

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

City of Branson West
Branson West South Aunts Creek WWTF
P.O. Box 2229
Branson West, MO 65737

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.

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.

August 19, 2026
Effective Date

August 18, 2028
Expiration Date


Heather S. Peters, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The proposed force main, gravity sewer, and pump stations will carry raw wastewater from the Silver Dollar City (SDC) Wastewater Treatment Facility (WWTF), Missouri State Operating Permit No. MO-0037257, to the Branson West South Aunts Creek WWTF, Missouri State Operating Permit No. MO-0119997, with the existing SDC lagoon being converted to a flow equalization basin. Modifications will be made to the existing wastewater lagoon as well as lift station and existing individual grinder improvements.

Additional improvements include re-lining the existing SDC wastewater lagoon, replacement of pumps at four existing duplex lift stations, replacement of controls at five existing duplex lift stations, replacement of pumps and controls at three existing individual duplex grinder pump stations, replacement of pumps and controls at ten existing individual simplex grinder pump stations, and all other work required for a complete and functioning sewer improvement project.

Construction and installation of approximately 1,099 linear feet (lf) of 8-inch diameter polyvinyl chloride (PVC) Standard Dimension Ratio (SDR)-26 gravity sewer, 1,983 lf of 12-inch diameter PVC SDR-25 gravity sewer, 36 lf of 16-inch diameter PVC SDR-25 gravity sewer, and 23 manholes. Additionally, 815 lf 2-inch diameter PVC Schedule 80 force main, 6,670 lf 8-inch diameter PVC C900 force main, and 925 lf 4-inch diameter PVC C900 force main will be installed with associated cleanouts and air release valves. The construction will also include the addition of a duplex lift station with each pump capable of operating at 330 gallons per minute (gpm) at 187 feet of total dynamic head (TDH), another duplex lift station with each pump capable of operating at 100 gpm at 140 feet of TDH, and all necessary appurtenances to make a complete and usable wastewater collection system. The proposed construction is designed to serve an estimated population equivalent of 1,789 with an estimated design average flow of 178,855 gallons per day.

Installation of 2 duplex grinder pump units with one unit where each pump capable of operating at 80 gpm at 107.9 feet of TDH and the other unit where each pump capable of operating at 40 gpm at 94.4 feet of TDH. The project will also include general site work appropriate to the scope and purpose of the project as well as repairs to existing lift stations; repairs to grinder pumps; and the demolition, renovation, and re-lining of an existing wastewater storage lagoon.

These activities will be in the vicinity of Hwy 76 in Branson West, Stone County and discharge to an existing sewer system to be treated at the Branson West South Aunts Creek WWTF.

II. 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
 - a. Submitted by Allgeier, Martin and Associates, Inc. on June 19, 2026, and June 26, 2026;
 - b. Signed and sealed by John T. Briggs, P.E. on June 16, 2026, and June 25, 2026; and,
 - c. Approved by the department on August 19, 2026.
3. Regulation 10 CSR 20-4.040(18)(B)1 requires that projects be publicly advertised, allowing sufficient time for bids to be prepared and submitted. Projects should be advertised at least 30 days prior to bid opening.
4. 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 project or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).
5. All changes in contract price or time within the approved scope of work must be by change order in accordance with 10 CSR 20-4.040(19).
6. Manholes shall be located with the top access at or above grade level.
7. 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 electronic Sanitary Sewer Overflow/Bypass Reporting system at <https://dnr.mo.gov/mogem/> or Southwest Regional Office per 10 CSR 20-7.015(9)(G).
8. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(5), which includes by reference the provisions of 10 CSR 23-3.010. Separation distance requirements between water mains and sanitary sewers in 10 CSR 60-10.010 are also applicable.
9. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 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 <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.

10. A United States Army Corps of Engineers (USACE) Section 404 Department of Army permit (§404) along with the department's Section 401 Water Quality Certification or waiver (§401) 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 likely be required. Since the USACE makes determinations on what is jurisdictional, you must contact the USACE to determine permitting requirements. See <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information or you may contact the department's Water Protection Program at 573-522-4502 or wpsc401cert@dnr.mo.gov.
11. If this project eliminates a WWTF under the jurisdiction of the department, then a full closure plan shall be submitted with a Facility Closure Request 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.
12. All construction must adhere to applicable 10 CSR 20-8 (Chapter 8) requirements. Some of the requirements include:
 - a. Vacuum testing, if specified for concrete sewer manholes, shall conform to the test procedures in ASTM C1244 – 11(2017) *Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill*, as approved and published April 1, 2017, or the manufacturer's recommendation. 10 CSR 20-8.120(4)(F)1.
 - b. Exfiltration testing, if specified for concrete sewer manholes, shall conform to the test procedures in ASTM C969 – 17 *Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines*, as approved and published April 1, 2017. 10 CSR 20-8.120(4)(F)2.
 - c. The distance between wastewater pumping stations and all potable water sources shall be at least 50 feet in accordance with 10 CSR 23-3.010(1)(B). 10 CSR 20-8.130(3)(D).
 - d. Multiple pumps shall be provided except for design average flows of less than 1,500 gallons per day. 10 CSR 20-8.130(4)(B)1.
 - e. Electrical equipment. Electrical equipment shall be provided with the following requirements:
 - i. Electrical equipment must comply with 10 CSR 20-8.140(7)(B); 10 CSR 20-8.130(4)(B)2.A.
 - ii. Utilize corrosive resistant equipment located in the wet well; 10 CSR 20-8.130(4)(B)2.B.
 - iii. Provide a watertight seal and separate strain relief for all flexible cable; 10 CSR 20-8.130(4)(B)2.C.
 - iv. Install a fused disconnect switch located above ground for the main power feed for all pumping stations; 10 CSR 20-8.130(4)(B)2.D.

