STATE OF MISSOURI
Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

MAR 11 2014

Gail Purves
10130 Farm Road Number 1102
Cassville, MO 65625

RE: AP#16489 New Wastewater Treatment Facility – Punkin' Center Wastewater Treatment Facility, MO-0134775, Construction Permit No. CP0001586

Dear Ms. Purves:

The Missouri Department of Natural Resources' (Department) Water Protection Program has reviewed and approved the plans and specifications submitted by Tracy Consulting Engineers, Inc. for the Punkin' Center Wastewater Treatment Facility. Please find enclosed Construction Permit No. CP0001586.

This permit will terminate 12 months from the date of issuance. In accordance with 10 CSR 20-6.010(4)(G), the Department may grant an extension only one 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.

This construction permit does not supersede any requirements of the operating permit or enforcement actions. 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.

If you have any questions concerning this matter, please contact Cailie McKinney, of the Water Protection Program, at (573) 526-1289 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

Refaat H. Mefrakis, P.E.
Engineering Section Chief

RHM:cmi

Enclosures

c: Ronald G. Tracy, P.E., Tracy Consulting Engineers, Inc.
Southwest Regional Office
Cailie McKinney, Water Protection Program

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

CONSTRUCTION PERMIT

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

Gail Purves
10130 Farm Road Number 1102
Cassville, MO 65625

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.

March 11, 2014
Effective Date

Sara Parker Pauley
Sara Parker Pauley, Director, Department of Natural Resources

March 10, 2015
Expiration Date

John Madras
Director of Staff, Clean Water Commission or Designee

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

This project includes installation of an aerobic membrane type package unit treatment plant by Bio-Microbics (the BioBarrier® High Strength Membrane BioReactor (HSMBR®)), or equivalent, with chlorination and dechlorination to treat a design flow of 8,950 gallons per day.

Approximately 160 feet of new sewer line with two new (2) manholes will be constructed to connect to the new treatment system. The new line will be six-inch (6") polyvinyl chloride (PVC) Standard Dimension Ratio (SDR)-35 pipe.

One complete reinforced concrete anaerobic septic tank with clear well, and lift station will be constructed. The septic tank will have a volume of at least 11,500 gallons. The clearwell tank and lift station will have a combined capacity of at least 15,500 gallons. In the lift station, two (2) Orenco System pumps, or equivalent, will be provided which are each capable of pumping 43.9 gallons per minutes against a head of 33 feet.

The BioBarrier HSMBR 9.0 system will be installed in two (2) identical treatment trains. Each train will include one (1) Settling Tank and Flow Equalization Basin with a minimum volume of 2,000 gallons, one (1) Anoxic Tank with a minimum volume of 4,000 gallons, and one (1) Membrane System bay which will house six (6) membrane treatment units and will have a minimum volume of 6,000 gallons. The anoxic tanks will each contain one (1) circulating pump which can pump from two to five gallons per minute (2 to 5 gpm). The membrane tanks will each contain two (2) recirculating pumps which are each capable of pumping 10 gpm at 10 feet of head. A recirculation stream pipe line will be provided for each of the two trains.

Each HSMBR train will be capable of treating 4,500 gpd (9,000 gpd with two trains). The system will come with two (2) blowers each capable of sixty (60) to ninety (90) cubic feet per minute, and pumps mounted in the concrete pump chamber. A two-piece rectangular housing will be provided for each blower.

Chlorination will be provided by one (1) Jet-Chlor Model 120 Tablet Feeder capable of treating flows up to 50,000 gpd. The chlorine contact pipe will consist of 65 linear feet of twelve-inch (12") polyvinyl chloride (PVC) Standard Dimension Ratio (SDR)-35 pipe, and will provide a minimum chlorine contact time of fifteen minutes. One (1) Jet-Chlor Model 120 Tablet Feeder for dechlorination will be installed after the 65 feet of chlorine contact pipe.

A flow meter will be installed in a metering and sampling port and will be EMCO Flow Systems Series M municipal mag meter, or equivalent, which is capable of measuring a flow range from zero (0) to 50 gpm. The flow meter will be complete with a magnetic flow meter transmitter.

The existing line to the lagoon will be plugged and sealed with concrete. The existing outflow line will be abandoned. The new outfall line will discharge near the north property line and will be approximately 175 feet long, including the length of the chlorine contact pipe.

This project includes construction and installation of all piping and other necessary appurtenances and incidental work to make a complete and usable treatment system.

II. FINDING OF AFFORDABILITY

The Finding of Affordability is not applicable. The permittee is not a combined or separate sanitary sewer system or a publicly owned treatment works.

III. CONSTRUCTION PERMIT CONDITIONS

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.

2. All construction shall be in accordance with the plans and specifications submitted by Tracy Consulting Engineers, Inc. on September 25, 2013 and revised December 31, 2013.

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. 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 Southwest Regional Office per 10 CSR 20-7.015(9)(E)2.

5. This Construction Permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans"

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 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 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 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 of the following methods must be specified:

   a. 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

   b. Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends ten feet 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 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. To obtain this permit, submit Form E – Application for General Permit, Form G – Application for Stormwater Permit, and a permit fee of $300 to the Department's Southwest Regional Office. 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;

   A. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D);

   B. Submit an electronic copy of the as builts if the project was not constructed in accordance with previously submitted plans and specifications;

   C. Submit a Form B - Application for an Operating Permit for Domestic or Municipal Wastewater (≤100,000 gallons per day), Form--MO 780-1512 along with the annual operating permit fee prior to operation of the facility.

IV. REVIEW SUMMARY

1. AMMONIA

The Water Protection Program is providing this notice to inform permittees that EPA's published ammonia criteria for aquatic life protection is lower than the current Missouri criteria. The department has initiated stakeholder discussions on this topic, and at this time, there is no firm target date for starting the rulemaking to adopt new standards. More information can be found at http://www.dnr.mo.gov/pubs/pub2481.htm.

A letter was sent to the applicant and consulting engineer on October 11, 2013 which included discussion of EPA's published ammonia criteria. The engineer replied that as new regulations are introduced, should the discharge samples fail to meet the new ammonia levels, then a chemical feed system will be used to reduce ammonia levels to meet the new acceptable ammonia levels.

2. CONSTRUCTION PURPOSE

The purpose of this project is to replace the existing makeshift septic tank and lateral field with a permanent treatment solution for the wastewater from the mobile home park.

3. FACILITY DESCRIPTION

Punkin' Center wastewater treatment facility is not a new facility, but it has never been permitted. The existing, abandoned lagoon, which is over two decades old, probably never should have been installed in this location with its severe geologic limitations rating and severe collapse potential rating. The lagoon was removed from service before a tornado blew through and removed much of the remaining above ground facilities in 2008, leaving only two or three dwelling units on the property. Currently the sewage is being transferred to a temporary makeshift septic tank and lateral field unit, but a permanent solution is necessary to treat the wastewater from the mobile home park residents. Plans and specifications had been prepared by another engineering firm for the previous owner of the mobile home park (formerly known as J & S Mobile Home Park) to replace the lagoon with a new septic tank, recirculating sand filter, and chlorine disinfection. These plans were not submitted to the Department for approval.

The applicant completed an antidegradation review and the preferred treatment alternative was an aerobic membrane type package unit by Bio-Microbics (The BioBarrier® High Strength Membrane BioReactor (HSMBR®)) with chlorination and dechlorination. The facility will have a design average flow of 8,950 gpd and a design peak daily flow of approximately 36,400 gpd for a design population equivalent of 88 from 35 mobile homes and one out building. This facility will discharge into an unclassified tributary which flows into Hudson Creek (WBID 3237).

4. COMPLIANCE PARAMETERS

The facility will be issued a new operating permit (MO-0134775) when construction is completed which will contain the following effluent limitations:

- BOD_5 limits of 15 mg/L weekly average and 10 mg/L monthly average;
- TSS limits of 20 mg/L weekly average and 15 mg/L monthly average;
- *E. coli* limits of 126 colonies/ 100 mL daily maximum and monthly average;
- Ammonia as N limits of 3.7 mg/L daily maximum and 1.4 mg/L monthly average in the summer, and 7.5 mg/L daily maximum and 2.9 mg/L monthly average in the winter;
- Total Residual Chlorine limits of 17 µg/L daily maximum and 8 µg/L monthly average; and
- Dissolved oxygen monitoring.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The facility will be fenced with a lockable gated and warning signs.

The lift station pumps will have a low water shut off float, a high water on float, alarm float, and timer override. Audible and visual pump alarms will be provided.

One blower will be provided per treatment train for a total of two blowers.

Sludge pumping may be required approximately every 6 to 8 months (based on operating at design flow) depending on loading.

The tablet feeders for chlorination and dechlorination will be capable of treating flows up to 50,000 gallons per day. The 65 linear feet of twelve inch (12") diameter contact pipe will provide greater than 15 minutes of contact time at the design peak flow of 36,400 gpd.

6. OPERATING PERMIT MODIFICATION

This facility will require a new operating permit MO-0134775 upon completion of construction. The draft operating permit was on public notice from January 31, 2014 through March 3, 2014. No comments were received. Upon construction completion submit a Form B - Application for an Operating Permit for Domestic or Municipal Wastewater (≤100,000 gallons per day), Form--MO 780-1512 along with the annual operating permit fee.

