

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Village of Mineral Point
702 State Street
Mineral Point, MO 63660

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.

September 18, 2024
Effective Date

December 31, 2026
Expiration Date



John Hoke, Director, Water Protection Program

CONSTRUCTION PERMIT

COLLECTION SYSTEM:

The Mineral Point project is to replace existing septic tanks, septic pumps, and lines from the septic tanks to the forcemain, that are under the continuing authority of the Village of Mineral Point to resolve issues with the current failing system. Typically, the like for like replacement of existing infrastructure and appurtenances is exempt from construction permitting requirements under 10 CSR 20-6.010(5)(B)12; however, due to the ongoing enforcement case due to ongoing failure to operate and maintain the system, a construction permit was required. The current design average flow for the Village of Mineral Point is 23,100 gallons per day (gpd). The system was modeled and can handle the projected 20-year growth population of 52,500 gpd.

The replacement collection system will be a Septic Tank Effluent Pump system with 1.5- inch lines which will carry primary treated effluent to the existing forcemain and then onto the receiving wastewater treatment facility, Potosi WWTP #3. Installation will include approximately 108 septic tanks, 108 pumps, and 14,250 feet of 1.5-inch piping. Each house will have a minimum 1,250 gallon two-compartment septic tanks with a pump and an alarm system. The pump will be 0.5 hp Orenco PF 1005 pump or approved equivalent capable of operating at 18 gpm at 14 ft of head and 10 gpm at 171 ft of head. The system was modeled at different operating conditions and demonstrated that the system would be capable of operating between 1.20 fps and 6.94 fps at the current flows of 23,100 gpd and between 1.20 fps and 8.05 fps at the expanded flow of 52,500 gpd.

A 4-inch electromagnetic flow meter will be installed at the end State Street heading towards Potosi. The Village of Mineral Point will maintain responsibility of the forcemain once it leaves the Village until it reaches the influent sewer approximately 0.75 miles away at Potosi WWTP #3. The receiving sewer is a 15-inch line with a capacity of 3,285 gpm.

Once the reconstruction and replacement of the septic tanks and pumps is complete, additional work on the forcemain may be required. Under this project, testing and spot repairs of the forcemain are planned. While the existing forcemain system is in place, if during construction it is discovered that the forcemain needs replaced, that will be a separate project, as forcemain work under this project is for testing and spot repairs. It is recommended that the Village begin the application process for additional loans and grants to finish the repair and replacement of the forcemain.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater collection system.

These activities will be in the vicinity of the Village of Mineral Point, Washington County, and will continue to be discharge to an existing sewer system to be treated at the Potosi Wastewater Treatment Facility No. 3, Missouri State Operating Permit No. MO-0127566. Joseph Blount, Mayor of Potosi, provided an acceptance letter dated September 5, 2024.

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 and submitted by Archer-Elgin, received on August 6, 2024, and signed and sealed by Jeff Medows, P.E. on August 5, 2024.
3. The department must be contacted in writing prior to making any changes to the 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(11).
4. If construction will incorporate minor changes from previously submitted plans and specifications (i.e., changes that do not affect the capacity, flow, or system layout), submit an electronic copy of the as-built plans and specifications in accordance with 10 CSR 20-8.110(11).
5. State and federal law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the department's Southeast Regional Office per 10 CSR 20-7.015(9)(G) or through the Online Bypass/SSO Reporting service on the Missouri Gateway for Environmental Management (MoGEM) portal found at <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>.
6. Protection of drinking water supplies must meet the requirements of 10 CSR 20-8.120(5) and 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 that 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.
7. Manholes shall be located with the top access at or above grade level.
8. 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 <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. See <https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting> 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 <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information.
10. Upon completion of construction:
 - A. The Village of Mineral Point will continue to be the continuing authority for operation and maintenance of these facilities;
 - B. Submit an electronic copy of the as-builts if the project was not constructed in accordance with previously submitted plans and specifications; and
 - C. Submit the Statement of Work Completed form to the department in accordance with 10 CSR 20-6.010(5)(N) (<https://dnr.mo.gov/document-search/wastewater-construction-statement-work-completed-mo-780-2155>)

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Engineering Section
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MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
**APPLICATION FOR CONSTRUCTION PERMIT –
 SEWER EXTENSION**

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
DATE RECEIVED	

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: ARPA 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
 If the project is using standard specifications, name of community: _____

1.4 Is a summary of design* included with this application? YES NO

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
 ARPA Wastewater System Improvements

ADDRESS	CITY	STATE	ZIP CODE	COUNTY
	Mineral Point	MO	63660	Washington

2.2 Legal Description: ¼, ¼, ¼, Sec. 8 , T 37 , R 3

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

2.4 PROJECT DESCRIPTION
 Replacement of existing STEP System including the following: The construction of 108 new precast concrete septic tanks, septic tank effluent pumps, pump service lines, pump control panels, new system air release valves and electromagnetic flow meter and all appurtenances for a complete installation. No new sewer loading is being added to the system.

