



STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

December 13, 2013

Mr. J. Bruce Woody, City Administrator
City of St. Joseph
1100 Frederick Ave.
St. Joseph, MO 64501

RE: C295699-04 City of St. Joseph, MO – St. Joseph Wastewater Treatment Plant Upgrade,
St. Joseph Water Protection Facility, MO-0023043, Construction Permit No. CP0001604

Dear Mr. Woody:

The Missouri Department of Natural Resources' Water Protection Program has reviewed and approved the plans and specifications submitted by HDR Engineering, Inc. for the city of St. Joseph, MO. Please find enclosed Construction Permit No. CP0001604 and one (1) set of approved specifications. One (1) set of approved plans has been sent under separate cover by Ms. Cynthia Smith, P.E., of my staff. You must maintain these with your official project file for a minimum of four (4) years following completion of the project.

This permit will terminate 36 months from the date of issuance. In accordance with 10 CSR 20-6.010(4)(G), the Department may grant an extension only one (1) time. If you believe that an extension is necessary, you must submit a request and a justification in writing for the extension at least 30 days prior to the permit expiration date.

Nothing in this permit removes any obligations to comply with county or other local ordinances or restrictions.

If you were adversely affected by this decision, you may appeal to have the matter heard by the Administrative Hearing Commission. To appeal, you must file a petition with the Administrative Hearing Commission 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 Administrative Hearing Commission.

Mr. J. Bruce Woody, City Administrator
December 13, 2013
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If you have any questions concerning this matter, please contact Ms. Cynthia Smith, P.E., of the Water Protection Program, at 573-522-9723 or Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102-0176.

Thank you for your efforts to help ensure clean water in Missouri.

Sincerely,

WATER PROTECTION PROGRAM



Byron F. Shaw, Jr., P.E.
SRF Engineering Unit Chief

BFS:csc

Enclosures

c: Mr. Ryan Saffels, P.E., HDR Engineering
Mr. Scott Honig, P.E., Kansas City Regional Office
Ms. Cynthia Smith, P.E., Water Protection Program, Financial Assistance Center
Mr. Terry Nelson, Water Protection Program, Financial Assistance Center

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

The Missouri Department of Natural Resources hereby issues a permit to:

City of St. Joseph
1100 Frederick Avenue
St. Joseph, MO 64501

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

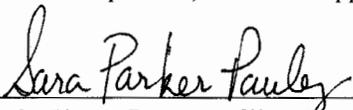
As the Department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the Department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the Department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

December 13, 2013
Effective Date

December 12, 2016
Expiration Date


Sara Parker Pauley, Director, Department of Natural Resources


Director, Water Protection Program

CONSTRUCTION PERMIT

WASTEWATER TREATMENT SYSTEM IMPROVEMENTS:

This construction project consists of constructing/installing or improving facilities at the St. Joseph Water Protection Facility to enable the facility to meet new effluent discharge requirements.

The improvements in this phase of the project include, but are not limited to:

- New grit removal system.
- New primary effluent diversion splitter box directing 4-12 million gallons per day (mgd) of domestic primary clarifier effluent flow to the industrial aeration basins.
- Modification of intermediate pump station to bypass roughing filters and direct domestic primary clarifier effluent to domestic aeration basins.
- Modification of domestic aeration basins from complete mix to plug flow with anaerobic/anoxic/anoxic/aerobic zones, new diffusers, and new mixers.
- New dissolved air flotation thickener feed pump wet well.
- New South St. Joseph Industrial Sewer District influent meter vault and divert influent to the industrial primary clarifiers.
- Convert existing aerobic sludge digesters to industrial activated sludge aeration basins and install new Turblex blowers.
- New industrial final clarifier.
- Convert existing chemical precipitation clarifier to a belt filter press filtrate equalization basin.
- New biosolids dryer at site of metal maintenance building.
- New screw conveyors to divert thickened sludge to the new cake holding bin in the belt filter press truck bay. Progressive cavity pumps will pump the thickened solids to the new dryer.
- New belt dryer system to dry the 23 percent solids from the belt filter presses to 92 percent Class A Biosolids.
- New odor control facility.
- Biosolids product storage and handling facilities.

The project will also include general site work, piping, grading and utility improvements appropriate to the scope and purpose of the project.

FINDING OF AFFORDABILITY:

Pursuant to Section 644.145, RSMo, the Department is required to determine whether a permit or decision is affordable and make a finding of affordability for each permit or decision.

An Affordability Determination and Finding was performed in accordance with RSMO §644.145 and is enclosed with this construction permit.

PERMIT CONDITIONS:

1. All construction shall be in accordance with the plans and specifications submitted by HDR Engineering, Inc. on October 24, 2013 and approved by the Department on December 13, 2013.
2. Regulation 10 CSR 20-4.040(19)(B)1 requires that projects be publicly advertised, allowing sufficient time for bids to be prepared and submitted. Projects should be advertised at least 30 days prior to bid opening.
3. The Department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(8).
4. As per 10 CSR 20-4.040, all changes in contract price or time within the approved scope of work must be by change order in accordance with Section 20 of this rule.
5. State and Federal Law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's Kansas City Regional Office per 10 CSR 20-7.015(9)(E)2.
6. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(10).

“There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole.”

 - A. Sewers in relation to water works structures shall meet the requirements of 10 CSR 23-3.010 with respect to minimum distances from public water supply wells or other water supply sources and structures.
 - B. Sewer mains shall be laid at least ten feet (10') horizontally from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a ten foot (10') separation, the Department may allow a deviation on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on either side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to 150 pounds per square inch to assure water tightness.
 - C. Manholes should be located at least ten feet (10') horizontally from any existing or proposed water main.