Review Engineer: Cailie McKinney, E.I.
Unit Chief Approval: Cindy LePage, P.E.
Date: 03/03/2014

APPENDIX – ANTIDEGRADATION REVIEW

STATE OF MISSOURI Jeremiah W (Jay) Nixon, Governor • Sara Parker Pauley, Director
DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

NOV 1 (2012

Gail Purves
10130 Farm Road Number 1102
Cassville, MO 65625

RE: Water Quality and Antidegradation Review Preliminary Determination on Antidegradation Engineering Report for Punkin' Center WWTF, Barry Co.

Dear Mr. Purves:

Enclosed please find the finalized Water Quality and Antidegradation Review (WQAR) for the Punkin' Center Wastewater Treatment Facility (WWTF) in Barry County. The WQAR contains pertinent antidegradation review information based on the use of existing water quality, effluent limitations and monitoring requirements for the facility discharge. It was developed in accordance with 10 CSR 20-7.031, the Clean Water Commission approved *Missouri Antidegradation Rule and Implementation Procedure* (AIP) dated May 7, 2008, U.S. Environmental Protection Agency (US EPA) guidance, the applicant-supplied antidegradation review documentation, and the State of Missouri's effluent regulations (10 CSR 20-7.015). Please refer to the *General Assumptions of the Water Quality and Antidegradation Review* section of the enclosed WQAR. The WQAR is preliminary and subject to change as new information becomes available during future permit application processing.

Based on the Missouri Department of Natural Resources, Water Protection Program (Department) initial review, preliminary determination is that the applicant-supplied antidegradation review documentation satisfies the requirements of the AIP. This WQAR/preliminary determination may be appealed within 30 days of this letter in accordance with the AIP Section II.F.4.

You may proceed with submittal of an application for an operating permit and antidegradation review public notice, an engineering report, or a complete application for a construction permit. These submittals must reflect the design flow, facility description, and general treatment components of this WQAR or this preliminary determination may have to be revisited.

The proposed technology is considered a new technology, and you will need to submit additional data with your application. With a new technology, you will need to work with the review engineer to ensure equipment is sized properly and that the technology will consistently achieve the proposed effluent limits. The operating permit may contain additional requirements to evaluate the effectiveness of the technology once the facility is in operation.

Following the Department's public notice of draft Missouri State Operating Permit including the antidegradation review findings and preliminary determination, the Department will review any public notice comments received. If significant comments are made, the project may require another public notice and potentially another antidegradation review. If no comments are received or comments are resolved without another public notice, these findings and determinations will be considered final.

Following issuance of the construction permit and completion of the actual facility construction, the Department will proceed with the issuance of the operating permit.

If you should have questions regarding the enclosed WQAR, please contact Cailie McKinney by telephone at (573) 526-1289, by e-mail at cailie.mckinney@dnr.mo.gov, or by mail at the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, Missouri 65102-0176.

Sincerely,

WATER PROTECTION PROGRAM

Refaat Mefrakis, P.E., Chief
Engineering Section

RM:cmn

Enclosure

c: Ronald G. Tracy, P.E., Tracy Consulting Engineers, Inc.

Water Quality and Antidegradation Review

For the Protection of Water Quality
and Determination of Effluent Limits for Discharge to Unnamed Tributary to Hudson Creek
by
Punkin' Center Wastewater Treatment Facility

October, 2012

Table of Contents

1. FACILITY INFORMATION

FACILITY NAME: Punkin' Center WWTF NPDES #: NEW FACILITY

FACILITY TYPE/DESCRIPTION: As a result of the submitted alternative analysis, the applicant's preferred alternative is the Biomicrobics BioBarrier® High Strength Membrane BioReactor with chlorine disinfection and dechlorination. The design flow will be 9,100 GPD from 35 mobile home spots.

COUNTY:	Barry	UTM COORDINATES:	X= 418065/ Y= 4080826
12- DIGIT HUC:	110702070703	LEGAL DESCRIPTION:	NW¼, NW¼, Sec. 20, T 25N, R27W
EDU*:	Ozark/Neosho	ECOREGION:	Ozark Highlands

* - Ecological Drainage Unit

2. WATER QUALITY INFORMATION

In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)] and federal antidegradation policy at Title 40 Code of Federal Regulation (CFR) Section 131.12 (a), the Missouri Department of Natural Resources (MDNR) developed a statewide antidegradation policy and corresponding procedures to implement the policy. A proposed discharge to a water body will be required to undergo a level of Antidegradation Review which documents that the use of a water body's available assimilative capacity is justified. Effective August 30, 2008, a facility is required to use *Missouri's Antidegradation Rule and Implementation Procedure (AIP)* for new and expanded wastewater discharges.

2.1 WATER QUALITY HISTORY:

No history for this facility. No receiving water information. Hudson Cr. is not listed on the proposed 2012 303(d) list or on the 2010 Water Quality 305(b) Report as impaired or potentially impaired.

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	RECEIVING WATERBODY	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	0.014	Secondary	Unnamed Tributary to Hudson Cr.	~3.2

3. RECEIVING WATERBODY INFORMATION

WATERBODY NAME	CLASS	WBID	LOW-FLOW VALUES (CFS)			DESIGNATED USES**
			1Q10	7Q10	30Q10	
Unnamed Tributary to Hudson Cr. (losing)	U	-	0.0	0.0	0.0	General Criteria
Hudson Cr.	C	3237	0.0	0.0	0.1	LWW, AQL, WBC(B) General Criteria

** Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cold Water Fishery (CDF), Cool Water Fishery (CLF), Drinking Water Supply (DWS), Industrial (IND), Irrigation (IRR), Livestock & Wildlife Watering (LWW), Secondary Contact Recreation (SCR), Whole Body Contact Recreation (WBC).

RECEIVING WATER BODY SEGMENT #1: Unnamed Tributary to Hudson Cr.
Upper end segment* UTM coordinates: X= 418065/ Y= 4080826 (Outfall)
Lower end segment* UTM coordinates: X= 414816/ Y= 4082907 (confluence with Hudson Cr. (C))

*Segment is the portion of the stream where discharge occurs. Segment is used to track changes in assimilative capacity and is bound at a minimum by existing sources and confluences with other significant water bodies.

4. GENERAL COMMENTS

Tracy Consulting Engineers, Inc. prepared, on behalf of Mr. Gail Purves, the *Antidegradation Engineering Report for Punkin' Center Wastewater Treatment Facility* dated July 2012 (Revised September 2012). Geohydrological Evaluation was submitted with the request and the receiving stream is losing for discharge purposes (Appendix A: Map). An overall geologic limitations rating of severe and a severe collapse potential rating were assigned to this facility. Applicant elected to assume that all pollutants of concern (POC) are significantly degrading the receiving stream in the absence of existing water quality. An alternative analysis was conducted to fulfill the requirements of the AIP. Information that was provided by the applicant in the submitted report and summary forms in Appendix D was used to develop this review document. A Missouri Department of Conservation Natural Heritage Review was obtained by the applicant and the proposed project is within the Capps Creek priority watershed. This watershed supports cave species such as Ozark cavefish, which is federal-listed threatened and state-listed endangered, that may be impacted by the discharge. Because this is a federal-listed species, the U.S. Fish and Wildlife Service has been notified of the project. It is recommended that the applicant follow the Missouri Department of Conservation Best Management Practices for Ozark Cavefish.

Punkin' Center wastewater treatment facility is not a new facility, but it has never been permitted. The existing, abandoned lagoon, which is over two decades old, probably never should have been installed in this location with its geologic limitations. The lagoon was removed from service before a tornado blew through and removed much of the remaining above ground facilities in 2008, leaving only two or three dwelling units on the property. Currently the sewage is being transferred to a temporary makeshift septic tank and lateral field unit, but a permanent solution is necessary to treat the wastewater from the mobile home park residents. Plans and specifications had been prepared by another engineering firm for the previous owner of the mobile home park (formerly known as J & S Mobile Home Park) to replace the lagoon with a new septic tank, recirculating sand filter, and chlorine disinfection. These plans were not submitted to the Department for approval.

5. ANTIDEGRADATION REVIEW INFORMATION

The following is a review of the *Antidegradation Engineering Report for Punkin' Center Wastewater Treatment Facility* dated July 2012 (Revised September 2012).

5.1. TIER DETERMINATION

Below is a list of pollutants of concern reasonably expected to be in the discharge (see Appendix D: Tier Determination and Effluent Limit Summary). Pollutants of concern are defined as those pollutants "proposed for discharge that affects beneficial use(s) in waters of the state. POCs include pollutants that create conditions unfavorable to beneficial uses in the water body receiving the discharge or proposed to receive the discharge." (AIP, Page 7). Tier 2 was assumed for all POCs (see Appendix D).

TABLE 1. POLLUTANTS OF CONCERN AND TIER DETERMINATION

POLLUTANTS OF CONCERN	TIER*	DEGRADATION	COMMENT
BOD_5/DO	2	Significant	
Total Suspended Solids (TSS)	**	Significant	
Ammonia	2	Significant	
pH	***	Significant	Permit limits applied
Escherichia coli (E. coli)	2	Significant	
Total Residual Chlorine	2	Significant	

* Tier assumed. Tier determination not possible: ** No in-stream standards for these parameters. *** Standards for these parameters are ranges

The following Antidegradation Review Summary attachments in Appendix D were used by the applicant:

☒ Tier Determination and Effluent Summary
For pollutants of concern, the attachments are:
☒ Attachment A, Tier 2 with significant degradation.