2.5 DESIGN INFORMATION

A. Population or number of lots to be served by this extension: 108 existing lots preioicly served

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

C. Industrial Wastes: Type: Flow: gpd

D. Receiving Sewer: Size: inches Capacity: gpm

E. Does this project (check all that apply):
 Connect to an existing treatment plant Resolve enforcement issue Eliminate or consolidate an existing treatment plant

F. Estimated number of onsite systems being removed:

G: Estimated costs associated with piping: \$ Estimated costs associated with lift station(s): \$

3.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS	
Village of Mineral Point	573-438-3487		
ADDRESS	CITY	STATE	ZIP CODE
702 State Street	Mineral Point	MO	63660

CHARTER NUMBER (SECRETARY OF STATE) or REGISTERED AGENT

4.0 CONTINUING AUTHORITY: A continuing authority is a company, business, entity, or person(s) that will be legally responsible for ensuring compliance with the permit requirements and provide continuous stable oversight of the permitted facility or activity. The Continuing authority should be a relatively permanent entity responsible for the ongoing operation, maintenance and modernization, when needed, of the permitted facility or activity. 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 [Clean Water Commission Chapter 6](#). A continuing authority's name must be listed exactly as it appears on the Missouri Secretary of State's (SoS's) webpage: [Missouri Secretary of State](#), unless the continuing authority is an individual(s), government entity, or otherwise not required to register with the SoS.

NAME Village of Mineral Point		TELEPHONE NUMBER WITH AREA CODE 573-438-3487	EMAIL ADDRESS
ADDRESS 702 State Street	CITY Mineral Point	STATE MO	ZIP CODE 63660

CHARTER NUMBER (SECRETARY OF STATE)

4.1 Has appropriate continuing authority acceptance been provided as follows:
 A letter from the continuing authority accepting responsibility for continued maintenance of the sewer (if the continuing authority is different than the original owner of the construction), or a properly executed "Continuing Authority and Receiving Wastewater Treatment Facility Acceptance" Form 780-2584. YES NO N/A

5.0 ENGINEER

ENGINEER NAME / COMPANY NAME Jeff Medows, P.E./ Archer-Elgin Engineering		TELEPHONE NUMBER WITH AREA CODE 573-364-6362	EMAIL ADDRESS jmedows@cmarcher.com
ADDRESS 310 East Sixth Street	CITY Rolla	STATE MO	ZIP CODE 65401

6.0 RECEIVING WASTEWATER TREATMENT FACILITY

NAME Potosi WWTF No. 3		TELEPHONE NUMBER WITH AREA CODE 573-438-2767	EMAIL ADDRESS jhicks@potosicityhall.org
MISSOURI STATE OPERATING PERMIT # MO-0127566	COUNTY Washington	REMAINING CAPACITY (GPD) Already Receiving Existing Flows	

6.1 If different from the owner, has a letter been provided from the receiving treatment facility demonstrating that they agree to accept the expanded flow or has a properly executed Continuing Authority and Receiving Wastewater Treatment Facility Acceptance MO 780-2584 form been provided? YES NO N/A

6.2 A letter from the receiving wastewater treatment facility, if different than the continuing authority, is included with this application. YES NO N/A

6.3 If the receiving treatment plant or continuing authority is regulated by the Public Service Commission (PSC) for sewer activities, a Certificate of Convenience and Necessity has been received? Yes - Date: No N/A

OPTIONAL QUESTIONS REGARDING MILITARY SERVICE

Have you or an immediate family member ever served in the U.S. Armed Forces?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If yes, would you like information about military-related services in Missouri?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

7.0 Application Fee

<input type="checkbox"/> Check Number N/A ARPA	<input type="checkbox"/> JetPay Confirmation Number
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8.0 PROJECT OWNER: I certify under penalty of law this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PROJECT OWNER SIGNATURE