- D. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. When it is impossible to obtain proper vertical separation as stipulated above, one (1) of the following methods must be specified:
- 1) The sewer shall be designed and constructed equal to the water pipe and shall be pressure tested to assure water tightness prior to backfilling; or
 - 2) Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends ten feet (10') on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the Department for use in water main construction.
7. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of one (1) acre or more to obtain a Missouri State Operating Permit to discharge stormwater. The permit requires Best Management Practices sufficient to control runoff and sedimentation to protect waters of the state. Starting September 1, 2012, land disturbance permits will only be obtained by means of the Department's ePermitting system available online at www.dnr.mo.gov/env/wpp/epermit/help.htm.
- See www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.
8. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of Jurisdictional Waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Water Protection Program at 573-751-1300 for more information.
- See www.dnr.mo.gov/env/wpp/401/ for more information.
9. Upon completion of construction, the city of St. Joseph, MO will become the continuing authority for operation, maintenance, and modernization of these facilities.
10. In accordance with 10 CSR 20-6.010(5)(D), submit the enclosed form Statement of Work Completed to the Department following completion of construction. Submit an electronic copy of the as builts with this form.

Missouri Department of Natural Resources
Water Protection Program
Affordability Determination and Finding
(In accordance with RSMo 644.145)

**St. Joseph Water Pollution Control, Modification
City of St. Joseph
#MO-0023043**

Section 644.145 RSMo requires DNR 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 or publicly-owned treatment works.”

Description: The St. Joseph Water Protection Facility is located at 3500 State Route 759, St. Joseph, MO. The facility discharges directly to the Missouri River.

Connections:

Retail:	Residential Connections:	24,250
	Commercial Connections:	2,647
Wholesale:	Commercial Connections:	3
	Total Connections:	26,900

New Permit Requirements or Requirements Now Being Enforced:

The United States Environmental Protection Agency (EPA) Region 7 required that the permittee conduct a Mixing Zone Study (Study) to determine an appropriate and applicable Mixing Zone for the receiving stream (Missouri River) and Outfall #001 of this facility. The study was developed in order to characterize the permittee’s effluent plume. As the results of the Study indicate the characteristics of the permittee’s effluent plume in the Missouri River demonstrate the need for more stringent and site-specific effluent limits, the permittee submitted an operating permit modification application. Due to the findings of the Study, effluent limitations for Ammonia as N in the existing and effective operating permit were revised.

Range of Anticipated Costs Associated with Complying with Requirements:

The facility provided the Department with an affordability study in correspondence dated August 24, 2011. The study showed projected costs for ammonia removal as part of the Capital Improvement Program. Total costs from 2011 to 2016 were estimated to be approximately \$30 million. The study stated that “The CIP is anticipated to be financed with proceeds from the Series 2007 IDA bonds, annual transfers from the operating fund, a \$21.7 million conventional bond issue in FY 2012, \$88.7 million State Revolving Fund (SRF) bond issue in FY 2013, \$56.4 million SRF bond issue in FY 2016, and two Short Term bonds for \$8.0 million and \$6.5 million in FY 2012 and 2014.”

(1) A community's financial capability and ability to raise or secure necessary funding *(examine key indicators of the communities ability to raise funds);*

Schedule of Existing Rates¹

RETAIL

Service Charge

	<u>Monthly Charge</u>
Inside City	\$14.08
Outside City	\$33.05

Volume Charge

	<u>Monthly</u>
Inside City	2.80 \$/Ccf
Outside City	6.40 \$/Ccf

Overage Charges

	<u>Inside City</u>	<u>Outside City</u>	
BOD in excess of 300 mg/l	0.286	0.425	\$/lb
Suspended solids in excess of 350 mg/l	0.239	0.567	\$/lb
Fats, Oils, & Grease in excess of 100 mg/l	0.096	0.220	\$/lb
Sulphides in excess of 15 mg/l	0.293	0.667	\$/lb

WHOLESALE (a)

Flow charge	0.101 \$/Ccf
Pump Station(b)	0.370 \$/Ccf
BOD	0.234 \$/lb
Suspended Solids	0.164 \$/lb
Fats, Oils, & Grease	0.096 \$/lb
Sulphides	0.293 \$/lb

(a) Applicable to the South St. Joseph Industrial Sewer District (SSJISD), National Beef Leathers, and Triumph Foods for secondary treatment service.

(b) Applicable to SSJISD only.

¹ http://www.stjoemo.info/publicworks/sewer_rates.pdf

Municipal Bond Rating (if applicable):	<u>A²</u>
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)	<u>NA⁵</u>
Current outstanding debt:	<u>3,625,000³</u>

Other indicators: The city of St. Joseph appears to have the ability to raise or secure funding to pay for the required upgrades to the facility based on their affordability analysis.

(2) Affordability of pollution control options for the individuals or households of the community; - See Note 1

Current annual operating costs (exclude depreciation) ³ :	\$9,905,600
Current annual user rate ³ :	\$370.56
Estimated capital cost of pollution control options (2011-2016) ³ :	\$196,412,956
Average annual cost including additional (operating costs and debt service 2011-2016) ³ :	9,642,766
Estimated resulting annual user rate ³ :	\$416
Median Household Income ⁴	\$42,263
Usage Rates as a percent of Median Household Income (Rate/MHI)	0.98

Note 1 - The estimated capital cost of pollution control options and average annual costs including additional includes costs for the six (6) major projects covered by the city's Capital Improvement Plan (CIP) that are planned to occur from 2011 to 2016. These include Environmental and Regulatory projects, CMOM projects, CSO Long Term Control Plan projects, System Expansion projects, Collection System capital projects, and Wastewater Treatment Plant capital projects. As the projects are integrated, the estimated capital cost of pollution control options, average annual cost including additional, and estimated resulting annual user rate is based on the combined costs for the six projects for the CIP.