5.2. EXISTING WATER QUALITY

No existing water quality data was submitted. All POCs were considered to be Tier 2 and significantly degraded in the absence of existing water quality.

5.3. DEMONSTRATION OF NECESSITY AND SOCIAL AND ECONOMIC IMPORTANCE

Missouri's antidegradation implementation procedures specify that if the proposed activity does result in significant degradation then a demonstration of necessity (i.e., alternatives analysis) and a determination of social and economic importance are required. Six alternatives from non-degrading to less degrading to degrading alternatives were evaluated. A comparison of the treatment options is presented in Table 2. Costs in Table 2 include the cost of a lift station and connection piping.

The first alternative is to use the existing septic tank, lift station, and four inch force main to the existing lagoon and then land apply. Indications are that the existing lagoon was not maintained correctly, resulting in poor quality treatment. In addition, the lagoon is on leased property and ownership or land use may change in the future. The lagoon is also located over fractured limestone rock structures with known sink holes and caves in the rock structures. To bring in Bentonite clay for the lagoon lining is not cost effective with the other negatives noted for this option. The capital cost estimate for this alternative is $236,000. This option is considered not practicable and not economically efficient.

The second alternative was pumping 3.2 miles to the Purdy WWTF (MO- 0043222) in Purdy, MO. The Purdy WWTF has had numerous compliance issues, mainly for exceedances of nitrates in the monitoring wells, and was recently referred to enforcement. Purdy is in the process of evaluating building a new treatment plant. The capital cost estimate for this alternative was $432,000. Due to the current status of the Purdy WWTF and the high capital cost, this option was considered not practicable or economically efficient.

The third alternative was pumping three miles to the Monett WWTF (MO-0021440) in Monett, MO. The capital cost estimate for this alternative was $410,800. This option was considered not economically efficient.

The fourth alternative, and the base case, was a recirculating sand filter (RSF), chlorine disinfection, and dechlorination. As stated previously in the General Comments section above, the previous owner had already prepared plans and specifications for this alternative. However, the current owner had concerns about a RSF meeting losing stream limits. A chemical additive inline system could be installed if required to meet ammonia limits, however this would add several thousand dollars to the cost of this alternative and may still not be consistently effective at meeting limits. This option is considered practicable and economically efficient.

The fifth alternative was an aerobic fixed film and activated sludge type manufactured package treatment system manufactured by Bio-Microbics. This system would have higher operating costs than the recirculating sand filter, but is expected to produce better quality effluent. This alternative is practicable, but not economically efficient.

The sixth alternative, the applicant's preferred alternative, is the manufactured package unit membrane bioreactor (MBR) treatment system with chlorine disinfection and dechlorination. The system would be an aerobic membrane type package unit by Bio-Microbics (The BioBarrier® High Strength Membrane BioReactor (HSMBR®)) rated for a design flow of 12,000 gallons per day. The *Antidegradation Engineering Report for Punkin' Center Wastewater Treatment Facility* references a similar package unit treatment plant, the Zenon ZeeWeed® bioreactor, installed at Duckett Creek Sanitary District (DCSD) in Saint Charles County, MO. This system will have a slightly higher operating cost than the RSF, but better quality effluent. Also, if a chemical feed system is required to meet ammonia limits, the cost of adding the feed system to the MBR would be significantly less than adding it to the RSF. The applicant noted that the treatment levels presented in Table 2 for this option are the low end of the range of expected performance, and therefore, higher effluent limits are proposed in their Tier Determination and Effluent Limit Summary form (Appendix C). This option is considered practicable and economically efficient.

TABLE 2: ALTERNATIVES ANALYSIS COMPARISON

	Alternative 4: Recirculating Sand Filter	Alternative 5: Fixed Film Activated Sludge	Alternative 6: Membrane Bioreactor
BOD	20	20	<5
TSS	30	30	<5
Ammonia (s/w)	>3.2	3.2	<1.2 (summer)
Practical	Y	Y	Y
Economical	Y	N	Y
Annual Operating Cost	$8000	$12,000	$9000
Capital Cost	$104,000	$145,000	$110,000
Ratio	1:1 (base)	1:1.39	1:1.06

5.3.1. REGIONALIZATION ALTERATIVE

Within Section II B 1. of the AIP, discussion of the potential for discharge to a regional waste water collection system is mentioned. The applicant provided discussion of this alternative. The alternative analysis mentions the Purdy and the Monet wastewater treatment facilities. These facilities are located 3.2 and 3.0 miles away, respectively. The Punkin' Center Facility is not within the city limits of either city, and the cost of pumping to these facilities is prohibitively expensive.

NEEDS A WAIVER TO PREVENT CONFLICT WITH AREA WIDE MANAGEMENT PLAN APPROVED UNDER SECTION 208 OF THE CLEAN WATER ACT AND/OR UNDER 10 CSR 20-6.010(3)(B) 1 OR 2 CONTINUING AUTHORITIES? (Y OR N) N

5.3.2. Social and Economic Importance Evaluation

The Punkin' Center Mobile Home Park is the most affected community. This project will provide affordable housing for the blue collar workforce in Barry County. The mobile home park is on state Highway 37 with the City of Monet, MO just over two miles to the north and the City of Purdy just over three miles to the south. The applicant noted that the Punkin' Center treatment facility is not a new facility and that the existing, unpermitted, abandoned lagoon, which is over two decades old, probably never should have been installed in this location with its geologic limitations. Their purpose is to try and remedy/rebuild the treatment system. A tornado blew through and removed much of the above ground facilities in 2008 leaving only two or three dwelling units on the property. Currently the sewage is being transferred to a temporary makeshift septic tank and lateral field unit, but a permanent solution is necessary to treat the wastewater from the mobile home park residents.

6. General Assumptions of the Water Quality and Antidegradation Review

1. A Water Quality and Antidegradation Review (WQAR) assumes that [10 CSR 20-6.010(3) Continuing Authorities and 10 CSR 20-6.010(4) (D), consideration for no discharge] has been or will be addressed in a Missouri State Operating Permit or Construction Permit Application.
2. A WQAR does not indicate approval or disapproval of alternative analysis as per [10 CSR 20-7.015(4) Losing Streams], and/or any section of the effluent regulations.
3. Changes to Federal and State Regulations made after the drafting of this WQAR may alter Water Quality Based Effluent Limits (WQBEL).
4. Effluent limitations derived from Federal or Missouri State Regulations (FSR) may be WQBEL or Effluent Limit Guidelines (ELG).
5. WQBEL supersede ELG only when they are more stringent. Mass limits derived from technology based limits are still appropriate.
6. A WQAR does not allow discharges to waters of the state, and shall not be construed as a National Pollution Discharge Elimination System or Missouri State Operating Permit to discharge or a permit to construct, modify, or upgrade.
7. Limitations and other requirements in a WQAR may change as Water Quality Standards, Methodology, and Implementation procedures change.
8. Nothing in this WQAR removes any obligations to comply with county or other local ordinances or restrictions.
9. If the proposed treatment technology is not covered in 10 CSR 20-8 Design Guides, the treatment process may be considered a new technology. As a new technology, the permittee will need to work with the review engineer to ensure equipment is sized properly. The operating permit may contain additional requirements to evaluate the effectiveness of the technology once the facility is in operation. This Antidegradation Review is based on the information provided by the facility and is not a comprehensive review of the proposed treatment technology. If the review engineer determines the proposed technology will not consistently meet proposed effluent limits, the permittee will be required to revise their Antidegradation Report.

7. Mixing Considerations

Mixing Zone (MZ): Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

Zone of Initial Dilution (ZID): Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

8. Permit Limits and Monitoring Information

Wasteload Allocation Study Conducted (Y or N):	N	Use Attainability Analysis Conducted (Y or N):	Y*	Whole Body Contact Use Retained (Y or N):	Y

*Use attainability analyses were conducted for Hudson Creek in 2005 and 2007 with WBC use retained

OUTFALL #001

Wet Test (Y or N): N Frequency: N/A AEC: N/A Method: N/A

Table 3. Effluent Limits

Parameter	Units	Daily Maximum	Weekly Average	Monthly Average	Basis for Limit (Note 2)	Monitoring Frequency
Flow	MGD	*		*	FSR	Once/Month
Biochemical Oxygen Demand$_5$	mg/L	15		10	FSR	Once/Month
Total Suspended Solids	mg/L	20		15	FSR	Once/Month
Dissolved Oxygen	mg/L	5.0		6.3	PEL	Once/Month
pH	SU	6.5–9.0		6.5 – 9.0	FSR	Once/Month
Ammonia as N (Apr 1 – Sept 30)	mg/L	3.7		1.4	WQBEL	Once/Month
Ammonia as N (Oct 1 – Mar 31)	mg/L	7.5		2.9	WQBEL/PEL	Once/Month
Escherichia coliform (E. coli)	Note 1	126**		126**	FSR	Once/Month
Chlorine, Total Residual	mg/L	0.017		0.008	WQBEL	Once/Week

Note 1 – Colonies/100 mL

Note 2– Water Quality-based Effluent Limitation --WQBEL; or Minimally Degrading Effluent Limit--MDEL; or Preferred Alternative Effluent Limit-PEL; Technology-based Effluent Limit-TBEL; or No Degradation Effluent Limit--NDEL; or FSR --Federal/State Regulation; or N/A--Not Applicable. Also, please see the **General Assumptions of the WQAR #4 & #5.**

* - Monitoring requirements only.

