

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: MOGSE0438
Title of Project: Redwood Independence
Owner: Redwood Independence
Address: 7007 East Pleasant Valley Road
INDEPENDENCE, OH 44131

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: Jackson Receiving Permit ID: MO0101087

for the construction of (described construction project):

Redwood Independence-Construction of approximately 4,311 lf of 12-inch SDR-26 PVC gravity sewer main, 135 lf of 10-inch SDR-26 PVC gravity sewer main, 467 lf of 8-inch SDR-26 PVC gravity sewer main, and 22 manhole to serve 182 residential lots with a design average flow of 40,950 gpd. The receiving sewer is 36-inch with a capacity of 21,167 gpm.

Project is in the vicinity of E. Mize Rd. and S. Jackson Dr. in Independence, Jackson County. It discharges to an existing system to be treated at Atherton WWTF (LBVSD), MO-0101087. Pat Kullberg, Project Engineer provided an acceptance letter dated November 16th, 2022. The City of Independence is the Continuing Authority for this project.

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.

December 13, 2022

Issue Date

A handwritten signature in black ink that reads "Chris Wieberg".

Chris Wieberg, Director
Water Protection Program

December 13, 2024

Expiration Date

APPLICABILITY

1. This permit authorizes the construction of gravity sewer extensions, force mains, and lift stations. Non-earthen flow equalization storage basins at lift stations and inline storage, which flows back into the lift station or collection system, are also included.
2. A site specific sewer extension construction permit may be required by the Department due to compliance and enforcement actions.
3. Projects located within an Approved Sewer Program as noted in the operating permit of the receiving wastewater treatment facility are not required to obtain a construction permit from the Department of Natural Resources (Department).
4. This permit does not apply to:
 - A. Earthen storage basins;
 - B. Exempt projects unless requested by the applicant or required by enforcement.

PREREQUISITES:

1. The General Sewer Extension Construction Permit application, appropriate fee, and documentation in accordance with 10 CSR 20-6.010(5)(G).
2. The plans and specifications each signed and sealed by a professional engineer registered in the State of Missouri in accordance with 10 CSR 20-8 and 10 CSR 20-6.010.
3. The Design Certification form or Engineering Report or Summary of Design signed and sealed by a professional engineer registered in the State of Missouri certifying the design of the system was prepared in accordance with 10 CSR 20-6 and 10 CSR 20-8.
4. A statement from the continuing authority, as defined in 10 CSR 20-6.010, accepting the wastewater for treatment and indicating the permitted treatment facility has the available capacity.
5. A statement from the continuing authority, as defined in 10 CSR 20-6.010, accepting the responsibility for operation and maintenance of these facilities.

PERMIT CONDITIONS:

1. This permit authorizes the activities and scope of work detailed in the plans and specifications submitted with the request.
2. The construction must be in accordance with the final plans and specifications approved by the Department.
3. 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., or through the Online Bypass/SSO Reporting system found at <https://dnr.mo.gov/eservices.htm> under Water Protection.

PERMIT CONDITIONS: (continued)

4. Protection of drinking water supplies must meet the requirements of 10 CSR 23-3.010 .
 - A. 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.
 - B. Sewers shall be laid at least fifty feet (50') in a horizontal direction from any existing or proposed public water supply well or other water supply sources or structures.
5. Manholes shall be located with the top access at or above grade level.
6. In addition to the requirements for a construction permit, see 10 CSR 20-6.200 for land disturbance requirements 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.

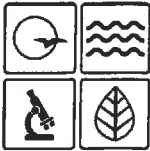
See www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.

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 under the jurisdiction of the Department, then a full closure plan shall be submitted with a Facility Closure Request Form, Form – MO 780-2512 to the Department's appropriate regional office for review and approval. 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. Closure shall not commence until the submitted closure plan is approved by the Department.
9. If this project is part of a project to resolve an enforcement action or is receiving funding from the Department, submit a statement of work complete following the completion of construction

AP4052e1 MO6956438



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
APPLICATION FOR CONSTRUCTION PERMIT
SEWER EXTENSION

RECEIVED
 OCT 26 2022
 Water Protection Program

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO. <i>MXH</i>
FEE RECEIVED <i>300.00</i>	CHECK NO. <i>20037982</i>
DATE RECEIVED <i>Oct 24, 2022</i>	

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 Project location and flow calculations are included in the plans. Project description is located below.
- 1.5 Is the appropriate fee or JetPay confirmation included with this application? YES NO
 See Section 7.0

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

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT
 Redwood Independence

ADDRESS	CITY	STATE	ZIP CODE	COUNTY
19515 E. RD Mize Road	Independence	MO	64057	Jackson

2.2 Legal Description: ¼, ¼, ¼, Sec. 16&17, T 49N, R 31W

2.3 Project Components (check all that apply):
 Gravity sewers Pumping stations Force mains Alternative sewer system Other (Describe below.)