Check Appropriate Box	Financial Impact	Residential Indicator (Usage Rate as a percent of Median Household Income)
<input checked="" type="checkbox"/>	Low	Less than 1% MHI
<input type="checkbox"/>	Medium	Between 1% and 2% MHI
<input type="checkbox"/>	High	Greater than 2% MHI

The Department calculated that a 4,488 gallon per month residential user currently pays approximately \$30.88/month, based on the sewer rate information contained in the Final Report for Revenue Requirements and Cost of Rate Services dated June 2011. With the addition of all the proposed capital improvement projects, the approximate monthly rate for the same user would increase to \$34.66, which is about 0.98% of the MHI. This would result in a low financial impact to the users.

² March 2, 2012 St. Joseph pre-public notice comment letter

³ <http://www.ci.st-joseph.mo.us/publicworks/RevenueReqCOSRates.pdf>

⁴ Median Household Income data from American Community Survey – Median income in the past 12 months – <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

Note: The median household income is adjusted for inflation according to the method suggested in the EPA CSO guidance for financial capability assessment and schedule

⁵ The City of St. Joseph operates the sewer utility as an enterprise fund, meaning that the ratepayers finance 100% of the cost of operations and capital. General revenues, i.e. property tax, cannot be used to underwrite the utility, therefore General Obligation Bonds do not apply.

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

This evaluation is limited to those costs necessary to comply with (and therefore achieve the benefits derived from) the permit conditions identified as relevant to the affordability review. The additional treatment for Ammonia will allow the St. Joseph Wastewater Treatment Plant to meet the revised ammonia limits for the Missouri River. The revised limit is more protective of aquatic life.

The current permit action was requested by the facility to modify the permit due to the submittal of the mixing zone study for the Missouri River at the effluent channel of the St. Joseph Wastewater Treatment Plant. The modification will require the facility to meet revised water quality based effluent limitations for Ammonia due to the change of the allowable mixing zone. The Missouri River is classified as a P (permanently flowing) stream.

(4) 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; and

(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;

Potentially Distressed Populations	
Unemployment for St. Joseph ⁶	6.9%
Adjusted Median Household Income for St. Joseph ⁴	42,272
Percent Population Growth/Decline (1990-2010) ⁷	+6.9%
Percent of Households in Poverty ⁸	16.4%

Opportunity for cost savings or cost avoidance:

None Noted

⁴ Median Household Income data from American Community Survey – Median income in the past 12 months – <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

Note: The median household income is adjusted for inflation according to the method suggested in the EPA CSO guidance for financial capability assessment and schedule

⁶ Unemployment data from Missouri Department of Economic Development for February, 2012 – <http://www.missourieconomy.org/pdfs/ure11202.pdf>

⁷ 2010 Census Population Data - <http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>
2000 Census Population Data - <http://www.census.gov/popest/data/cities/totals/2009/tables/SUB-EST2009-04-29.xls> 1990
Census Population Data – <http://www.census.gov/prod/cen1990/cp1/cp-1-27.pdf>

⁸ Poverty data – American Community Survey -<http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>

Opportunity for changes to implementation/compliance schedule:

The Department has included a three (3) year Schedule of Compliance for the facility to meet the final effluent limitations for Ammonia as N in the draft permit. In the March 2, 2012 letter to the Department, the city lists that final construction is anticipated in April 2015. As the permit will be issued after April 2012, the three year schedule of compliance will allow sufficient time for the facility to complete construction.

(5) An assessment of other community investments relating to environmental improvements;

The Wastewater Utility's capital improvement program is divided into six (6) major sections: Environmental and Regulatory projects, CMOM projects, CSO Long Term Control Plan projects, System Expansion projects, Collection System capital projects, and Wastewater Treatment Plant capital projects. The Environmental and Regulatory projects include effluent disinfection and ammonia removal. The CMOM project is a long term program that includes the purchase of equipment that will allow for the city to improve the sewer collection system.

The City is under a compliance schedule for disinfection and a separate CSO Control Abatement Order by MDNR (i.e. wet weather disinfection and effluent pump structure) which are required to be met by the city by December 31, 2013. In correspondence dated August 24, 2011, the city of St. Joseph established that it can meet its financial obligations as contemplated by Section 644.145 for the construction and operation of a new disinfection system with effluent pump station.

(6) 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;

See Section (2) of this analysis for the residential indicator as outlined in the above-referenced EPA guidance.

Secondary indicators for consideration

Socioeconomic, Debt and Financial Indicators

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	3
Overall net debt as a % of full market property value	Below 2%	2% - 5%	Above 5%	2
Unemployment Rate	>1% below Missouri average	± 1% of Missouri average	>1% above Missouri average	2
Median household income	More than 25% above Missouri MHI	± 25% of Missouri MHI	More than 25% below Missouri average	2
Property tax revenues as a % of full market property value	Below 2%	2% - 4%	Above 4%	3
Property tax collection rate	Above 98%	94% - 98%	Below 94%	3

Average Score for Financial Capability Matrix: 2.5

Residential Indicator (from Criteria #2 above): 0.9

Financial Capability Matrix

Financial Capability Indicators Score from above ↓	Residential Indicator (User rate 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	Low Burden	Medium Burden

Estimated Financial Burden: Low Burden

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

St. Joseph's population grew 6.86% from 1990-2010. In terms of economic strength, Buchanan County is above average when compared to other counties in the State. The percentage of labor force is 9% above the State average, the per capita wealth⁹ is 16% below the State average and the per capita income is 14% below the State's average.

In terms of retail Sales, Buchanan County gains retail customers from surrounding counties and the County residents spend more than the state average on retail goods and services. The buying power index of Buchanan County residents is above average compared to the rest of the regional economy¹⁰.

Conclusion and Finding

This affordability analysis finds that the actions subject to this analysis are affordable. The Department identified the actions for which an affordability analysis is required under Section 644.145 RSMo. The city of St. Joseph applied for a modified operating permit to revise the effluent limit based on the Mixing Zone Study. The Department made modifications to the current operating permit including:

- 1) Revising effluent limitations for Ammonia as N.
- 2) Removing effluent limitations for Cyanide, Cadmium, Chromium (VI) and Copper as these parameters no longer showed a reasonable potential to violate water quality with the mixing zone data provided by the study.