** - The Monthly Average for E. coli shall be reported as a Geometric Mean.

9. Receiving Water Monitoring Requirements

No receiving water monitoring requirements recommended at this time.

10. Derivation and Discussion of Limits

Wasteload allocations and limits were calculated using two methods:

1) Water quality-based – Using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(C_s \times Q_s) + (C_e \times Q_e)}{(Q_e + Q_s)}$$ (EPA/505/2-90-001, Section 4.5.5)

Where C = downstream concentration
C_s = upstream concentration
Q_s = upstream flow
C_e = effluent concentration
Q_e = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration).

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

2) Alternative Analysis-based – Using the preferred alternative's treatment capacity for conventional pollutants such as BOD5 and TSS that are provided by the consultant as the WLA, the significantly-degrading effluent average monthly and average weekly limits are determined by applying the WLA as the average monthly (AML) and multiplying the AML by 1.5 to derive the average weekly limit (AWL). For toxic and nonconventional pollutant such as ammonia, the treatment capacity is applied as the significantly-degrading effluent monthly average (AML). A maximum daily can be derived by dividing the AML by 1.19 to determine the long-term average (LTA). The LTA is then multiplied by 3.11 to obtain the maximum daily limitation. This is an accepted procedure that is defined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

Note: Significantly-degrading effluent limits have been based on the authority included in Section III. Permit Consideration of the AIP. Also under 40 CFR 133.105, permitting authorities shall require more stringent limitations than equivalent to secondary treatment limitations for 1) existing facilities if the permitting authority determines that the 30-day average and 7-day average BOD_5 and SS effluent values that could be achievable through proper operation and maintenance of the treatment works, and 2) new facilities if the permitting authority determines that the 30-day average and 7-day average BOD_5 and SS effluent values that could be achievable through proper operation and maintenance of the treatment works, considering the design capability of the treatment process.

10.1. OUTFALL #001 – MAIN FACILITY OUTFALL

10.2. LIMIT DERIVATION

Flow. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.

Biochemical Oxygen Demand (BOD_5). BOD_5 limits of 10 mg/L monthly average, 15 mg/L daily maximum for losing stream [10 CSR 20-7.015(4)(B)1.]. The applicant proposed limit of 20 mg/L daily maximum on their Tier Determination and Effluent Limit Summary form (Appendix C) is not as stringent as the losing stream limit at 10 CSR 20-7.015(4)(B)1.

Dissolved Oxygen. DO limits of 5.0 mg/L daily minimum and 6.3 mg/L monthly average minimum were proposed by the applicant.

Total Suspended Solids (TSS). TSS limits of 15 mg/L monthly average and 20 mg/L daily maximum for losing stream [10 CSR 20-7.015(4)(B)1.]. The applicant proposed limit of 30 mg/L daily maximum on their Tier Determination and Effluent Limit Summary form (Appendix C) is not as stringent as the losing stream limit at 10 CSR 20-7.015(4)(B)1.

pH. pH shall be maintained in the range from six and one-half to nine (6.5– 9.0) standard units [10 CSR 20-7.015(4)(B)3.].

Total Ammonia Nitrogen. The applicant proposed ammonia limits of 7.5 mg/L daily maximum and 2.9 mg/L monthly average on their Tier Determination and Effluent Limit Summary form (Appendix C). These limits are the same as the water quality-based ammonia limits for winter calculated below. Water quality-based ammonia limits for summer are also calculated below.
Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L.

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

Summer: April 1 – September 30, Winter: October 1 – March 31.

Summer

$C_e = (((Q_e+Q_s)*C) - (Q_s*C_s))/Q_e$

Chronic WLA: $C_e = ((0.014 + 0.0)1.5 – (0.0 * 0.01))/0.014$
$C_e = 1.5$ mg/L

Acute WLA: $C_e = ((0.014 + 0.0)12.1 – (0.0 * 0.01))/0.014$
$C_e = 12.1$ mg/L

LTA_c = 1.5 mg/L (0.780) = **1.2 mg/L** [CV = 0.6, 99th Percentile, 30 day avg.]
LTA_a = 12.1 mg/L (0.321) = 3.88 mg/L [CV = 0.6, 99th Percentile]

MDL = 1.2 mg/L (3.11) = 3.7 mg/L [CV = 0.6, 99th Percentile]
AML = 1.2 mg/L (1.19) = 1.4 mg/L [CV = 0.6, 95th Percentile, n = 30]

Winter

Chronic WLA: $C_e = ((0.014 + 0.0)3.1 – (0.0 * 0.01))/0.014$
$C_e = 3.1$ mg/L

Acute WLA: $C_e = ((0.014 + 0.0)12.1 – (0.0025 * 0.01))/0.014$
$C_e = 12.1$ mg/L

LTA_c = 3.1 mg/L (0.780) = **2.4 mg/L** [CV = 0.6, 99th Percentile, 30 day avg.]
LTA_a = 12.1 mg/L (0.321) = 3.9 mg/L [CV = 0.6, 99th Percentile]

MDL = 2.4 mg/L (3.11) = 7.5 mg/L [CV = 0.6, 99th Percentile]
AML = 2.4 mg/L (1.19) = 2.9 mg/L [CV = 0.6, 95th Percentile, n = 30]

Season	Maximum Daily Limit (mg/l)	Average Monthly Limit (mg/l)
Summer	3.7	1.4
Winter	7.5	2.9

E. coli.

Effluent limitations for losing streams are 126 colonies per 100 ml monthly average and 126 colonies per 100 ml daily maximum [10 CSR 20-7.015 (4)(B)4.] and [10 CSR 20-7.031(4)(C), Table A].

For facilities less than 100,000 gpd: Per the Clean Water Commission Directive in January 2011, the *E. Coli* sampling/monitoring frequency shall be set to match the monitoring frequency of other parameters in the permit, with compliance to be determined by calculating the geometric mean of all samples collected during the reporting period (samples collected during the calendar month for the monthly average). The daily maximum requirement is consistent with EPA federal regulation 40 CFR 122.45(d). Further, the limit may change depending on the outcome of future state effluent regulation revision. Please see **GENERAL ASSUMPTIONS OF THE WQAR #7.**

Total Residual Chlorine (TRC). Warm-water Protection of Aquatic Life CCC = 10 µg/L, CMC = 19 µg/L [10 CSR 20-7.031, Table A]. Background TRC = 0.0 µg/L.

$C_e = (((Q_e+Q_s)*C) - (Q_s*C_s))/Q_e$

Chronic WLA: $C_e = ((0.014 + 0.0)10 - (0.0 * 0.0))/0.014$
$C_e = 10$ µg/L

Acute WLA: $C_e = ((0.014 + 0.0)19 - (0.0 * 0.0))/0.014$
$C_e = 19$ µg/L

LTA_c = 10 µg/L (0.527) = **5.3 µg/L** [CV = 0.6, 99th Percentile]
LTA_a = 19 µg/L (0.321) = 6.1 µg/L [CV = 0.6, 99th Percentile]

MDL = **5.3 µg/L** (3.11) = 16.5 µg/L [CV = 0.6, 99th Percentile]
AML = **5.3 µg/L** (1.55) = 8.2 µg/L [CV = 0.6, 95th Percentile, n = 4]

Total Residual Chlorine effluent limits of 0.017 mg/L daily maximum, 0.008 mg/L monthly average are recommended if chlorine is used as a disinfectant. Standard compliance language for TRC, including the minimum level (ML), should be included in the permit.

