

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Selma Farms (Union Pacific Railroad)
#4 Selma Farms Lane
Festus, MO 63028

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.

April 17, 2015
Effective Date

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

April 16, 2017
Expiration Date

John Madras
John Madras, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The Selma Farms sanitary sewer treatment system (SSTS) consists of septic tank effluent gravity (STEG) and septic tank effluent pressure (STEP) discharge systems from remote facilities on the guest farm to a centralized treatment system. The centralized treatment system consists of flow equalization; two parallel fixed media, activated bio-filter units; and a drip irrigation system. The SSTS has a design flow capacity of 4,800 gallons per day (gpd).

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 RSH Engineering received on February 2, 2015 and March 24, 2015.
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 St. Louis 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."
7. Sewers in relation to waterworks 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.

- A. Sewer mains shall be laid at least 10 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 10 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.
 - B. Manholes should be located at least 10 feet horizontally from any existing or proposed water main.
 - C. Manholes shall be located with the top access at or above grade level.
 - 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 10 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.
8. 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. 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.
9. 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.

10. A full closure plan shall be submitted to the department's St. Louis Regional Office for review and approval of any permitted wastewater treatment system being replaced. In accordance with 10 CSR 20-6.010(12), the closure plan must meet the requirements outlined in Standard Conditions Part III of the Missouri State Operating Permit No. MOG823068. Closure shall not commence until the submitted closure plan is approved by the department. Form J – Request for Termination of a State Operating Permit, shall be submitted to the Water Protection Program for termination of any Missouri state operating permit, once closure is completed in accordance with the approved closure plan.
11. Upon completion of construction;
 - A. The Union Pacific Railroad will become the continuing authority for operation, maintenance, and modernization of these facilities;
 - B. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(D);
 - C. Submit an electronic copy of the "as built" drawings if the project was not constructed in accordance with previously submitted plans and specifications; and

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://dnr.mo.gov/pubs/pub2481.pdf>.

The Selma Farms SSTS is a non-discharging facility; therefore EPA's published ammonia criteria is not an issue. The facility's engineer verified he was aware of this in a March 24, 2015 email to the department.

2. CONSTRUCTION PURPOSE

The purpose of this project is to consolidate multiple septic tank/percolation field systems at the guest farm to a centralized system to improve treatment efficiencies.

3. FACILITY DESCRIPTION

Existing septic tank/percolation field systems will be replaced with a new centralized system. The new Selma Farms sanitary sewer treatment system (SSTS) will consist of septic tank

effluent gravity (STEG) and septic tank effluent pressure (STEP) discharge systems from remote facilities on the guest farm to the centralized treatment system. The centralized treatment system consists of flow equalization; two parallel fixed media, activated bio-filter units; and a drip irrigation system. The SSTS has a design flow capacity of 4,800 gallons per day (GPD).

4. COMPLIANCE PARAMETERS

The proposed system is a non-discharging system; therefore no water quality degradation will take place as a result of the proposed treatment facility.

5. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

Based on soil analysis, the soil at the site is capable of handling at least 0.25 gpd/ft². The irrigation area is 9,600 square feet, yielding a treatment capability slightly above the 4,800 gpd (3-day per week usage) design flow.

6. OPERATING PERMIT MODIFICATION/ISSUANCE

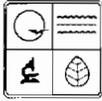
This is a new wastewater treatment facility and no previous operating permit existed. A new general operating permit, MOG823068, for this facility is being issued in parallel with the construction permit. Please note, because the operating permit is issued in parallel the construction permit, monitoring reports should be submitted in accordance with general operating permit (MOG823068) requirements even if the proposed construction has not been completed.

Stephen P. Busch
Engineering Section
steve.busch@dnr.mo.gov

APPENDICES

- **Operating Permit**

RECEIVED



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
**FORM B: APPLICATION FOR OPERATING PERMIT FOR FACILITIES
 PRIMARILY DOMESTIC WASTE AND HAVE A DAILY FLOW LESS THAN OR
 EQUAL TO 100,000 GALLONS PER DAY**

WATER PROTECTION PROGRAM

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED	FEE SUBMITTED

PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1. THIS APPLICATION IS FOR:

- An operating permit for a new or unpermitted facility. Construction Permit # _____
(Please include completed antidegradation review or request for antidegradation review, see instructions)
- A site-specific operating permit renewal: Permit #MO- _____ Expiration Date _____
- A site-specific operating permit modification: Permit #MO- _____ Reason: _____
- General permit (MOGD – Non POTWs discharging < 50,000 GPD): Permit #MO- _____ Expiration Date _____

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

2. FACILITY

NAME Selma Farms Sanitary Sewage Treatment System		TELEPHONE NUMBER WITH AREA CODE (314) 471-9895	
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ADDRESS (PHYSICAL) #4 Selma Farms Lane	CITY Festus	STATE MO	ZIP CODE 63028
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2.1 Legal description: ¼, ¼, ¼, Sec. 15, T 40, R 6 County Jeff

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: non-discharge sanitary sewage system (sub surface irrigation)

2.4 Number of outfalls: Wastewater outfalls: _____ Stormwater outfalls: _____ Instream monitoring sites: _____

3. OWNER

NAME Union Pacific Railroad		EMAIL ADDRESS dklyons@up.com	TELEPHONE NUMBER WITH AREA CODE (402) 544-4320
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ADDRESS 1400 Douglas Street, Stop 1690	CITY Omaha	STATE NE	ZIP CODE 68179
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3.1 Request review of draft permit prior to public notice? YES NO

3.2 Are you a publicly owned treatment works? YES NO

3.3 Are you a privately owned treatment works? YES NO

3.4 Are you a privately owned treatment facility regulated by the Public Service Commission? YES NO

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

NAME see owner		EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE
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ADDRESS	CITY	STATE	ZIP CODE
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If the continuing authority is different than the owner, please include a copy of the contract agreement between the two parties and a description of the responsibilities of both parties within the agreement.

