

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



GENERAL PERMIT for SEWER EXTENSION CONSTRUCTION

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

Construction Permit ID: MOGC00046
Title of Project: Richmond 10-13 Lift Station
Owner: City of Richmond
Address: 205 Summit
Richmond, MO 64085

The project will also include general site work appropriate to the scope and purpose of the project and will include all the necessary appurtenances to make a complete and usable collection system. The construction of this project will be in the vicinity of the county below and discharge to Receiving Permit ID below:

County: Ray Receiving Permit ID: MO0100200

for the construction of (described construction project):

Construction of approximately 2113 lf of 6-inch PVC SDR-21 force main with one air release valve.
This line replaces an existing line that needed to be relocated.

Project is in the vicinity of East Main St. and Daughtry St. in Richmond, Ray County and discharges to an existing system to be treated at Richmond South WWTF, MO-0100200.

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.

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

September 25, 2015

Issue Date

Handwritten signature of Sara Parker Pauley in black ink.

Sara Parker Pauley, Director
Department of Natural Resources

September 24, 2017

Expiration Date

Handwritten signature of John Madras in black ink.

John Madras
Director, Water Protection Program

APPLICABILITY

1. This permit authorizes the construction of gravity sewer extensions, force mains, and lift stations. Storage basins, considered part of the collection system, are also included. Earthen basins are not included under this General Sewer Extension Construction permit.
2. A Sewer Extension Construction Permit may be required by the department due to compliance and enforcement actions.
3. This permit does not apply to:
 - A. Earthen storage basins;
 - B. Projects located within an Approved Sewer Program. These include the City of Blue Springs, City of Columbia, City of Kansas City, City of Jefferson City, City of Joplin, City of Lebanon, City of Springfield, City of St. Peters, Duckett Creek Sewer District, and Metropolitan St. Louis Sewer District;
 - C. Projects funded by the Department of Natural Resources;
 - D. Projects that substantially deviate from the Design Guides in 10 CSR 20-8; and
 - E. Exempt projects unless requested by the applicant or required by enforcement.

PREREQUISITES:

1. The General Sewer Extension Construction Permit application, appropriate fee, and a schedule for construction with the date on which construction will begin and anticipated completion date.
2. The engineering report, as required, plans and specifications each signed and sealed by a professional engineer registered in the State of Missouri. A Summary of Design is an acceptable substitute for the engineering report required by this permit prerequisite.
3. The Design Certification form signed and sealed by a professional engineer registered in the State of Missouri certifying the design of the system was done in accordance with 10 CSR 20-6 and 10 CSR 20-8.
4. A statement from the continuing authority was received accepting the wastewater for treatment.
5. A statement from the continuing authority was received accepting the responsibility for operation, maintenance, and modernization of these facilities

PERMIT CONDITIONS:

1. Contact the department's appropriate regional office 48 hours prior to starting construction. Contact information can be found at <http://dnr.mo.gov/regions/regions.htm>.
2. This permit authorizes the activities and scope of work detailed in the plans and specifications submitted with the request.
3. The construction must be in accordance with the design certification stating the plans and specifications comply with 10 CSR 20-6 and 10 CSR 20-8.

PERMIT CONDITIONS: (continued)

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 regional office per 10 CSR 20-7.015(9)(E)2.
5. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(10). "There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole."
 - A. Sewers in relation to water works structures shall meet the requirements of 10 CSR 23-3.010 with respect to minimum distances from public water supply wells or other water supply sources and structures.
 - B. Sewer mains shall be laid at least ten feet (10') horizontally from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a ten foot (10') separation, the department may allow a deviation on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on either side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to 150 pounds per square inch to assure water tightness.
 - C. Manholes shall be located with the top access at or above grade level.
 - D. Manholes should be located at least ten feet (10') horizontally from any existing or proposed water main.
 - E. 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:
 - 1) The sewer shall be designed and constructed equal to the water pipe and shall be pressure tested to assure water tightness prior to backfilling; or
 - 2) Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends ten feet (10') on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the department for use in water main construction.