11. ANTIDEGRADATION REVIEW PRELIMINARY DETERMINATION

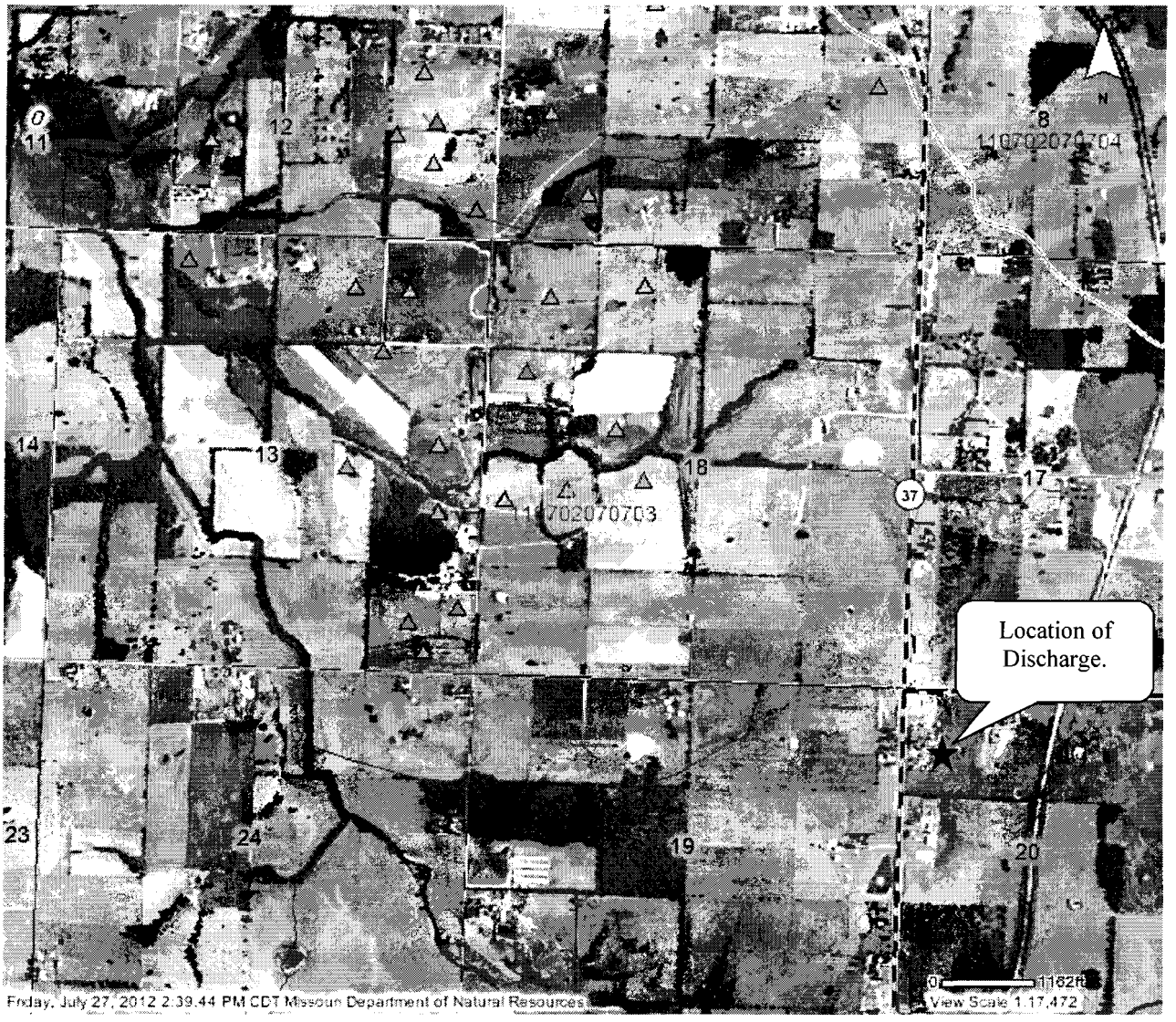
The proposed new facility discharge, Punkin' Center WWTF, 9,100 GPD will result in significant degradation of the segment identified in unnamed tributary to Hudson Creek. A recirculating sand filter was determined to be the base case technology (lowest cost alternative that meets technology and water quality based effluent limitations). The cost effectiveness of other technologies were evaluated, and the Biomicrobics BioBarrier® High Strength Membrane BioReactor was found to be cost effective and was determined to be the preferred alternative.

The Biomicrobics Membrane BioReactor is not covered in 10 CSR 20-8 Design Guides and may be considered a new and developing treatment technology. As a new developing technology, the permittee will need to work with the review engineer to ensure equipment is sized properly and that the technology will consistently achieve the proposed effluent limits. The operating permit may contain additional requirements to evaluate the effectiveness of the technology once the facility is in operation.

Per the requirements of the AIP, the effluent limits in this review were developed to be protective of beneficial uses and to attain the highest statutory and regulatory requirements. MDNR has determined that the submitted review is sufficient and meets the requirements of the AIP. No further analysis is needed for this discharge.

Reviewer: Cailie McKinney
Date: 10/26/2012
Unit Chief: John Rustige, P.E.

APPENDIX A: MAP OF DISCHARGE LOCATION



APPENDIX B: NATURAL HERITAGE REVIEW

Missouri Department of Conservation

Natural Heritage Review Report

August 27, 2012 -- Page 1 of 2

Resource Science Division
P. O. Box 180
Jefferson City, MO 65102
Prepared by: Emily Clancy
Emily.Clancy@mdc.mo.gov
(573) 522 - 4115 ext. 3182

Ronald G. Tracy, P.E.
Tracy Consulting Engineers, Inc
tracy-consulting@hotmail.com

Project type:	Wastewater
Location/Scope:	Sections 12 & 13 of T25N R28W Sections 17, 18, & 20 of T25N R27W
County:	Barry
Query reference:	Punkin' Center Mobile Home Park - Septic tank lift station and package unit sanitary sewage treatment plant
Query received:	August 17, 2012

This NATURAL HERITAGE REVIEW is not a site clearance letter. Rather, it identifies public lands and sensitive resources known to have been located close to and/or potentially affected by the proposed project. *On-site verification is the responsibility of the project. Natural Heritage records were identified at some date and location. This report considers records near but not necessarily at the project site. Animals move and over time, so do plant communities. To say 'there is a record' does not mean the species/habitat is still there. To say that "there is no record" does not mean a protected species will not be encountered. These records only provide one reference and other information (e.g. wetland or soils maps, on-site inspections or surveys) should be considered. Look for additional information about the biological and habitat needs of records listed in order to avoid or minimize impacts. More information may be found at http://mdc.mo.gov/discover-nature/places/natural-areas and mdc4.mdc.mo.gov/applications/mofwis/mofwis_search1.aspx. Contact information for the department's Natural History Biologist is online at http://mdc.mo.gov/contact-us.*

Copied: Rick Horton, MDC Recovery Biologist and Rick Hansen, USFWS Biologist

Level 3 (federal-listed) and Level 2 (state-listed) issues:

Records of listed species or critical habitats:

The proposed project is within Capps Creek priority watershed. This watershed supports cave species such as Ozark cavefish (*Amblyopsis rosae*, federal- listed threatened and state-listed endangered). All activities that might adversely impact groundwater quality should be avoided. Follow water quality guidelines provided by the Missouri Department of Natural Resources Water-Protection Division.

Since this a federal-listed species, the U.S. Fish and Wildlife Service (Ecological Services, 101 Park Deville Drive, Suite A, Columbia, Missouri 65203-0007; Phone 573-234-2132) will be notified of this project.

FEDERAL LIST species/habitats are protected under the Federal Endangered Species Act. Consult with U.S. Fish and Wildlife Service, 101 Park DeVille Drive Suite A, Columbia, Missouri 65203-0007, 573-234-2132.
STATE ENDANGERED species are listed in and protected under the Wildlife Code of Missouri (3CSR10-4.111).

General recommendations related to this project or site, or based on information about the historic range of species (unrelated to any specific heritage records):

- Gray bats (*Myotis grisescens*, federally and state-listed endangered) are likely to occur in the project area, as they forage over streams, rivers, and reservoirs in this part of Missouri. Avoid entry or disturbance of any cave inhabited by gray bats and when possible retain forest vegetation along the stream and from the gray bat cave opening to the stream. See http://mdc.mo.gov/104 for best management recommendations.

- The project occurs in the historic range of Greater Prairie Chickens (*Tympanuchus cupido*), a bird on the state's list of endangered species. Populations have been in serious decline for decades, and have reached a point where greater prairie chickens could be gone from Missouri within a few years. The dominant factor in their decline is conversion of native prairie habitats to other uses. Other prairie dependent species are also in serious decline for the same reason. Prairie chickens range over a broad territory perhaps nesting, breeding and foraging in grasslands several miles apart. Even if prairie chickens are not present, it is important to conserve as much as possible any grasslands dominated by native plant cover in the project area. See http://mdc.mo.gov/130 for best management recommendations.
- Barry County has known karst geologic features (e.g. caves, springs, and sinkholes, all characterized by subterranean water movement). Few karst features are recorded in heritage records, and ones not noted here may be encountered at the project site or affected by the project. Cave fauna (many of which are species of conservation concern) are influenced by changes to water quality, so check your project site for any karst features and make every effort to protect groundwater in the project area. See http://mdc.mo.gov/nathis/caves/manag_construc.htm for best management information.
- Streams in the area should be protected from soil erosion, water pollution and in-stream activities that modify or diminish aquatic habitats. Best management recommendations relating to streams and rivers may be found at http://mdc.mo.gov/79. The project should be managed to minimize erosion and sedimentation/runoff to nearby streams and lakes, including adherence to any "Clean Water Permit" conditions. Revegetate areas in which the natural cover is disturbed to minimize erosion using native plant species compatible with the local landscape and wildlife needs. Pollutants, including sediment, can have significant impacts far downstream. Use silt fences and/or vegetative filter strips to buffer streams and drainages, and monitor those after rain events and until a well-rooted ground cover is reestablished.
- Invasive exotic species are a significant issue for fish, wildlife and agriculture in Missouri. Seeds, eggs, and larvae may be moved to new sites on boats or construction equipment, so inspect and clean equipment thoroughly before moving between project sites.
  - Remove any mud, soil, trash, plants or animals from equipment before leaving any water body or work area.
  - Drain water from boats and machinery that has operated in water, checking motor cavities, live-well, bilge and transom wells, tracks, buckets, and any other water reservoirs.
  - When possible, wash and rinse equipment thoroughly with hard spray or HOT water (≥104° F, typically available at do-it-yourself carwash sites), and dry in the hot sun before using again.