The Department considered all seven (7) of the criteria presented in subsection 644.145.3 when evaluating the affordability of the relevant actions. Taking into consideration these criteria, this analysis examined whether the above referenced permit modifications affects the ability of an individual customer or household to pay a utility bill without undue hardship or unreasonable sacrifice in the essential lifestyle or spending patterns of the individual or household. As a result of reviewing the above criteria, the Department hereby finds that the action described above will result in a low burden with regard to the community's overall financial capability and a low financial impact for most individual customers/households.

City of St. Joseph

1100 Frederick Avenue, St. Joseph, Missouri 64501

December 5, 2012

VIA ELECTRONIC MAIL AND U.S. MAIL

Mr. Marty Miller
Deputy General Counsel
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Re: City of St. Joseph, Missouri
Permit Number MO-0023043 Affordability Finding

Dear Mr. Miller:

On July 20, 2012 the Missouri Department of Natural Resources ("MDNR") issued permit number MO-0023043 to the City of St. Joseph, Missouri, (the "City"). Attached to the permit, MDNR included a "Water Protection Program Affordability Determination and Finding" (the "Affordability Finding"). As you previously discussed with the City's outside counsel, the Affordability Finding contains erroneous information that ultimately described the City as a "low burden" community although a Financial Capability Analysis prepared in 2010 by MDNR and the Environmental Protection Agency (the "EPA") correctly characterized the City as a "high burden" community.

In mid-May, a meeting was scheduled for late June to discuss a proposed version of the Affordability Finding. The meeting was ultimately rescheduled for July 27, 2012; however, before such meeting occurred, the above-described permit was issued with the erroneous Affordability Finding attached. As a result, the City did not have an opportunity to review the Affordability Finding and work with MDNR to address deficiencies or errors in the finding. The City does not recall the Affordability Finding being attached to the proposed permits and did not submit a formal appeal of the Affordability Finding.

The City understands that no process has been defined for correction of such errors absent appeal of the Affordability Finding or formally reopening and modifying the permit. As we have previously discussed, reopening the permit and correcting the Affordability Finding is potentially overly burdensome for both MDNR and the City. This is particularly true in light of the fact that a correct alternative affordability finding was completed and agreed to by MDNR and the EPA in 2010.

Mr. Marty Miller
December 5, 2012
Page 2

As previously agreed, in lieu of reopening the permit, the City has requested that its engineering consultants from Black and Veatch provide a detailed memorandum critiquing the Affordability Finding as it relates to the 2010 Financial Capability Analysis. Such memorandum is enclosed with this letter. Please forward a copy of this letter and the enclosed memorandum to the appropriate persons to include in permit number MO-0023043 file. If you need additional information or details from the City, please contact me at (816) 271-4680 or e-mail me at bcarter@ci.st-joseph.mo.us.

Sincerely,



Bryan Carter
Assistant City Attorney

Enclosure

cc: Lisa Robertson, City Attorney
Jody Carlson, Director of Public Works and Transportation
Andy Clements, Assistant Director of Public Works and Transportation
Shawna Bligh, BW Law Group
Chris Wendelbo, BW Law Group



BLACK & VEATCH
11401 LAMAR AVE., OVERLAND PARK, KS 66211 USA
www.bv.com

MEMORANDUM

City of St. Joseph, Missouri
Department of Water Protection
Review of MDNR Affordability Finding

B&V Project 175611
5 December 2012

To: Bryan Carter, Assistant City Attorney
From: Craig Brown, Principal Consultant, Black & Veatch Corporation

The following memorandum presents a review of the Affordability Determination and Finding (Finding) included in the City of St. Joseph, Missouri (City) Missouri State Operating Permit (Permit) as modified effective July 20, 2012. The City finds the Affordability Determination to be erroneous and has requested Black & Veatch review the Finding and prepare this memo to identify specific instances where the Missouri Department of Natural Resources (MDNR) erred in its preparation of the Finding.

It is Black & Veatch's understanding that MDNR has a document entitled *Draft Guidance for Conducting and Developing Affordability Finding*, dated June 22, 2012, which is used to guide the process MDNR uses to determine its Finding. This document is based on the methodologies and principles defined in the U.S. Environmental Protection Agency (EPA) guidance document *Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development* (1997). The EPA document defines the process to conduct a Financial Capability Analysis (FCA), also referred to as an affordability analysis. The purpose of the FCA is to provide an objective view of the City's and its residents' financial ability to construct and operate the improvements to the sewer system required to control combined sewer overflows as well as other regulatory requirements, as mandated by the EPA and the MDNR.

The FCA is a two-part analysis, with the two scores combined into a matrix to determine an overall financial burden of a community. The first analysis calculates the Residential Indicator (RI), which is a measure of the cost per household of wastewater utility projects as a percentage of the median household income (MHI) of the community. The second analysis calculates the Financial Capability Indicator, which is a measure of the financial strength of the government and the community as a whole. The measure looks at debt indicators, socioeconomic indicators, and financial management indicators. MDNR's analysis mimics this two step approach and applies the combined ratings into the same matrix to determine the burden. MDNR, using the approach defined in its draft guidance document, has generally applied the EPA methodology correctly in its preparation of the second analysis, with minor differences. However, the determination of the Residential Indicator has significant deficiencies when compared to the EPA methodology and the affordability analysis submitted by the City in 2010 that documented the high burden determination that was the basis for schedule negotiation of its CSO Long Term Control Plan (LTCP). This memorandum identifies the deficiencies in MDNR's recent affordability finding.