<i>Kenneth Cook</i>		DATE 7-9-2024
PRINTED NAME Chairman - Kenneth Cook		
TITLE OR CORPORATE POSITION Chairman	TELEPHONE NUMBER WITH AREA CODE 573-854-1003	EMAIL ADDRESS Kenny Cook 711 at gmail

Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM PO BOX 176 JEFFERSON CITY, MO 65102-0176	Submit completed electronic copy to: Missouri Department of Natural Resources at DNR.WPPEngineerSection@dnr.mo.gov
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9.0 SEWER EXTENSION CHECKLIST

SEWER EXTENSION DESIGN CERTIFICATION: Answer all questions yes or N/A. Answer N/A only if the question is clearly not applicable to the design of the proposed sewer extension.

	REGULATION		YES	N/A
1.	8.110(3)(A)	Is the design flow based on actual flow data for an existing system?	<input type="checkbox"/>	<input type="checkbox"/>
2.	8.110(3)(B)	Are average design flows, peak hourly flows and I&I contributions for new systems calculated?	<input type="checkbox"/>	<input type="checkbox"/>
3.	8.110(9)(B)	Is there a detailed plan showing tributary area, boundaries, pertinent elevations, topography, existing and proposed facilities?	<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 type="checkbox"/>	<input type="checkbox"/>
5.	8.120(3)(A)	Is the pipe installation, embedment and backfill designed to prevent damage to the pipe and its joints?	<input type="checkbox"/>	<input type="checkbox"/>
6.	8.120(3) (A)1	Is all sewer pipe constructed with a slope to obtain mean velocities of not less than 2 feet per second?	<input type="checkbox"/>	<input type="checkbox"/>
7.	8.120(3)(A)2	Is the pipe covered with at least 36" of soil or sufficiently insulated to prevent freezing?	<input type="checkbox"/>	<input type="checkbox"/>
8.	8.120(3)(B)	Is deflection testing specified to ensure no pipe exceeds a deflection of 5% of the inside diameter?	<input type="checkbox"/>	<input type="checkbox"/>
9.	8.120(4)(A)	Are manholes located at the end of each line, at all changes in grade, size or alignment and at all intersections?	<input type="checkbox"/>	<input type="checkbox"/>
10.	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 type="checkbox"/>	<input type="checkbox"/>
11.	8.120(4)(C)	Where cleanouts are used at the end of a lateral instead of a manhole, they are a minimum diameter of 8 inches or larger and equal to the diameter for pipes < 8"?	<input type="checkbox"/>	<input type="checkbox"/>
12.	8.120(4)(E)	Are the manholes watertight, constructed and installed in accordance with the manufacturer's recommendations and procedures?	<input type="checkbox"/>	<input type="checkbox"/>
13.	8.120(4)(F)	Do the specifications include a requirement for inspection and testing for manholes?	<input type="checkbox"/>	<input type="checkbox"/>
14.	8.120(5)(A)	Is the sewer free from physical connections to a potable water supply system and no water pipes come in contact with a sewer manhole?	<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 type="checkbox"/>	<input type="checkbox"/>

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

	REGULATION		YES	N/A
16.	8.125(5)(A)1.	Does the cleaning velocity of ≥ 2 ft/s happen more than once per day?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17.	8.125(5)(A)2.	Is the diameter of the pressure sewer main pipe at least 1.5"?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
18.	8.125(5)(B)	Are appurtenances compatible with the piping system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
19.	8.125(5)(B)2.	Are isolation valves located: upstream of major pipe intersections; both sides of stream, bridge and RR crossings; at terminal end of system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
20.	8.125(5)(C)	Do service line pipes have a minimum diameter of 1.25"?	<input checked="" 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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22.	8.125(5)(D)1.B	Are multiple unit pump stations owned, operated and maintained by an approved continuing authority?	<input checked="" 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 checked="" 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 checked="" 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 is electrical equipment suitable for hazardous locations (National Electrical Code, Class I, Group D, Division 1 location)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
26.	8.125(5)(D)8., 8.125(2)(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 checked="" type="checkbox"/>	<input type="checkbox"/>
27.	8.125(6)(D)	In a STEP system is at least one septic tank (1,000 gallons or more) provided for each EDU with 20% of tank volume dedicated to freeboard and ventilation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
28.	8.125(6)(F)	Are duplex pumps provided for the design flow of 1,500 gallons or greater?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