These recommendations are ones a project manager might prudently consider based on a general understanding of species needs and landscape conditions. Natural Heritage records largely reflect only sites visited by specialists in the last 30 years. This means that many privately owned tracts could host unknown remnants of species once but no longer common.

APPENDIX C: ANTIDEGRADATION REVIEW SUMMARY ATTACHMENTS

The attachments that follow contain summary information provided by the applicant, Punkin' Center Wastewater Treatment Facility. MDNR staff determined that changes must be made to the information contained within these attachments. The following were modified and can be found within the MDNR WQAR:

1) Tier Determination: Pollutants are listed as Tier 2 with Minimal Degradation; however the applicant assumed significant degradation for all POCs.

2) Attachment A: The level of treatment attainable for alternative 6 (membrane type) is 20 mg/L for BOD, 30 mg/L for TSS, and 3.2 mg/L for ammonia on this form, however in the *Antidegradation Engineering Report for Punkin' Center Wastewater Treatment Facility* dated July 2012 (Revised September 2012) it is stated that this system is capable of producing effluent with BOD and TSS less than 5 mg/L and summer ammonia of less than 1.2 mg/L. The values from the Antidegradation Engineering Report were used in comparing the alternatives.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH

WATER QUALITY REVIEW ASSISTANCE/ANTIDEGRADATION REVIEW REQUEST

PRE-CONSTRUCTION REVIEW FOR PROTECTION OF BENEFICIAL USES AND DEVELOPING EFFLUENT LIMITS

TYPE OF PROJECT
☐ Grant ☐ SRF Loan ☑ All Other Projects

REQUESTER	TELEPHONE NUMBER WITH AREA CODE
Ronald G. Tracy	(918) 695-7245 (Cell)
PERMITTEE	**TELEPHONE NUMBER WITH AREA CODE**
Gail Purves	(417) 847-7880

REASON FOR REQUEST

☑ New Discharge (See Instruction #9) ☑ Upgrade (No expansion) (See AIP) ☐ Expansion

DESCRIPTION OF PROPOSED ACTIVITY: Remove former Sanitary Sewage Treatment Septic Tank, Lagoon System, replace with new Septic Tank, Aerobic Membrane Manufactured Package Unit Treatment Plant, Disinfection (Clorination/Declorination), Surface Discharge.

FACILITY INFORMATION

FACILITY NAME	MSOP NUMBER (IF APPLICABLE)
Punkin' Center Mobile Home Park	Unknown
COUNTY	**SIC / NAICS CODE**
Barry	

METHOD OF BACTERIA COMPLIANCE
☑ Chlorine Disinfection ☐ Ultraviolet Disinfection ☐ Ozone ☐ Not Applicable

WATER QUALITY ISSUES

Treated Domestic Sanitary Sewage Discharge into Hudson Creek (_____ Downhill)

Water quality issues include: effluent limit compliance issues, notice (s) of violation, water body beneficial uses not attained or supported, etc.

OUTFALL	LOCATION (LAT/LONG OR LEGAL DESCRIPTION)	MAPPED[1] (CHECK)	RECEIVING WATER BODY[2]
1	North Edge of the NW/4, NW/4, NW/4,	☐	
	Section 20, T-25N, R-27-W, Barry County,	☐	
	State of Missouri	☐	

[1] Attach topographic map (See www.dnr.mo.gov/internetmapviewer/) with outfall location(s) clearly marked. For additional outfalls, attach a separate form.
[2] See general instructions for discharges to streams.

OUTFALL	NEW DESIGN FLOW ** (MGD)	TREATMENT TYPE	EFFLUENT TYPES*
1	0.0091	Anarobic, Aerobic	Treated Domestic Waste Water
	9,100 Gal/Day	Disinfection	

* Describe predominating character of effluent. Example: domestic wastewater, municipal wastewater, industrial wastewater, storm water, mining leachate, etc.
** If expansion, indicate new design flow.

☐ Checked for rare or endangered species and provided determination with this request. See Instruction #8

ANTIDEGRADATION REVIEW SUBMISSION:

See attached Antidegradation instructions. Applicant supplied a summary within:
☑ Tier Determination and Effluent Limit Summary
☐ Attachment A – Significant Degradation
☐ Attachment B – Minimal Degradatron
☐ Attachment C – Temporary degradation
☐ Attachment D – Tier 1 Review
☐ No Degradation Evaluation – Conclusion of Antidegradation Review

MO 780-1893 (03-00)

Permit No. CP0001586

See general instructions. Additional information may be needed to complete your request. Your request may be returned if items are missing. Revised submittal will be considered a new submittal.

SIGNATURE	DATE
Ronald G. Tracy	07/20/2012

PRINT NAME
Ronald G. Tracy

E-MAIL ADDRESS
tracy-consulting@hotmail.com

Submit request to:

Missouri Department of Natural Resources
Water Protection Program
Attn: Permits and Engineering Section
P.O. Box 176
Jefferson City, MO 65102-0176
Phone: 573-751-1300
Fax: 573-522-9920

The water quality review assistance is a process to determine effluent limits for new facilities or existing facilities seeking to increase loading into the receiving stream. Limits can be calculated by the permittee and submitted for review the department.

GENERAL INSTRUCTIONS

1. Please attach:
   A. A list of pollutants expected to be discharged.
   B. The location of each outfall clearly shown on map(s). A U.S. Geological Survey topographic map is available at www.dnr.mo.gov/internetmapviewer/.
2. Discharge(s) to all gaining streams: Applicant must submit dissolved oxygen analysis (i.e., using Missouri Department of Natural Resources approved models such as Streeter Phelps (www.ecy.wa.gov/programs/eap/pwspread/pwspread.html) or Qual2K/Qual2E (Q2K/Q2E) stream water quality study (www.epa.gov/athens/wwqtsc/index.html)) indicating that the preferred alternative's BOD_5 effluent limitations from the alternative analysis or the technology-based/regulatory BOD_5 effluent limits are protective of Missouri's water quality standard for dissolved oxygen. **Note:** If Q2K/Q2E is used, wasteload allocation for ammonia must be assumed. All Q2K/Q2E studies must have department approved Quality Assurance Project Plans. Recommended modeling procedures from the department (may differ with discharge) for this analysis are available upon request.
3. Discharge(s) to unclassified gaining stream: Applicant may provide the time of travel to the confluence with the classified stream segment for modeling pollutant decay (See *Total Ammonia Nitrogen Criteria Implementation Guidance Policy* at www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm). Otherwise, the applicant may determine limits based on no decay of discharge pollutants, which typically results in lower permit limits. Please use the TR-55 method (*Natural Resource Conservation Service, Urban Hydrology for Small Watersheds, Technical Release No. 55, June 1986*) for time of travel determination (http://directives.sc.egov.usda.gov/22162.wba). Please include a map, schematic or description of flow segments with your calculations. A worksheet with instructions is available upon request.
4. For all discharges, the chronic water quality criteria point of compliance is the classified stream or the confluence with the classified stream. No mixing is allowed for streams with seven-day Q10 low flow less than 0.1 cfs (10 CSR 20-7.031(4)(A)B(I)), while mixing is allowed for streams with seven-day Q10 low flow greater than 0.1 cfs (10 CSR 20-7.031(4) (A)B(II)).
5. For industrial facilities, a list of all chemicals, compounds, elements, etc. found in the discharge must be submitted with the request. Proprietary names of chemicals are not sufficient, as these chemicals may contain several pollutants for which the department must evaluate separate effluent limits. A pre-construction review meeting is highly recommended.
6. Do not submit water quality review assistance requests for renewals. All water quality-based effluent limits will be determined during the renewal process.
7. 10 CSR 20-7.015(8)(B)3. allows alternative limitations (i.e., lagoon or trickling filters) if a water quality impact study is conducted. This impact study should indicate that equivalent to secondary treatment for lagoons or trickling filters are protective of Missouri Water Quality standards for dissolved oxygen and ammonia.
8. Applicant must check for rare and endangered aquatic species that may be affected by the discharge at http://mdcgis.mdc.mo.gov/heritage/newheritage/heritage.htm.
9. Additional requirements for new facilities:
   A. Division of Geology and Land Survey Geohydrologic Evaluations must be submitted with the request.
   B. Coordinates of outfall (s) in lat/long or in the public land survey system must be provided.
   C. Please submit a letter with project timeframe.

Note: Lack of response for additional informational within a reasonable timeframe will result in return of request.

MO 780-1893 (03-09)

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM

ANTIDEGRADATION REVIEW SUMMARY
TIER DETERMINATION AND EFFLUENT LIMIT SUMMARY

1. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE
Punkin' Center Mobile Home Park		(417) 847-7880 (Cell)
ADDRESS (PHYSICAL)	CITY	STATE / ZIP CODE
10130 Farm Road Number 1102	Cassville,	MO 65625

2. RECEIVING WATER BODY SEGMENT #1

NAME
Unnamed tributary of Hudson Creek (3 Miles away)

2.1 UPPER END OF SEGMENT (Location of discharge)
UTM _____ OR Lat _____, Long _____ North Edge of the NW/4, NW/4, NW/4, Section 20, T-25N, R-27-W, Barry County, State of Missouri

2.2 LOWER END OF SEGMENT
UTM _____ OR Lat _____, Long _____

Per the Missouri Antidegradation Rule and Implementation Procedure or AIP, the definition of a segment, "a segment is a section of water that is bound at a minimum, by significant existing sources and confluences with other significant water bodies."