B&V Project 175611
5 December 2012

Background

The assumptions used in the FCA analysis used by the City are the result of an initial FCA report prepared by Black & Veatch dated December 21, 2007. The analysis in this report was then revised based on two meetings between the City and their representatives, the EPA and their outside consultants, and the MDNR on December 5, 2008 and March 25, 2009. In these meetings, certain assumption used to calculate the RI were clarified and documented in meeting notes. The first meeting was attended by Tony Petruska (EPA) and Kevin Mohammadi and Rob Morrison (MDNR). The second meeting was attended by Mr. Petruska and Don Gibbons from EPA and Mr. Morrison from MDNR. The resulting calculations were recently provided to MDNR again in a memo date August 7, 2012.

Critique of MDNR Affordability Finding

The following section provides a review of the Finding as presented beginning on Fact Sheet Page 15 of the City's Permit. In reviewing this analysis, it was determined that the source data used by MDNR in its Finding was based primarily on the Black & Veatch study *Report on Revenue Requirements and Cost of Service Rates* (June 2011) (Rate Study). This Rate Study report is prepared annually by Black & Veatch and is used to adjusted sewer user rates for the upcoming fiscal year (FY). It is assumed this was the most recently available report at the time the analysis was prepared. The Rate Study for FY 2013 rate was published in June 2012.

Number of Households

The first data point identified in the Finding is the number of connections. The connections shown are the projected 2012 number of customers from the Rate Study (Table 2). This differs from the EPA analysis in that the EPA used the number of residential *households* in the service territory as the basis for the calculation of the RI. The number of residential households, according to the EPA, can account for residents that may reside in apartments or multiplexes that may be billed on a master meter under a commercial classification. The census data that is used to document the MHI used in the RI is also the source for the number of households. For St. Joseph, the number of households is then adjusted for the number of outside city residential customers and an estimate of households on septic systems.

Regardless of the source data used for the number of customers/households, MDNR fails to actually apply this information in its determination of cost per household, as described later in this memo.

Range of Anticipated Costs

The next section states "The facility provided the Department with an affordability study". It is assumed MDNR is referring to the 2011 Rate Study, but there are no affordability study references in the Rate Study. The section properly identifies the cost estimate of the ammonia project and documents the financing plan for the five year period from 2011 to 2016. However, this information is not used or applied in any way in the calculation of affordability shown in the Finding.

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

The next section documents some existing financial metrics of the city. The existing rates shown are from FY 2011, which were effective from July 2010 through June 2011. There have been two rate increases since the rate shown in this section.

Next the Finding shows the municipal bond rating of A and correctly identifies that general obligation bonding capacity is not applicable to an enterprise fund fully funded by user charges.

The next item incorrectly documents current outstanding debt. The Finding shows \$3.6 million, which is the debt service payment for existing debt in 2012. Currently, the Water Protection utility has total outstanding debt of about \$35 million.

(2) Affordability of pollution control options for the individuals or households of the community

The Finding shows the following table:

Current annual operating costs (exclude depreciation) ¹ :	\$9,905,600
Current annual user rate ² :	\$370.56
Estimated capital cost of pollution control options (2011-2016) ³ :	\$196,412,956
Average annual cost including additional (operating costs and debt service 2011-2016) ³ :	9,642,766
Estimated resulting annual user rate ³ :	\$416
Median Household Income ⁴	\$42,263
Usage Rates as a percent of Median Household Income (Rate/MHI)	0.98

The first line correctly identifies operating costs of the existing plant for FY 2012. The second line, "Current annual user rate", appears to be sourced from Table 20 of the Rate Study. This table in the Rate Study shows what the average monthly bill is for a residential customer using 6 Ccf per month using the FY2011 rates (\$30.88). Multiply that value by 12 and you get the \$370.56 shown in the table above. This was not the current rate when MDNR did its analysis; it was the prior year's rate. MDNR's own guidance document recommends using 5,000 gallons per month (6.7 Ccf) when comparing costs. At current rates, the annual costs for a residential customer using 5,000 gallons per month are \$493.80.

Next the table shows "Estimated capital cost of pollution control options" with a value of \$196,412,956. They have correctly documented the total costs of capital projects in the City's CIP for 2011-2016, but this value is not used anywhere further in the analysis. This value has no input or bearing on MDNR's resultant finding of affordability.

Next is a value of \$9,642,766 for "Average annual cost including additional". Black & Veatch was unable to determine the source of this number, but like the prior entry in the table, this value is not used in the actual calculation or RI used to measure affordability.

The next line is the key to why Black & Veatch finds the affordability determination of MDNR to be erroneous. The most important factor of calculating the RI is the calculation of cost per household, or estimated annual user costs. Rather than develop a cost per household using the procedure defined in the EPA guidance document, which would include some of the items previously documented such as current costs, future capital costs, future operating costs of the control equipment, etc., MDNR chose to shortcut the analysis and simply pulled another value from the previously mentioned Table 20 from the Rate Study. The value shown of \$416 is simply the proposed rate in 2011 (the actual FY 2012 rate) for a customer using 6 Ccf per month. Using this value as the basis for the affordability determination is erroneous for a number of reasons. Primarily, all this number represents is the cost an average residential customer would incur using the FY 2012 rates. In other words, using this value only measures the costs that are incurred during 2012, with no consideration of future costs, specifically the costs of the pollution control equipment that required a Finding in the first place. The vast majority of the costs of the Ammonia project are incurred beginning in FY 2013 after the issuance of bonds for the project. None of these costs are included in the Finding as shown.

Further, the EPA guidance on affordability does not measure affordability of specific projects, but rather all the known or projected capital and operating costs of the utility. Putting forth a finding of Low Burden for St. Joseph is not appropriate because it has not considered the full cost of the projects or in most cases, has not consider the costs of these projects at all.

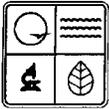
Additional Sections

The remaining sections of the Finding, (3) through (6), are generally reasonable in the documentation for St. Joseph. Much of this is the same census data used in the EPA analysis, which is combined into the table shown in section (6). These values generally match or come close to the FCA prepared with the Facilities Plan. However, by erroneously determining a RI in the low burden, the final matrix score is also low burden, when the City has previously documented it is a high burden community.

