHI):

\$36,094.00^{vi}

Cost per household as a percent of median household income:

1.8%ⁱⁱ
 $[(54.14 \times 12) / 36,094] \times 100$
 $[(\text{New User Rate} \times 12) / \text{MHI}] \times 100$

(3) An evaluation of the overall costs and environmental benefits of the control technologies;

E. coli is an indicator of the presence of fecal contamination in water and possible disease-causing bacteria and viruses in water and wastewater. The receiving stream has a WBC (B) designated use to protect human health in accordance with Water Quality Standards (10 CSR 20-7.031) and the Clean Water Act. Disinfection benefits human health by reducing exposure to disease-causing bacteria and viruses. The City of Ewing will have to upgrade the treatment facility with a disinfection system in order to meet the final effluent limitations.

By converting the existing WWTF to a no-discharge system with land application of the wastewater, the city will be avoiding the direct discharge of effluent into the receiving stream, tributary to Middle Fabius River, reducing the health risks of the community. The wastewater treatment modifications provide an opportunity to lessen the environmental impacts associated with surface water discharges, improves recreational water quality, and the wastewater recharges the groundwater to increase the base flow in the stream. Additionally, the natural treatment of the wastewater that takes place in the soil allows plants to remove nitrogen and phosphorus from the wastewater.

(4) Inclusion of ongoing costs of operating and maintaining the existing wastewater collection and treatment system, including payments on outstanding debts for wastewater collection and treatment systems when calculating projected rates:

The community has reported that they have no outstanding debts for the current wastewater collection and treatment systems.^v

(5) An inclusion of ways to reduce economic impacts on distressed populations in the community, including but not limited to low and fixed income populations. This requirement includes but is not limited to:

- (a) Allowing adequate time in implementation schedules to mitigate potential adverse impacts on distressed populations resulting from the costs of the improvements and taking into consideration local community economic considerations.
- (b) Allowing for reasonable accommodations for regulated entities when inflexible standards and fines would impose a disproportionate financial hardship in light of the environmental benefits to be gained.

Socioeconomic Data:

Potentially Distressed Populations – City of Ewing	
Unemployment	4.3% ^{vi}
Adjusted Median Household Income (MHI)	\$37,411.00 ^{vi}
Percent Change in MHI (2000-2013)	+24.7% ^{vi}
Percent Population Growth/Decline (1990-2012)	-8.2% ^{vi}
Change in Median Age in Years (1990-2012)	3.0 ^{vi}

Percent of Households in Poverty	10.4% ^{vi}
Percent of Households Relying on Food Stamps	13.4% ^{vi}

Opportunity for cost savings or cost avoidance:

If available, connection to a larger centralized sewer system in the area may be more cost effective for the community.

The permittee may apply for State Revolving Fund (SRF) financial support in order to help fund a Capital Improvements Plan. Other loans and grants also exist for which the WWTF may be eligible. Contact information for the department's Financial Assistance Center (FAC) and more information can be found on the department's website at <http://dnr.mo.gov/env/wpp/srf/wastewater-assistance.htm>.

Opportunity for changes to implementation/compliance schedule:

AOC allows for extensions where required.

The facility may propose changes to the schedule of compliance based on their own cost estimate or financial information.

(6) An assessment of other community investments and operating costs relating to environmental improvements and public health protection;

Information not provided by city at the time analysis was conducted. **Error! Bookmark not defined.**

(7) An assessment of factors set forth in the United States Environmental Protection Agency's guidance, including but not limited to the "Combined Sewer Overflow Guidance for Financial Capability Assessment and Schedule Development" that may ease the cost burdens of implementing wet weather control plans, including but not limited to small system considerations, the attainability of water quality standards, and the development of wet weather standards;

Secondary indicators for consideration:

Indicators	Strong (3 points)	Mid-Range (2 points)	Weak (1 point)	Score
Bond Rating Indicator	Above BBB or Baa	BBB or Baa	Below BBB or Baa	Not Available ⁱⁱⁱ
Overall Net Debt as a % of Full Market Property Value	Below 2%	2% - 5%	Above 5%	Not Available ⁱⁱⁱ
Unemployment Rate	>1% below Missouri average of 4.1%	± 1% of Missouri average of 4.1%	>1% above Missouri average of 4.1%	1 4.3-4.1=-0.2 (State-City)
Median Household Income	More than 25% above Missouri MHI (\$47,380)	± 25% of Missouri MHI (\$47,380)	More than 25% below Missouri MHI (\$47,380)	1 [(36,094-47,380)/ 47,380]x100= -23.8 [(city-state)/state]x100
Percent of Households in Poverty*	>10% below Missouri average of 11.7%	± 10% of Missouri average of 11.7%	>10% above Missouri average of 11.7%	2 11.7-10.4= 1.3 (State-City)
Percent of Households Relying on Food Stamps*	>5% below Missouri average of 10.6%	± 5% of Missouri average of 10.6%	>5% above Missouri average of 10.6%	2 10.6-13.4= -2.8 (State-City)
Property Tax Revenues as a % of Full Market Property Value	Below 2%	2% - 4%	Above 4%	3^{vii} (20,636/3,260,510)x100 =0.63% (Revenue/full market value)x100