2.4 PROJECT DESCRIPTION
 8", 10" and 12" sanitary sewer main extension for multi-family residential (townhomes) project in Independence, MO.
 Length of main extension is 4,914'.

2.5 DESIGN INFORMATION

A. Population or number of lots to be served by this extension: 546

B. Estimated flow to be contributed by this extension: Design Average Flow: 40950 gpd Design Peak Hourly Flow: 6825 gph

C. Industrial Wastes: Type: N/A Flow: gpd

D. Receiving Sewer: Size: 36 inches Capacity: 21,167 gpm

3.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS	
Ali Karolczak	216-536-3647	akarolczak@byredwood.com	
ADDRESS	CITY	STATE	ZIP CODE
7007 East Pleasant Valley Road	Independence	OH	44131

4.0 CONTINUING AUTHORITY: A continuing authority is a company, business, entity or person(s) that will be operating the facility or ensuring compliance with the permit requirements. A continuing authority is not, however, an entity or individual that is contractually hired by the permittee to sample or operate and maintain the system for a defined time period, such as a certified operator or analytical laboratory. To access the regulatory requirement regarding continuing authority, 10 CSR 20-6.010(2), please visit <https://s1.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-6.pdf>. A continuing authority's name must be listed exactly as it appears on the Missouri Secretary of State's (SoS's) webpage: <https://bsd.sos.mo.gov/BusinessEntity/BESearch.aspx?SearchType=0>, unless the continuing authority is an individual(s), government, or otherwise not required to register with the SoS.

NAME	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS	
Alex Lopez/City of Independence	816-325-7000	aflopez@indepmo.org	
ADDRESS	CITY	STATE	ZIP CODE
111 E. Maple Avenue	Independence	MO	64050

4.1 A letter from the continuing authority or the Continuing Authority and Receiving Wastewater Treatment Facility Acceptance form, if different than the owner, is included with this application. YES NO N/A

5.0 ENGINEER			
ENGINEER NAME / COMPANY NAME Pat Kullberg/McClure		TELEPHONE NUMBER WITH AREA CODE 913-307-2509	EMAIL ADDRESS PKullberg@mcclurevision.com
ADDRESS 11031 Strang Line Road	CITY Lenexa	STATE KS	ZIP CODE 66215
6.0 RECEIVING WASTEWATER TREATMENT FACILITY			
NAME Atherton Wastewater Treatment Plant		TELEPHONE NUMBER WITH AREA CODE 816-796-7660	EMAIL ADDRESS aflopez@indepmo.org
MISSOURI STATE OPERATING PERMIT # MO0101087		REMAINING CAPACITY (GPD) 22,000,000	
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 Application Fee			
<input type="checkbox"/> Check Number		<input type="checkbox"/> JetPay Confirmation Number	
8.0 PROJECT OWNER: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.			
PROJECT OWNER SIGNATURE <i>Ali Karolczak</i>			
PRINTED NAME Ali Karolczak		DATE 10/20/2022	
TITLE OR COPORATE POSITION Director of Acquisitions	TELEPHONE NUMBER WITH AREA CODE 216-536-3647	EMAIL ADDRESS akarolczak@byRedwood.com	
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176			

SEWER EXTENSION DESIGN CERTIFICATION

Answer all questions yes, no, or N/A. Answer N/A only if the question is clearly not applicable to the design of the proposed sewer extension **OR** if a deviation was previously allowed by the Department in the approval of Standard specifications or Standard Detail Sheets.

9.0 SEWER EXTENSION CHECKLIST					
	REGULATION		YES	NO	N/A
1	8.110(9)(B)	Are detailed plans showing tributary area, boundaries, pertinent elevations, topography, existing and proposed facilities provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	8.110(3)(A)	Is the design flow based on actual flow data for an existing system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	8.110(3)(B)	Are average design flows, peak hourly flows, and I&I contributions for new systems calculated.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	8.120(2)	Does the sewer exclude water from roofs, streets, groundwater from foundation drains, and combined wastewater?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	8.120(3)(C)	Is ASTM C969-17 leakage test specified to ensure water tight joint seals and appropriate exfiltration and infiltration rates? <small>Testing in accordance with City Standard Specifications</small>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	8.120(4)(A)	Are manholes located at all changes in grade, size or alignment, and all intersections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	8.120(3)(A)1	Are all sewer pipes constructed with a slope to obtain mean velocities of not less than 2 feet per second?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	8.120(3)(A)2	Is the pipe covered with at least 36" of soil or sufficiently insulated to prevent freezing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	8.120(3)(A)	Is the pipe installation, embedment, and backfill designed to prevent damage to the pipe and its joints?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	8.120(3)(B)	Is deflection testing specified to ensure no pipe exceeds a deflection of 5% of the inside diameter?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	8.120(4)(C)	Are manholes at least 42 inches in diameter with a clear opening of 22 inches on sewer line larger than 8"?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	8.120(4)(C)	Where cleanouts are used at the end of a lateral instead of a manhole, are they a minimum diameter of 8 inches or larger and equal to the diameter for pipes < 8"?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	8.120(4)(E)	Are the manholes specified to be watertight, constructed, installed in accordance with the manufacturer's recommendations and procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	8.120(4)(F)	Do the specifications include a requirement for inspection and testing for manholes?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	8.120(5)(B)	Are sewers and manholes located at least 50 feet horizontally from any existing or proposed water supply well, sources, structures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	8.120(5)(A)	Is the sewer free from physical connections to a potable water supply system with no water pipes coming in contact with a sewer manhole?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10.0 PRESSURE SEWERS, GRINDER PUMP, STEP AND STEG SEWER CHECKLIST