Summary and Conclusions

Based on the incorrect calculation of cost per household of wastewater costs for the calculation of the Residential Indicator, it is not appropriate to use this analysis for any affordability findings for St. Joseph. Black & Veatch recommends using the Financial Capability Analysis prepared in 2010 that formed the basis of the current schedule of CSO LTCP projects and documents the High Burden status for St. Joseph.

NOV 26 2012



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FACILITY NAME City of St. Joseph Water Protection Facility	
PERMIT NO. MO-0023043	COUNTY Buchanan

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.
- 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

NOV 26 2012



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH
FORM B2 – APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY

FOR AGENCY USE ONLY	
CHECK NUMBER 290786	
DATE RECEIVED 11/26/12	FEE SUBMITTED \$ 2200.00

8B

PART A – BASIC APPLICATION INFORMATION

1. This application is for:

- An operating permit and antidegradation review public notice.
- A construction permit following an appropriate operating permit and antidegradation review public notice.
- A construction permit, a concurrent operating permit and antidegradation review public notice.
- A construction permit (submitted before Aug. 30, 2008 or antidegradation review is not required).
- An operating permit for a new or unpermitted facility. Construction Permit # _____
- An operating permit renewal: Permit #MO- _____ Expiration Date _____
- An operating permit modification: Permit #MO- _____ Reason: _____

1.1 Is this a Federal/State Funded Project? Yes No Funding Agency/Project #: _____

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)? Yes No

2. FACILITY

NAME St. Joseph Water Protection Facility		TELEPHONE NUMBER WITH AREA CODE (816) 271-4693	
ADDRESS (PHYSICAL) 3500 State Route 759 Hwy.	CITY St. Joseph	STATE MO	ZIP 64504-1014

2.1 LEGAL DESCRIPTION (Plant Site): ¼, NE ¼, NE ¼, Sec. 30, T 57N, R 35W County Buchanan

2.2 UTM Coordinates Easting (X): 339764 Northing (Y): 4399548
 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

3. OWNER City of St. Joseph

NAME City of St. Joseph		TELEPHONE NUMBER WITH AREA CODE 816-271-4653	
ADDRESS 1100 Frederick Avenue	CITY St. Joseph	STATE MO	ZIP 64501

3.1 Request review of draft permit prior to Public Notice? Yes No

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

NAME City of St. Joseph, Missouri		CITY 816-271-4653	
ADDRESS 1100 Frederick Avenue	CERTIFICATE NUMBER (IF APPLICABLE)	STATE MO	ZIP 64501

5. OPERATOR

NAME Mr. Donald R. Gilpin		TELEPHONE NUMBER WITH AREA CODE 816-271-4693	
TITLE Superintendent, Cert. # A-3634			

6. FACILITY CONTACT

NAME Mr. Donald R. Gilpin		TITLE Superintendent	
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MO 780-1805 (09-08)

FACILITY NAME City of St. Joseph Water Protection Facility	PERMIT NO. MO- 0023043	OUTFALL NO. # 001
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PART A – BASIC APPLICATION INFORMATION

7. ADDITIONAL FACILITY INFORMATION

7.1 BRIEF DESCRIPTION OF FACILITIES

Ammonia Removal includes a new grit system, conversion of the aerobic sludge digesters to a 5-stage Bardenpho BNR system for the industrial flow, BNR upgrade of existing aeration basins for the domestic flows, new industrial final clarifier, and ancillary upgrades for a complete project. The construction project will ensure compliance with new tighter ammonia effluent limits. There will be no change to the currently permitted design flow.

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. (YOU MAY SUBMIT MORE THAN ONE MAP IF ONE MAP DOES NOT SHOW THE ENTIRE AREA.)

- a. The area surrounding the treatment plant, including all unit processes.
- b. The location of the downstream landowner(s). (See Item 10.) See attached City of St. Joseph WPF Map for a, b, d, and e.
- 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. Refer to St. Joseph Collection System Map in Part G.
- 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. See Biosolids Disposal Location Map
- g. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act, or 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 PROCESS FLOW DIAGRAM OR SCHEMATIC. PROVIDE A DIAGRAM SHOWING THE PROCESSES OF THE TREATMENT PLANT. ALSO, PROVIDE A WATER BALANCE SHOWING ALL TREATMENT UNITS, INCLUDING DISINFECTION (E.G. CHLORINATION AND DECHLORINATION). THE WATER BALANCE MUST SHOW DAILY AVERAGE FLOW RATES AT INFLUENT AND DISCHARGE POINTS AND APPROXIMATE DAILY FLOW RATES BETWEEN TREATMENT UNITS. INCLUDE A BRIEF NARRATIVE DESCRIPTION OF THE DIAGRAM.

7.4 FACILITY SIC CODE 4952	DISCHARGE SIC CODE: 4952	FACILITY NAICS CODE: 221320	DISCHARGE NAICS CODE: 221320
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7.5 NUMBER OF SEPARATE DISCHARGE POINTS
Outfall #001 gravity plant outfall. A second outfall for high river stage is part of the UV Disinfection project currently in construction.

7.6 NUMBER OF PEOPLE PRESENTLY CONNECTED OR POPULATION EQUIVALENT 76,780 census	DESIGN POPULATION EQUIVALENT 250,000 PE
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NUMBER OF UNITS PRESENTLY CONNECTED			
HOMES <u>NA</u>	APARTMENTS <u>NA</u>	TRAILERS <u>NA</u>	OTHER <u>NA</u>

TOTAL DESIGN FLOW (ALL OUTFALLS) 21.4 MGD Avg. Daily; 35.2 MGD Max Month; 54.0 Peak Daily	ACTUAL FLOW 20.4 MGD
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7.7 DOES ANY BYPASSING OCCUR ANYWHERE IN THE COLLECTION SYSTEM OR AT THE TREATMENT FACILITY?
Yes No (If Yes, attach an explanation.) Bypass at CSO structures only during extreme wet weather events. Issue being addressed in LTGP.