3. WATER BODY SEGMENT #2 (IF APPLICABLE)

NAME

3.1 UPPER END OF SEGMENT
UTM _____ OR Lat _____, Long _____

3.2 LOWER END OF SEGMENT
UTM _____ OR Lat _____, Long _____

4. WATER BODY SEGMENT #3 (IF APPLICABLE)

NAME

4.1 UPPER END OF SEGMENT
UTM _____ OR Lat _____, Long _____

4.2 LOWER END OF SEGMENT
UTM _____ OR Lat _____, Long _____

5. PROJECT INFORMATION

Is the receiving water body an Outstanding National Resource Water, an Outstanding State Resource Water, or drainage thereto?

☐ Yes ■ No

In Tables D and E of 10 CSR 20-7.031, Outstanding National Resource Waters and Outstanding State Resource Water are listed. Per the Antidegradation Implementation Procedure Section 1.B.3., "any degradation of water quality is prohibited in these waters unless the discharge only results in temporary degradation." Therefore, if degradation is significant or minimal, the Antidegradation Review will be denied.

Will the proposed discharge of all pollutants of concern, or POCs, result in no net increase in the ambient water quality concentration of the receiving water after mixing?

☐ Yes ☑ No

If yes, submit a summary table showing the levels of each pollutant of concern before and after the proposed discharge in the receiving water and then complete Attachment B for the first downstream classified water body segment.

Will the discharge result in temporary degradation?

☐ Yes ■ No

If yes, complete Attachment C.

Has the project been determined as non-degrading?

☐ Yes ☑ No

If yes, complete No Degradation Evaluation – Conclusion of Antidegradation Review form.
Submit with the appropriate Construction Permit Application as no antidegradation review is required.

If yes to one of the above questions, skip to Section 8 - Wet Weather.

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6. EXISTING WATER QUALITY DATA OR MODEL SUMMARY

Obtaining Existing Water Quality is possible by three methods according to the Antidegradation Implementation Procedure Section II.A.1.: (1) using previously collected data with an appropriate Quality Assurance Project Plan, or QAPP (2) collecting water quality data by approved the Missouri Department of Natural Resources methodology or (3) using an appropriate water quality model. QAPPs must be submitted to the department for approval well in advance (six months) of the proposed activity. Provide all the appropriate corresponding data and reports which were approved by the department Water Quality Monitoring and Assessment Section.

Date existing water quality data was provided by the Water Quality Monitoring and Assessment Section:

Approval date of the QAPP by the Water Quality Monitoring and Assessment Section:

Approval date of the project sampling plan by the Water Quality Monitoring and Assessment Section:

Approval date of the data collected for all appropriate pollutants of concern by the Water Quality Monitoring and Assessment Section:

Comments/Discussion:

The receiving Water body is Hudson Creek - 3 Miles down stream of Discharge point.

7. POLLUTANTS OF CONCERN AND TIER DETERMINATION(S)

Pollutants of Concern to be considered include those pollutants reasonably expected to be present in the discharge per the Antidegradation Implementation Procedure Section II.S. The tier protection levels are specified and defined in rule at 10 CSR 20-7.031 (2).

Water Body Segment One Pollutants of Concern and Tier Determination(s)		
Tier 1	**Tier 2 with Minimal Degradation**	**Tier 2 with Significant Degradation**
	BOD 5	
	TSS	
	Ammonia (N)	
	Fecal Coliform	
	DO	

Note: Add an asterisk to items that you only assume are Tier 2 with significant degradation

Water Body Segment Two Pollutants of Concern and Tier Determination(s)		
Tier 1	**Tier 2 with Minimal Degradation**	**Tier 2 with Significant Degradation**
	BOD 5	
	TSS	
	Ammonia (N)	
	Fecal Coliform	
	DO	

- For pollutants of concern that are Tier 2 with significant degradation, complete Attachment A.
- For pollutants of concern that are Tier 2 with minimal degradation, complete Attachment B.
- For pollutants of concern that are Tier 1, complete Attachment D. Additionally, a Tier 2 review must be conducted for each pollutant of concern on the appropriate water body segment.

8. WET WEATHER ANTICIPATIONS

If an applicant anticipates excessive inflow or infiltration and pursues approval from the department to bypass secondary treatment, a feasibility analysis is required. The feasibility analysis must comply with the criteria of all applicable state and federal regulations including 40 CFR 122.41(m)(4). Attach the feasibility analysis to this report.

What is the Wet Weather Flow Peaking Factor in relation to design flow?

Wet Weather Design Summary:

9. SUMMARY OF THE PROPOSED ANTIDEGRADATION REVIEW EFFLUENT LIMITS

What are the proposed pollutants of concern and their respective effluent limits that the selected treatment option will comply with

Pollutant of Concern	Units	Wasteload Allocation	Average Monthly Limit	Daily Maximum Limit
BOD5	MG/L		10	20
TSS	MG/L		15	30
Dissolved Oxygen	MG/L		6.3	5.0
Ammonia	MG/L		2.9	7.5
Bacteria (E. Coli)			400	1000

These proposed limits must not violate water quality standards, be protective of beneficial uses and achieve the highest statutory and regulatory requirements.

Attach the Antidegradation Review report and all supporting documentation.

CONSULTANT: I have prepared or reviewed this form and all attached reports and documentation. The conclusion proposed is consistent with the Antidegradation Implementation Procedure and current state and federal regulation.

SIGNATURE: Ronald G. Tracy — DATE: 07/20/2012

NAME AND OFFICIAL TITLES: Ronald G. Tracy

COMPANY NAME: Tracy Consulting Engineering, Inc.

ADDRESS	CITY	STATE	ZIP CODE
P.O. Box 52298	Tulsa	OK	74152

TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
(918) 695-7245 (Cell	tracy-consulting@hotmail.com

OWNER: I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE: Gail Purves — DATE: 7-23-2012

NAME AND OFFICIAL TITLES: Gail Purves, Owner

ADDRESS	CITY	STATE	ZIP CODE
10130 Farm Road Number 1102	Cassville	MO	65625

TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
(417) 847-7880 (Cell)	

CONTINUING AUTHORITY: Continuing Authority is the permanent organization that will be responsible for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is found in 10 CSR 20-6.010(3) available at www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf.

I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE: Gail Purves — DATE: 7-23-2012

NAME AND OFFICIAL TITLES: Gail Purves, Owner

ADDRESS	CITY	STATE	ZIP CODE
10130 Farm Road Number 1102	Cassville	MO	65625

TELEPHONE NUMBER WITH AREA CODE	E-MAIL ADDRESS
(417) 847-7880 (Cell)	

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Permit No. CP0001586

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH

ANTIDEGRADATION REVIEW SUMMARY
ATTACHMENT A: TIER 2 – SIGNIFICANT DEGRADATION

1. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
Punkin' Center Mobile Home Park		(417) 847-7880 (Cell)	
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
10130 Farm Road Number 1102	Cassville,	MO	65625

2. RECEIVING WATER BODY SEGMENT #1

NAME
Unnamed tributary of Hudson Creek (3 Miles away)

3. WATER BODY SEGMENT #2 (IF APPLICABLE)

NAME

4. IDENTIFYING ALTERNATIVES

Supply a summary of the alternatives considered and the level of treatment attainable with regards to the alternative. "For Discharges likely to cause significant degradation, an analysis of non-degrading and less-degrading alternatives must be provided." as stated in the Antidegradation Implementation Procedure Section II.B.1. Per 10 CSR 20-6.010(4)(D)1., the feasibility of a no-discharge system must be considered. Attach all supportive documentation in the Antidegradation Review report.

Non-degrading alternatives:

Alternatives ranging from less-degrading to degrading including Preferred Alternative (All must meet water quality standards):

Alternatives	Level of Treatment Attainable for each Pollutant of Concern					
	BOD 5	TSS	Ammonia as N	Bacteria (E. Coli)		
	(mg/L)	(mg/L)	(mg/L)	(#/100mL)		
No. 6 (Membrane Type)	20	30	3.2	1,000		
No. 5 (Fixed Film Activated						
Sludge)	20	30	3.2	1,000		
No. 4 (Recirculating						
Sand Filter)	20	30	>3.2	1,000		

Identifying Alternatives Summary: _____

5. DETERMINATION OF THE REASONABLE ALTERNATIVE

Per the Antidegradation Implementation Procedure Section II.B.2, "a reasonable alternative is one that is practicable economically efficient and affordable." Provide basis and supporting documentation in the Antidegradation Review report

Practicability Summary:

"The practicability of an alternative is considered by evaluating the effectiveness, reliability, and potential environmental impacts." according to the Antidegradation Implementation Procedure Section II.B.2.a. Examples of factors to consider, including secondary environmental impacts, are given in the Antidegradation Implementation Procedure Section II.B.2.a

No. 6. Best Choice - Meets or can meet Discharge Standards most cost effectively.
No. 5. Good Choice - Meets the Discharge Standards but more costly than Alt. No. 6.
No. 4. Fair Choice - Should meet the Discharge Standards most of the time - May be costly to modify to meet Discharge Standards.