5. OPERATOR

NAME see owner	TITLE	CERTIFICATE NUMBER
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EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE
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6. FACILITY CONTACT

NAME Dale L. Werner		TITLE
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EMAIL ADDRESS dlwerner@up.com	TELEPHONE NUMBER WITH AREA CODE (314) 471-9895
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ADDRESS #4 Selma Farms Lane	CITY Festus	STATE MO	ZIP CODE 63028
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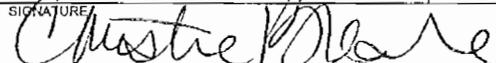
7. DESCRIPTION OF FACILITY

7.1 Process Flow Diagram or Schematic: Provide a diagram showing the processes of the treatment plant. Show all of the treatment units, including disinfection (e.g. – chlorination and dechlorination), influents and outfalls. Indicate any treatment process changes in the routing of wastewater during dry weather and peak wet weather. Include a brief narrative description of the diagram. Attach sheets as necessary.

please see attached process flow diagram

7.2 Attach an aerial photograph or USGS topographic map showing the location of the facility and outfall.
topo map has been included in attached application for geohydro evaluation (received by Rolla 1/26/15 and under review)

8. ADDITIONAL FACILITY INFORMATION	
8.1	Facility SIC code: _____ Discharge SIC code: _____
8.2	Number of people presently connected or population equivalent (P.E.) _____ Design P.E. _____
8.3	Connections to the facility: Number of units presently connected: Homes _____ Trailers _____ Apartments _____ Other (including industrial) <u>7</u> _____ Number of commercial establishments: _____
8.4	Design flow: 4,800 gpd Actual flow: _____
8.5	Will discharge be continuous through the year? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If yes, explain.) Discharge will occur during the following months: How many days of the week will discharge occur? <u>7</u>
8.6	Is industrial waste discharged to the facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
8.7	Does the facility accept or process leachate from landfills? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
8.8	Is wastewater land applied? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, is Form I attached? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
8.9	Does the facility discharge to a losing stream or sinkhole? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
8.10	Has a wasteload allocation study been completed for this facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
9. LABORATORY CONTROL INFORMATION	
LABORATORY WORK CONDUCTED BY PLANT PERSONNEL	
Lab work conducted outside of plant. 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"/>	
10. COLLECTION SYSTEM	
10.1	Length of pipe in the sewer collection system? _____ Feet, or _____ Miles (either unit is appropriate)
10.2	Does significant infiltration occur in the collection system? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, briefly explain any steps underway or planned to minimize inflow and infiltration:
11. BYPASSING	
Does any bypassing occur in the collection system or at the treatment facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, explain:	

12. SLUDGE HANDLING, USE AND DISPOSAL			
12.1 Is the sludge a hazardous waste as defined by 10 CSR 25? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
12.2 Sludge production, including sludge received from others: _____ Design dry tons/year _____ Actual dry tons/year			
12.3 Capacity of sludge holding structures: Sludge storage provided: _____ cubic feet; _____ days of storage; _____ average percent solids of sludge; <input type="checkbox"/> No sludge storage is provided. <input type="checkbox"/> Sludge is stored in lagoon.			
12.4 Type of Storage: <input checked="" type="checkbox"/> Holding tank <input type="checkbox"/> Building <input type="checkbox"/> Basin <input type="checkbox"/> Lagoon <input type="checkbox"/> Concrete Pad <input type="checkbox"/> Other (Please describe) _____			
12.5 Sludge Treatment: <input type="checkbox"/> Anaerobic Digester <input type="checkbox"/> Lagoon <input type="checkbox"/> Composting <input checked="" type="checkbox"/> Storage Tank <input type="checkbox"/> Aerobic Digester <input type="checkbox"/> Other (Attach description) <input type="checkbox"/> Lime Stabilization <input type="checkbox"/> Air or Heat Drying			
12.6 Sludge Use or Disposal: <input type="checkbox"/> Land Application <input type="checkbox"/> Surface Disposal (Sludge Disposal Lagoon, Sludge held for more than two years) <input type="checkbox"/> Contract Hauler <input checked="" type="checkbox"/> Hauled to Another treatment facility <input type="checkbox"/> Incineration <input type="checkbox"/> Sludge Retained in Wastewater treatment lagoon <input type="checkbox"/> Solid waste landfill			
12.7 Person responsible for hauling sludge to disposal facility: <input type="checkbox"/> By applicant <input checked="" type="checkbox"/> By others (complete below)			
NAME		EMAIL ADDRESS	
licensed hauler TBD			
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-	
12.8 Sludge use or disposal facility <input type="checkbox"/> By applicant <input checked="" type="checkbox"/> By others (Please complete below.)			
NAME		EMAIL ADDRESS	
ADDRESS	CITY	STATE	ZIP CODE
CONTACT PERSON	TELEPHONE NUMBER WITH AREA CODE	PERMIT NO. MO-	
12.9 Does the sludge or biosolids disposal comply with federal sludge regulations under 40 CFR 503? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Please explain)			
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 (TYPE OR PRINT)		OFFICIAL TITLE	TELEPHONE NUMBER WITH AREA CODE
Christine Bleske		Sr. Dir. Corp. Hospitality	402-544-3500
SIGNATURE		DATE SIGNED	
		1/16/15	