PERMIT CONDITIONS: (continued)

6. 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.

7. 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.

8. If this project eliminates a wastewater treatment facility, then a full closure plan shall be submitted to the department's appropriate 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, Section I, of the Missouri State Operating Permit. 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 department's appropriate Regional Office for termination of any existing Missouri State Operating Permit, once closure is completed in accordance with the approved closure plan.
9. Submit a Statement of Work Completed Form to the department following completion of construction. Submit an electronic copy of the as built plans if the project was not constructed in accordance with previously submitted plans and specifications.

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM

**APPLICATION FOR CONSTRUCTION PERMIT -
 SEWER EXTENSION**

RECEIVED
 AUG 27 2015

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED \$ 0.00	CHECK NO. 49063
DATE RECEIVED 8/27/15	SB

Water Protection Program

NOTE ► PLEASE READ THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM

1.0 APPLICATION INFORMATION (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

- 1.1 Is this a Federal/State funded project? YES N/A Funding Agency: _____ Project #: _____
- 1.2 Has the Department of Natural Resources approved the proposed project's engineering report*?
 YES Date of Approval: _____ NO N/A
- 1.3 Is a copy of the appropriate plans* and specifications* included with this application? YES NO
- 1.4 Is a summary of design* included with this application? YES NO
- 1.5 Is the appropriate fee included with this application? (See instructions for appropriate fee.) YES NO

* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT

Richmond 10-13 Lift Station

ADDRESS	CITY	STATE	ZIP CODE	COUNTY

2.2 Legal Description: ¼, ¼, ¼, Sec. 32, T 52N, R 27W

2.3 Project Components (check all that apply):

- Gravity sewers Pumping stations Force mains Alternative sewer system Other (Describe below.)

2.4 PROJECT DESCRIPTION

The project consists of the design of a new pump station force main for the 10-13 Lift Station in the City of Richmond. The current force main goes under a building and needs to be relocated. With the new single treatment facility in operation, the new force main route will discharge to the south basin, eliminating the water flowing completely to the north and then back to the south. The current lift station will not be improved.

2.5 DESIGN INFORMATION

- A. Population or number of lots to be served by this extension: n/a
- B. Estimated flow to be contributed by this extension: Design Average Flow: n/a gpd Design Peak Hourly Flow: n/a gph
- C. Industrial Wastes: Type: n/a Flow: n/a gpd
- D. Receiving Sewer: Size: 8 inches Capacity: 1060 gpm

3.0 PROJECT OWNER

NAME City of Richmond		TELEPHONE NUMBER WITH AREA CODE (816) 776-5304	E-MAIL ADDRESS
ADDRESS 205 Summit	CITY Richmond	STATE MO	ZIP CODE 64085

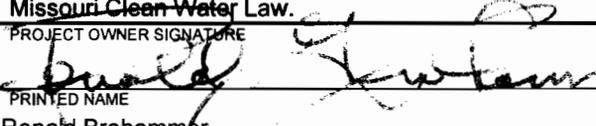
4.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.

NAME City of Richmond		TELEPHONE NUMBER WITH AREA CODE (816) 776-5304	E-MAIL ADDRESS
ADDRESS 205 Summit	CITY Richmond	STATE MO	ZIP CODE 64085

4.1 A letter from the continuing authority, if different than the owner, is included with this application. YES NO N/A

5.0 ENGINEER

ENGINEER NAME / COMPANY NAME Mike Milius / Olsson Associates		TELEPHONE NUMBER WITH AREA CODE (816) 442-6013	E-MAIL ADDRESS mmilius@olssonassociates.com
ADDRESS 1251 NW Briarcliff Parkway Suite 50	CITY Kansas City	STATE MO	ZIP CODE 64116