11.0 PUMP STATION CHECKLIST

	REGULATION		YES	N/A
29.	8.125(7)(C)	Is the minimum diameter sewer main pipe and service line of STEG sewer at least 4"?	<input type="checkbox"/>	<input type="checkbox"/>
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"/>
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"/>
32.	8.130(3)(B)	If the design flow is 1,500 gpd or more, are there at least 2 pumps or pneumatic ejectors provided?	<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"/>
34.	8.130(3)(F) 8.140(8)(J)	Do wet and dry wells have separate ventilation systems?	<input type="checkbox"/>	<input type="checkbox"/>
35.	8.130(3)(G)	Does all potable water brought to pump stations comply with 8.140(7)(D)?	<input type="checkbox"/>	<input type="checkbox"/>
36.	8.130(6)	Is an alarm system provided with uninterrupted power?	<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"/>
38.	8.130(7)(B)	Are there independent utility substations provided for emergency power capable of starting and operating the pump station at its rated capacity?	<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"/>
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"/>

12.0 SUCTION LIFT PUMP AND SUBMERSIBLE PUMP STATION CHECKLIST

	REGULATION		YES	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"/>
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 22 feet?	<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"/>
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"/>

13.0 SEWER EXTENSION CHECKLIST -- CERTIFICATION STATEMENT

For any questions answered "N/A" provide an explanation. Also provide any useful general comments regarding design for review engineer.

10.0.16: STEP System
 10.0.21: STEP System
 10.0.23: STEP System
 10.0.24: STEP System

Missouri Professional Engineer's seal, signature and date:

Name: Jeff Medows, P.E.

Address: 310 E 6th Street

City: Rolla	State: MO	ZIP Code: 65401
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Telephone Number with Area Code: (573)-364-6362	Email: thernandez@cmarcher.com
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11.0 PUMP STATION CHECKLIST				
	REGULATION		YES	N/A
29.	8.125(7)(C)	Is the minimum diameter sewer main pipe and service line of STEG sewer at least 4"?	<input type="checkbox"/>	<input type="checkbox"/>
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"/>
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"/>
32.	8.130(3)(B)	If the design flow is 1,500 gpd or more, are there at least 2 pumps or pneumatic ejectors provided?	<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"/>
34.	8.130(3)(F) 8.140(8)(J)	Do wet and dry wells have separate ventilation systems?	<input type="checkbox"/>	<input type="checkbox"/>
35.	8.130(3)(G)	Does all potable water brought to pump stations comply with 8.140(7)(D)?	<input type="checkbox"/>	<input type="checkbox"/>
36.	8.130(6)	Is an alarm system provided with uninterrupted power?	<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"/>
38.	8.130(7)(B)	Are there independent utility substations provided for emergency power capable of starting and operating the pump station at its rated capacity?	<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"/>
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"/>

12.0 SUCTION LIFT PUMP AND SUBMERSIBLE PUMP STATION CHECKLIST

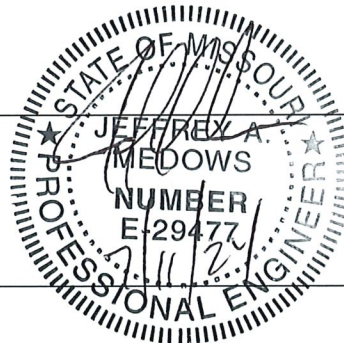
	REGULATION		YES	N/A
41.	8.130(4)	Are the suction lift pumps of the self priming or vacuum priming type?	<input type="checkbox"/>	<input type="checkbox"/>
42.	8.130(4)(A)	Is the combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions less than or equal to 22 feet?	<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"/>
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"/>

13.0 SEWER EXTENSION CHECKLIST -- CERTIFICATION STATEMENT

For any questions answered "N/A" provide an explanation. Also provide any useful general comments regarding design for review engineer.

10.0.16: No grinder pump, so it doesn't apply
 10.0.21: No grinder pump, so it doesn't apply
 10.0.23: No grinder pump, so it doesn't apply
 10.0.24: No grinder pump, so it doesn't apply

Missouri Professional Engineer's seal, signature and date:



Name: Travis Hernandez

Address: 310 E 6th Street

City: Rolla State: MO ZIP Code: 65401

Telephone Number with Area Code: (573)-364-6362 Email: thernandez@cmarcher.com