7.8 LENGTH OF THE SANITARY SEWER COLLECTION SYSTEM IN MILES
NA

7.9 IS INDUSTRIAL WASTE DISCHARGED TO THE FACILITY IDENTIFIED IN ITEM 2? Yes No

7.10 WILL THE DISCHARGE BE CONTINUOUS THROUGH THE YEAR? Yes No

A. DISCHARGE WILL OCCUR DURING THE FOLLOWING MONTHS <u>NA</u>	B. HOW MANY DAYS OF THE WEEK WILL THE DISCHARGE OCCUR? <u>NA</u>
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7.11 IS WASTEWATER LAND APPLIED? (If Yes, Attach Form I) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	7.12 DOES THIS FACILITY DISCHARGE TO A LOSING STREAM OR SINKHOLE? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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7.13 HAS A WASTE LOAD ALLOCATION STUDY BEEN COMPLETED FOR THIS FACILITY?
Yes No

7.14 LIST ALL PERMIT VIOLATIONS, INCLUDING EFFLUENT LIMIT EXCEEDANCES IN THE LAST FIVE YEARS. ATTACH A SEPARATE SHEET IF NECESSARY. IF NONE, WRITE NONE.

8. LABORATORY CONTROL INFORMATION

8.1 LABORATORY WORK CONDUCTED BY PLANT PERSONNEL	
Lab work conducted outside of plant. All testing is done on-site except TFO, WET and Biosolids nutrient testing are sent to a contract laboratory.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Push-button or visual methods for simple test such as pH, settleable solids.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Additional procedures such as Dissolved Oxygen, Chemical Oxygen Demand, Biological Oxygen Demand, titrations, solids, volatile content.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

FACILITY NAME City of St. Joseph Water Protection Facility	PERMIT NO. MO- 0023043	OUTFALL NO. #001
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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 3,640
Design Dry Tons/Year 10,000 Actual Dry Tons/Year

9.3 CAPACITY OF SLUDGE HOLDING STRUCTURES

9.4 SLUDGE STORAGE PROVIDED 28 design 1.5%
Cubic Feet 723,000 Days of Storage 57 historical Average Percent Solids of Sludge No Sludge Storage is Provided

9.5 TYPE OF STORAGE Thermophilic and Mesophilic Digesters
 Holding Tank Basin Building Concrete Pad Other (Describe) _____

9.6 SLUDGE TREATMENT
 Anaerobic Digester Storage Tank Lime Stabilization Lagoon
 Aerobic Digester Air or Heat Drying Composting Other (Attach Description)

9.7 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) _____

9.8 PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY

NAME
City of St. Joseph Water Protection Facility, Mr. Donald R. Gilpin

ADDRESS 3500 State Route 759	CITY St. Joseph	STATE MO	ZIP 64504
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CONTACT PERSON Mr. Donald R. Gilpin	TELEPHONE NUMBER WITH AREA CODE (816) 271-4693	PERMIT NO. MO- 0023043
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9.9 SLUDGE USE OR DISPOSAL FACILITY

By Applicant By Others (Complete Below)

NAME
City of St. Joseph Sanitary Landfill

ADDRESS 9431 50th Road SE Street	CITY St. Joseph	STATE MO	ZIP 64507
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CONTACT PERSON Mr. Bill Blacketer	TELEPHONE NUMBER WITH AREA CODE 816-253-9025	PERMIT NO. MO- 0109878
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9.10 DO THE SLUDGE OR BIOSOLIDS DISPOSAL COMPLY WITH FEDERAL SLUDGE REGULATIONS UNDER 40 CFR 503?
 Yes No (Attach Explanation)

10. DOWNSTREAM LANDOWNER(S). (ATTACH ADDITIONAL SHEETS AS NECESSARY.)

NAME
South St. Joseph Drainage and Levee District (also referred to as South St. Joseph Industrial Sewer District)

ADDRESS PO Box 4005	CITY St. Joseph	STATE Missouri	ZIP 64504
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11. DRINKING WATER SUPPLY INFORMATION

11.1 SOURCE OF YOUR DRINKING WATER SUPPLY

A. PUBLIC SUPPLY (MUNICIPAL OR WATER DISTRICT WATER) (IF PUBLIC, PLEASE GIVE NAME OF PUBLIC SUPPLY)
Municipal - Missouri American Water Company

B. PRIVATE WELL

C. SURFACE WATER (LAKE, POND OR STREAM)

11.2 DOES YOUR DRINKING WATER SOURCE SERVE AT LEAST 25 PEOPLE AT LEAST 60 DAYS PER YEAR (NOT NECESSARILY CONSECUTIVE DAYS)?
Yes No

11.3 DOES YOUR SUPPLY SERVE HOUSING THAT IS OCCUPIED YEAR ROUND BY THE SAME PEOPLE? THIS DOES NOT INCLUDE HOUSING THAT IS OCCUPIED SEASONALLY?
Yes No