Economic Efficiency Summary:

Alternatives that are deemed practicable must undergo a direct cost comparison in order to determine economic efficiency. Means to determine economic efficiency are provided in the Antidegradation Implementation Procedure Section II.B.2.b

No. 6. Best Choice - For the money.
No. 5. Good Choice - But will be more costly.
No. 4. Fair Choice - But additional modification could be very costly.

Affordability Summary:

Alternatives identified as most practicable and economically efficient are considered affordable if the applicant does not supply an affordability analysis. An affordability analysis per the Antidegradation Implementation Procedure Section II.B.2.c, "may be used to determine if the alternative is too expensive to reasonably implement."

No. 6. Best choice for the cost.

Preferred Chosen Alternative:

No. 6. Septic Tank, Clear Well, Lift Station, Manufactured Package Unit Treatment Plant System (Membrane Type), Disinfection, (Chlorination/Dechlorination), and Surface Discharge.

Reasons for Rejecting the other Evaluated Alternatives:

No. 5. More costly.
No. 4. Discharge equipment less reliable to meet Discharge Standards.

Comments/Discussion:

No. 6. Best Choice - Is considered to be the most Reliable for the cost.

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6. SOCIAL AND ECONOMIC IMPORTANCE OF THE PREFERRED ALTERNATIVE

If the preferred alternative will result in significant degradation, then it must be demonstrated that it will allow important economic and social development in accordance to the Antidegradation Implementation Procedure Section II E. Social and Economic importance is defined as the social and economic benefits to the community that will occur from any activity involving a new or expanding discharge.

Identify the affected community:

The affected community is defined in 10 CSR 20-7.031(2)(B) as the community "in the geographical area in which the waters are located". Per the Antidegradation Implementation Procedure Section II E.1, "the affected community should include those living near the site of the proposed project as well as those in the community that are expected to directly or indirectly benefit from the project."

Punkin' Center Mobile Home Park is the most affected community. The cattle on the pastures downstream would be the other effected species.

Identify relevant factors that characterize the social and economic conditions of the affected community:

Examples of social and economic factors are provided in the Antidegradation Implementation Procedure Section II E.1, but specific community examples are encouraged.

The only effected community is Punkin' Center Mobile Home Park for which this Sanitary Sewage Treatment Plant Facility will be for.

Describe the important social and economic development associated with the project:

Determining benefits for the community and the environment should be site specific and in accordance with the Antidegradation Implementation Procedure Section II E.1.

This Project will provide affordable housing for the Blue Collar workforce in Barry County, Missouri.

PROPOSED PROJECT SUMMARY:

This Project is necessary to continue the Economic Growth and Development of Barry County, Missouri.

Attach the Antidegradation Review report and all supporting documentation. This is a technical document, which must be signed, sealed and dated by a registered professional engineer of Missouri.

CONSULTANT: I have prepared or reviewed this form and all attached reports and documentation. The conclusion proposed in consistent with the Antidegradation Implementation Procedure and current state and federal regulations.

SIGNATURE	DATE
Ronald G. Tracy	9-17-2012 ~~7/31/2012~~

PRINT NAME	LICENSE #
Ronald G. Tracy	Mo. E-16030
TELEPHONE NUMBER WITH AREA CODE	**E-MAIL ADDRESS**
(918) 695-7245 (Cell)	tracy-consulting@hotmail.com

OWNER: I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE	DATE
Bill Q. Pj	9-19-2012

CONTINUING AUTHORITY: I have read and reviewed the prepared documents and agree with this submittal.

SIGNATURE	DATE

MO 780-2021 (01-09)

RECEIVED

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM B: APPLICATION FOR AN OPERATING PERMIT FOR DOMESTIC OR MUNICIPAL WASTEWATER (≤100,000 gallons per day)

SEP 25 2013

FOR AGENCY USE ONLY	
CHECK NUMBER 1550	
DATE RECEIVED 9/16/13	FEE SUBMITTED 750

PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

RECEIVED SEP 2013 DEQ/SWRP

1. THIS APPLICATION IS FOR:

☐ An operating permit for a new (including antidegradation review) or unpermitted facility. Construction Permit # _____

☐ An operating permit renewal: Permit #MO- _____ Expiration Date _____

☐ An operating permit modification: Permit #MO- _____ Reason: _____

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

1.2 Is a facility description included with this application (see 7.1)? ☐ YES ☐ NO

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE
Punkin Center MHP		417-847-7880
ADDRESS (PHYSICAL)	**CITY**	**STATE / ZIP CODE**
8061 BB Highway	Monett	MO

OUTFALL NUMBER
For multiple outfalls, this is number 1 of 1

Estimated (actual) flow: ~~400~~ gpd, Design Average Flow: 9100 gpd, Design Peak Hourly Flow: 1500 gph

2.1 Legal description: ¼, NW ¼, NW¼, Sec. 26, T 25N, R 22W County

2.2 UTM Coordinates Easting (X): Northing (Y):

For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)

2.3 Name of receiving stream: Trib to Hudson Creek

3. OWNER

NAME	E-MAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE
Gail Purves		417-847-7880
ADDRESS	**CITY**	**STATE / ZIP CODE**
10130 FR 1102	Cassville	MO 65625

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

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

NAME	E-MAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE
Same as Owner		
ADDRESS	**CITY**	**STATE / ZIP CODE**

5. OPERATOR

NAME	CERTIFICATE NUMBER
Larry Privott	
E-MAIL ADDRESS	**TELEPHONE NUMBER WITH AREA CODE**

6. FACILITY CONTACT

NAME	TITLE
Gail Purves	Owner
E-MAIL ADDRESS	**TELEPHONE NUMBER WITH AREA CODE**
gpurves@centurytel.net	417-847-7880

7. DESCRIPTION OF FACILITY

7.1 Describe the facility (attach additional sheet if required) and attach a flow chart showing the influents, treatment facilities and outfalls.

See Report

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

7.3 Design flow for this outfall: 9100 Total design flow for the facility: 9100 Actual flow for this outfall: _____

7.4 Number of people presently connected or population equivalent (P.E.): 3 Design P.E.: 88

7.5 Does the facility accept or process leachate from landfills? ☐ Yes ☒ No

009.wpcp.PunkinCenterMHP.MO6134775.x.2013.09.16.fy14.OPAPP.x.rcvd

8. ADDITIONAL FACILIY INFORMATION

8.1 Facility SIC code: 5271; Discharge SIC code: _____.

8.2 Milestone dates:

Date of completion of construction of facility:_____

Dates of any construction modifications to the facility (along with description of modification):_____

8.3 Connections to the facility:

Number of units presently connected: Homes _____ Trailers 1 Apartments _____

Other (including industrial) _____ (If industrial, see instructions 8.1)

Number of commercial establishments: _____

Daily number of employees working (total estimate): _____ Daily number of customers/guests (total estimate): _____

8.4 Length of pipe in the sewer collection system? _____feet or _____miles (either unit is appropriate.)

8.5 Does any bypassing occur in the collection system or at the treatment facility? ☐Yes ☒No (If yes, explain.)

8.6 Does significant infiltration occur in the collection system? ☐Yes ☒No (If yes, explain and attach proposed repair.)

9. DISCHARGE INFORMATION

9.1	Will the discharge be continuous throughout the year?	☒Yes	☐ No	
9.2	Discharge will occur during the following months:	All		
9.3	How many days of the week will the discharge occur?	All		
9.4	Is wastewater land-applied?	☐Yes	☒ No	(If yes, attach Form I.)
9.5	Will chlorine be added to the effluent?	☒Yes	☐ No	
	If chlorine is added, what is the resulting residual?	_____ µg/l (micrograms per liter)		
9.6	Does this facility discharge to a losing stream or sinkhole?	☐Yes	☐ No	
9.7	Has a waste load allocation study been completed for this facility?	☐Yes	☐ No	

YES →

10. List all permit violations, including effluent limit exceedances, in the last five years. Attach a separate sheet if necessary. If none, write none.

N/A New facility

11. SLUDGE HANDLING, USE AND DISPOSAL

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

Sludge production, including sludge received from others: _____ Design Dry Tons/Year _____ Actual Dry Tons/Year

11.3 Capacity of sludge holding structures:

Sludge storage provided: _____ cubic feet; _____ days of storage; _____ average percent solids of sludge;

☒ No sludge storage is provided.

RECEIVED SEP 2013 DEQ/SWMP

Type of Storage:
☒ Holding tank ☐ Building
☐ Basin ☐ Other (Please describe) _____
☐ Concrete Pad

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

Sludge Use or Disposal:
☐ Land Application ☐ Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years)
☒ Contract Hauler ☐ Incineration
☐ Hauled to Another Treatment Facility ☐ Sludge Retained in Wastewater treatment lagoon
☐ Other _____ Attach explanation sheet.
☐ Solid Waste Landfill

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

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

Sludge use or disposal facility
☐ By applicant ☒ By others (Please complete below.)

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

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

12. DOWNSTREAM LANDOWNERS - ATTACH ADDITIONAL SHEETS AS NECESSARY. SEE INSTRUCTIONS.

NAME			
G			
ADDRESS	CITY	STATE	ZIP CODE

13. CERTIFICATION

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

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Gail A Purves	417 8477880
SIGNATURE	DATE SIGNED
	9-16-2013