	REGULATION		YES	NO	N/A
17	8.125(5)(A)1.	Does the cleaning velocity of ≥ 2 ft/s happen at least once per day?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18	8.125(5)(A)2.	Is the diameter of the pressure sewer main pipe at least 1.5"?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	8.125(5)B	Are appurtenances compatible with the piping system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	8.125(5)(C)	Do service line pipes have a minimum diameter of 1.25 in.?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	8.125(5)(D)1. A	Do simplex grinder pump stations service only a single equivalent dwelling unit (EDU)? i.e. 1 residence – 1 grinder pump station.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	8.125(5)(D)1. B	Are multiple unit pump stations owned, operated, maintained by an approved continuing authority?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	8.125(5)(D)3	Is there at least 70 gallons of storage in the grinder pump unit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	8.125(5)(D)4	Do grinder pump stations have shutoff valves, check valves, and anti-siphon valves (where siphoning could occur) that are accessible from the ground surface?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	8.125(5)(D)7 8.130(3)(B)2	Are units serviceable and replaceable under wet conditions without electrical hazard and electrical equipment suitable for hazardous locations (National Electrical Code, Class I, Group D, Division 1 location)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	8.125(5)(D)8 8.125(6)(F)6	Are provisions in place to avoid interruption of service due to mechanical or power failure by providing standby power, storage capacity or interconnection with another disposal system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	8.125(6)(D) 8.180(2)	Does each EDU have at least one septic tank with a minimum of 1,000 gallon capacity with 20% of tank volume dedicated to freeboard and ventilation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	8.125(6)(F)	Are pump vaults designed with duplex pumps for STEP sewer systems with design flow of 1,500 gallons per day or greater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29	8.125(7)(A) 8.125(7)(C)	Is the minimum STEG sewerservice line at least 4" in diameter?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11.0 PUMP STATION CHECKLIST

	REGULATION		YES	NO	N/A
30	8.130(2)(A) 8.140(2)(B)	Is the pump station designed to withstand the 100-year flood?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
31	8.130(3)(A)	Is the dry well completely separate from the wet well and is a suitable and safe means of access provided to each?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32	8.130(3)(B)	If the design flow is 1,500 gpd or more, are at least 2 pumps or pneumatic ejectors provided?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33	8.130(3)(D)	Are valves located outside wet well unless integral to a pump or its housing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34	8.130(3)(F) 8.140(8)(J)	Do wet and dry wells have separate ventilation systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35	8.130(3)(G)	Does all potable water brought to the pump station comply with 8.140 (7) D?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36	8.130(6)	Is an alarm system provided with uninterrupted power?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37	8.130(7)(A)	Is there 2 hours retention of the peak hourly flow for a design flow > 100,000 gpd or 4 hrs retention of the peak hourly flow for a design flow < 100,000 gpd?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38	8.130(7)(B)	Is there an independent utility substation provided for emergency power that is capable of starting and operating the pump station at its rated capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39	8.130(8)(A)	Is the force main velocity of ≥ 2 ft/s maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40	8.130	Are there complete operation instructions for the pumping stations provided that include emergency procedures, maintenance schedules, special tools and spare parts that may be necessary?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12.0 SUCTION LIFT PUMP AND SUBMERSIBLE PUMP STATION CHECKLIST

	REGULATION		YES	NO	N/A
41	8.130(4)	Are the suction lift pumps of the self priming or vacuum priming type?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42	8.130(4)(A)	Is the combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions less than or equal to twenty-two feet (22')?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43	8.130(4)(B)	Are there dual vacuum pumps capable of removing air from the suction lift pump?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44	8.130(5)(A)	Are submersible pumps readily removable and replaceable without personnel entering, or disconnecting any pipe in the wet well?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13.0 CERTIFICATION STATEMENT

I hereby certify that the design plans and specifications for this project, to the best of my knowledge, conform to the requirements listed above. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

I hereby certify that this plan, specification, and/or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Missouri.

For any question answered "NO" provide explanation. Provide any useful comments on design for review engineer:
Design flow is calculated based on City and MDNR criteria.

Missouri Professional Engineer's Seal:



Name: Patrick L. Kullberg
Street Address: 11031 Strang Line Road
City: Lenexa

10/21/2022

State: KS

ZIP Code: 66215

Phone Number: 913-307-2509

Email: PKullberg@mcclurevision.com