Property Tax Collection Rate	Above 98%	94% - 98%	Below 94%	Not Available ⁱⁱⁱ
------------------------------	-----------	-----------	-----------	------------------------------

Financial Capability (FCI) Indicators Average Score: $(1+1+2+2+3)/5=1.8$

Land Application Residential Indicator (RI, from Criteria #2 above): 1.8%

* Financial Capability Indicators are specific to the State of Missouri

Financial Capability Matrix:

Financial Capability Indicators Score from above ↓	Residential Indicator (User cost as a % of MHI)		
	Low (Below 1%)	Mid-Range (Between 1.0% and 2.0%)	High (Above 2.0%)
Weak (below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (1.5 – 2.5)	Low Burden	Medium Burden	High Burden
Strong (above 2.5)	Low Burden	Medium Burden	High Burden

The resulting financial burden has been determined by comparing the Financial Capability Indicator score (FCI) with the Residential Indicator (RI) stated in Criteria #2. The cost associated with converting to a no-discharge, subsurface irrigation system could result in a Medium financial burden placed on the community due to the Mid-Range FCI paired with the Mid-Range RI.

(8) An assessment of any other relevant local community economic condition.

The department contracted with Wichita State University to complete an assessment tool that would allow for predictions on rural Missouri community populations and future sustainability. The purpose of the study is to use a statistical modeling analysis in order to determine factors associated with each rural Missouri community that would predict the future population changes that could occur in each community. A stepwise regression model was applied to 19 factors which were determined as predictors of rural population change in Missouri. The model established a hierarchy of the predicting factors which allowed the model to place a weighted value on each of the factors. A total of 745 rural towns and villages in Missouri received a weighted value for each of the predicting factors. The weighted values for each town / village were then added together to determine an overall decision score. The overall decision scores were then divided into five categories and each town was assigned to a different categorical group based on the overall decision score.

The categorical groups were developed from the range of overall scores across all rural towns and villages within Missouri. The range covers 1,191 score points (-245 to 946).

Based on the assessment tool, the city of Ewing has been determined as a category (2) community. This means that the city of Ewing could potentially face more challenging socioeconomic circumstances over time and may have significant declines in population in the future. The department has determined an adequate schedule of compliance that will alleviate the potential financial burdens the city of Ewing may face due to the necessary upgrades required to meet the new permit requirements. If your community experiences a decline in population which results in the inability to secure the necessary funding for an upgrade to meet the new requirements within this permit, a modification to the schedule of compliance may be necessary. At that time, please contact the department and send an application for a modification to the schedule of compliance with justification for the time necessary to comply with this permit.

Conclusion and Finding

The department considered the eight criteria presented in subsection 644.145.3 when evaluating the cost associated with the relevant actions. As a result of reviewing the above criteria, the action described above will result in a medium burden with regard to the community’s overall financial capability and a medium financial impact for most individual customers/households. The city estimates the resulting monthly user costs for converting the WWTF into a no-discharge system by adding subsurface irrigation could be \$41.86 and is the most affordable option. Using this analysis, the department finds that converting the city’s wastewater treatment system to a subsurface irrigation

system is an affordable option as the potential user rates will not cause substantial and widespread economic and social impacts to the community. This determination is based on readily available data and may overestimate the financial impact on the community.

ⁱ Missouri Fee Tracking System

ⁱⁱ Missouri Water & Waste Review Committee Project Proposal for Wastewater Treatment Systems Improvements, submitted by Klingner & Associates, P.c.. on the behalf of the city of Ewing.

ⁱⁱⁱ Information unavailable to the Department at the time the affordability analysis was conducted.

^{iv} <http://emma.msrb.org/IssuerView/IssuerDetails.aspx?cusip=795169>

^v December 10, 2015 meeting between department staff and John Logan, Mayor, and Mark Bross, Engineer

^{vi} Pre-screening tool (December-2015)

^{vii} Review of 2014 Property Tax Rates