6.0 RECEIVING WASTEWATER TREATMENT FACILITY		
NAME Richmond South Wastewater Treatment Plant	TELEPHONE NUMBER WITH AREA CODE (816) 776-5304	E-MAIL ADDRESS
MISSOURI STATE OPERATING PERMIT # MO-0100200	REMAINING CAPACITY (GPD)	
6.1 Has the receiving treatment facility agreed to accept the additional wastewater flow? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
6.2 A letter from the receiving wastewater treatment facility, if different than the continuing authority, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A		
7.0 PROJECT OWNER: I hereby certify that I am familiar with the information contained in this application and 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 <u>Missouri Clean Water Law</u> .		
PROJECT OWNER SIGNATURE 		
PRINTED NAME Ronald Brohammer	DATE 06/25/2015	
TITLE OR CORPORATE POSITION City Administrator	TELEPHONE NUMBER WITH AREA CODE (816) 776-5304	E-MAIL ADDRESS rbrohammer@cityofrichmondmo.org
Mail completed copy to:	MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176	

RECEIVED
AUG 27 2015
Water Protection Program



RECEIVED

AUG 27 2015

Water Protection Program

August 25, 2015

Missouri Department of Natural Resources
Water Protection Program
Public Drinking Water Branch
P.O. Box 176
Jefferson City, MO 65102-0176

Re: Richmond10-13 Lift Station
Richmond, MO - Ray County, MO-2010796
Olsson PN 013-2987

Dear Mr. Refaat Mefrakis,

Please find enclosed three copies of engineering plans and specifications for a proposed force main relocation project for the 10-13 lift station. The 10-13 lift station is located approximately 300 ft southwest of the E Main Street & Morningside Drive intersection in Richmond, MO. The existing force main for the 10-13 lift station currently is directed under a building and due to reliability concerns the City is wanting to reroute the existing force main.

The existing discharge point for the 10-13 lift station is to the north basin of the City's collection. The north basin discharges wastewater to a transfer facility located at the old north treatment facility, where it is then pumped to the new single treatment facility. The proposed force main will direct wastewater to a new discharge location in the south basin at the sanitary sewer manhole in the Morningside Circle cul-de-sac. The south basin discharges wastewater directly to the new single treatment facility. This will eliminate the energy costs associated with pumping the wastewater to the new treatment facility.

The proposed project will include the design of approximately 2,107 linear feet of 6" force main. Downstream of the discharge location is K lift station. Based on information made available by the City of Richmond, the K lift station is a duplex lift station with a capacity of approximately 515 GPM per pump. It is believed that this lift station was sized to account for this flow. To calculate the approximate excess capacity available the following assumptions were made. Please note that conservative values were used for these assumptions.

- Number and type of Services: 60 residential households and 1 school
- Occupancy per household: 2.5 people
- School Occupancy: 300 People
- Water Usage
 - o Household per person: 100 gallons per day (GPD)
 - o School per person: 40 gallons per day (GPD)

This results in an approximate average flow of 27,000 GPD or 19 GPM, which is well below the lift station capacity of 515 GPM. The 10-13 lift station is a duplex lift station with a capacity of only 150 GPM per pump.

1251 NW Briarcliff Parkway, Suite 50
Kansas City, MO 64116

TEL 816.361.1177
FAX 816.361.1888

www.olssonassociates.com

Mr. Refaat Mefrankis
August 25, 2015
Page 2 of 2

The section of sewer downstream of the 10-13 discharge location was also evaluated for capacity. This line had a capacity of 1060 GPM.

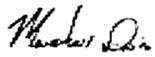
For this reason we can concluded that collection system downstream of the 10-13 lift station has adequate capacity available to handle increased flows.

We request the Department's review and approval of the enclosed plans, specifications. A Construction Permit Application is also enclosed with the associated \$300 fee.

Please feel free to contact me if you have any questions concerning this application.

Sincerely,

Olsson Associates



Marshall R. Davis, EI
Assistant Engineer

cc: Dale Shipp, City of Richmond