END OF PART A

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL			
FACILITY NAME City of St. Joseph Water Protection Facility		PERMIT NO. MO- 0023043	OUTFALL NO #001
PART B – ADDITIONAL APPLICATION INFORMATION			
20. INFLOW AND INFILTRATION			
ESTIMATE THE AVERAGE NUMBER OF GALLONS PER DAY THAT FLOW INTO THE TREATMENT WORKS FROM INFLOW AND INFILTRATION. Gallons Per Day <u>Unknown</u>			
BRIEFLY EXPLAIN ANY STEPS UNDERWAY OR PLANNED TO MINIMIZE INFLOW AND INFILTRATION. <u>Collection system I&I is managed by Line Maintenance by CCTV of sewer lines, root control, and pipe lining.</u>			
20.1 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 A CONTRACTOR? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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 _____			
MAILING ADDRESS _____			
TELEPHONE NUMBER WITH AREA CODE _____			
RESPONSIBILITIES OF CONTRACTOR _____			
20.2 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. (IF NONE, GO TO QUESTION B-20.3.) See Attached 20.2 Comment 20.2 and LTCP Map			
A. List the outfall number that is covered by this implementation schedule Outfall No. _____		B. Indicate whether the planned improvements or implementation schedule are required by local, state or federal agencies. Yes <input type="checkbox"/> No <input type="checkbox"/>	
20.3 WASTEWATER DISCHARGES: COMPLETE QUESTIONS 20.4 THROUGH 20.7 ONCE FOR EACH OUTFALL (INCLUDING BYPASS POINTS) THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION.			
20.4 DESCRIPTION OF OUTFALL			
OUTFALL NUMBER 001 - Primary gravity outfall used whenever Missouri River is below flood stage and when effluent pumps are off			
A. LOCATION $\frac{1}{4}$ <u> </u> $\frac{1}{4}$ NE $\frac{1}{4}$ NE Section <u>30</u> Township <u>57</u> Range <u>35</u> <input type="checkbox"/> E <input checked="" type="checkbox"/> W UTM Coordinates Easting (X): _____ Northing (Y): _____ E1114685.94 N14434233.46 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)			
B. Distance from Shore (If Applicable) <u>NA</u> ft.		C. Depth Below Surface (If Applicable) <u>NA</u> ft.	D. Average Daily Flow Rate <u>21.4</u> mgd
E. Does this outfall have either an intermittent or periodic discharge? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Provide the following information: 001 used except when MO River is above flood stage			
Number of Days Per Year Discharge Occurs: 330	Average Duration of Each Discharge: NA	Average Flow Per Discharge: NA mgd	Months in Which Discharge Occurs: Year Round
Is Outfall Equipped with a Diffuser? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
20.5 DESCRIPTION OF RECEIVING WATER			
B. Name of Receiving Water <u>Missouri River</u>			
B. Name of Watershed (If Known) <u>Independence - Sugar</u>		U.S. Soil Conservation Service 14-Digit Watershed Code (If Known) <u>10240011050002</u>	
B. Name of State Management/River Basin (If Known) <u>Missouri Main Stem</u>		U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (If Known) <u>10240011</u>	
B. Critical Flow of Receiving Stream (If Applicable) Acute <u>NA</u> cfs Chronic <u>NA</u> cfs		B. Total Hardness of Receiving Stream at Critical Low Flow (If Applicable) mg/L of CaCO ₃ NA	

FACILITY NAME City of St. Joseph Water Protection Facility	PERMIT NO. MO- 0023043	OUTFALL NO. # 001
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PART B – ADDITIONAL APPLICATION INFORMATION (CONTINUED)

20.6 DESCRIPTION OF TREATMENT

A. WHAT LEVELS OF TREATMENT ARE PROVIDED? Check All That Apply

Primary Secondary Advanced Other (Describe)

B. INDICATE THE FOLLOWING REMOVAL RATES (AS APPLICABLE)

Design BOD₅ Removal Or Design CBOD₅ Removal 85 % Design SS Removal 85 %
 Design P Removal % Design N Removal % Other Ammonia 61 %

C. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:

UV Disinfection facility is currently in construction

If disinfection is by chlorination, is dechlorination used for this outfall? Yes No

Does the treatment plant have post aeration? Yes No

20.7 EFFLUENT TESTING DATA. ALL APPLICANTS THAT DISCHARGE TO WATERS OF THE U.S. 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.

OUTFALL NUMBER #001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	VALUE	UNITS	VALUE	UNITS	NO. OF SAMPLES
pH (Minimum)	6.1	S.U.		S.U.	305
pH (Maximum)	8.3	S.U.		S.U.	305
FLOW RATE	28.7	MGD	15.6	MGD	305
TEMPERATURE (Winter)	9.1 to 15.6	°C		°C	91
TEMPERATURE (Summer)	13.4 to 24.1	°C		°C	214

*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	NO. OF SAMPLES		

Conventional and Nonconventional Compounds

BIOCHEMICAL OXYGEN DEMAND (Report One)	BOD ₅		mg/L		mg/L		
	CBOD ₅	3 to 49	mg/L	9.3	mg/L	274	SM 5210 B
FECAL COLIFORM		#/100 mL		#/100 mL			
TOTAL SUSPENDED SOLIDS (TSS)	7 to 44	mg/L	20.7	mg/L	274	SM 2540 D	
AMMONIA (AS N)	0 to 63.7	mg/L	16.8	mg/L	274	SM 4500 NH3	
CHLORINE (TOTAL RESIDUAL, TRC)	NA	mg/L	NA	mg/L			
DISSOLVED OXYGEN		mg/L		mg/L			
TOTAL KJELDAHL NITROGEN (TKN)		mg/L		mg/L			
NITRATE PLUS NITRITE NITROGEN		mg/L		mg/L			
OIL AND GREASE	0 to 3.6	mg/L	1.2	mg/L	9	EPA 1664 A	
PHOSPHORUS (TOTAL)		mg/L		mg/L			
TOTAL DISSOLVE SOLIDS (TDS)		mg/L		mg/L			
OTHER		mg/L		mg/L			

END OF PART B

PART C - CERTIFICATION

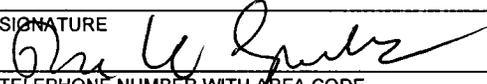
30. CERTIFICATION

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 AND OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL)
Mr. Roger Sparks, P.E., City Engineer

SIGNATURE


TELEPHONE NUMBER WITH AREA CODE
816-271-4660

DATE SIGNED
11-15-12

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.

For Design Flows Less than 1 Million Gallons Per Day,
Send Completed Form to:

Appropriate Regional Office

Map of regional offices with addresses and phone numbers is available on the Web at www.dnr.mo.gov/regions/ro-map.pdf.

For Design Flows of 1 Million Gallons Per Day or Greater,
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

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

- Do not complete the remainder of this application, unless:
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.