- v. When such equipment is exposed to weather, it shall comply with the requirements of weather proof equipment; enclosure NEMA 4; NEMA 4X where necessary; and *NEMA Standard 250-2014*, published December 15, 2014; 10 CSR 20-8.130(4)(B)2.E.
- vi. Install lightning and surge protection systems; 10 CSR 20-8.130(4)(B)2.F.
- vii. Install a 110 volt power receptacle inside the control panel located outdoors to facilitate maintenance; 10 CSR 20-8.130(4)(B)2.G.
- viii. Provide Ground Fault Circuit Interruption (GFCI) protection for all outdoor receptacles; 10 CSR 20-8.130(4)(B)2.H.
- f. Water level controls must be accessible without entering the wet well. 10 CSR 20-8.130(4)(C).
- g. Valves shall not be located in the wet well unless integral to a pump or its housing. 10 CSR 20-8.130(4)(D).
- h. Covered wet wells shall have provisions for air displacement to the atmosphere, such as an inverted and screened “j” tube or other means. 10 CSR 20-8.130(4)(E).
- i. There shall be no physical connection between any potable water supply and a wastewater pumping station, which under any conditions, might cause contamination of the potable water supply. If a potable water supply is brought to the station, no piping or other connections shall exist in any part of the WWTF that might cause the contamination of a potable water supply. 10 CSR 20-8.130(4)(G).
- i. Where a potable water supply is to be used for any purpose in a WWTF other than direct connections, a break tank, pressure pump, and pressure tank or a reduced pressure backflow preventer consistent with the department’s Public Drinking Water Branch shall be provided. 10 CSR 20-8.140(7)(D)3.A.
- ii. For indirect connections, a sign shall be permanently posted at every hose bib, faucet, hydrant, or sill cock located on the water system beyond the break tank or backflow preventer to indicate that the water is not safe for drinking. 10 CSR 20-8.140(7)(D)3.B.
- iii. Where a separate non-potable water supply is to be provided, a break tank will not be necessary, but all system outlets shall be posted with a permanent sign indicating the water is not safe for drinking. 10 CSR 20-8.140(7)(D)4.
- j. Submersible pump stations shall meet the applicable requirements under section (3) of this rule, except as modified in this section. 10 CSR 20-8.130(6).
- i. Pump Removal. Submersible pumps shall be readily removable and replaceable without personnel entering, dewatering, or disconnecting any piping in the wet well. 10 CSR 20-8.130(6)(A).
- ii. 10 CSR 20-8.130(6)(B) Valve Chamber and Valves. Valves required under subsection (4)(D) of this rule shall be located in a separate valve chamber.
- iii. A minimum access hatch dimensions of 24 inches by 36 inches shall be provided. 10 CSR 20-8.130(6)(B)1.
- k. A portable pump connection on the discharge line with rapid connection capabilities shall be provided. 10 CSR 20-8.130(6)(B)2.

- l. Alarm systems with an uninterrupted power source shall be provided for pumping stations. 10 CSR 20-8.130(7).
 - m. Force main system shall be designed to withstand all pressures (including water hammer and associated cyclic reversal of stresses), and maintain a velocity of at least 2 feet per second. 10 CSR 20 8.130(9)(A).
13. Upon completion of construction:
- a. The City of Branson West will become the responsible 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 (<https://dnr.mo.gov/document-search/wastewater-construction-statement-work-completed-mo-780-2155>) to the department in accordance with 10 CSR 20-6.010(5)(N).

III. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to an appeal before the Administrative Hearing Commission (AHC) pursuant to Section 621.250 RSMo. To appeal, you must file a petition with the AHC 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 AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: <https://ahc.mo.gov>

Angie Garcia, P.E.
Financial Assistance Center
angie.garcia@dnr.mo.gov

APPENDIX

APPENDIX 1 – SUMMARY OF DESIGN

APPENDIX 1 – SUMMARY OF DESIGN

DESIGN SUMMARY for HIGHWAY 76 SANITARY SEWER IMPROVEMENTS CITY OF BRANSON WEST, MO MARCH 2026

Estimated Flow Contribution for Project:

	Average 2043 Design Flow (gpd)	Peak 2043 Design Flow (gpd)
Existing Study Area (Table 4 page 15 of Eng. Report)	119,000	476,600
Planned Development (Table 4 page 15 of Eng. Report)	18,540	74,160
Silver Dollar City (Table 4 page 8 of SDC Eng. Report from Eng. Report Amendment 2)	121,315	505,884
Total Projected 2043 Flow	258,855	1,056,664
Current 2026 Flow (Table 1 page 4 of Eng. Report)	80,000	320,000
Estimated Flow Contribution	178,855	736,664

Population Equivalent:

Estimated Flow Contribution/ 100 gpcd = 178,855 gpd/ 100 gpcd = 1,789 people

Lift Station Summary:

New Indian Point Lift Station:

Design Condition: 330 gpm at 187' TDH (See attached system curve).

New Wastewater Lagoon Lift Station:

Design Condition: 100 gpm at 140' TDH (See attached system curve).

Emergency Storage for both proposed lift stations is being provided by the existing wastewater lagoon.

Indian Point and Wastewater Lagoon Emergency Storage:

PeakFlow from above = 505,884 gpd* 2 hr* 1 day/ 24 hrs = 42,157 gallons

Existing Lagoon has a capacity of roughly 195,500 gallons per foot of depth.

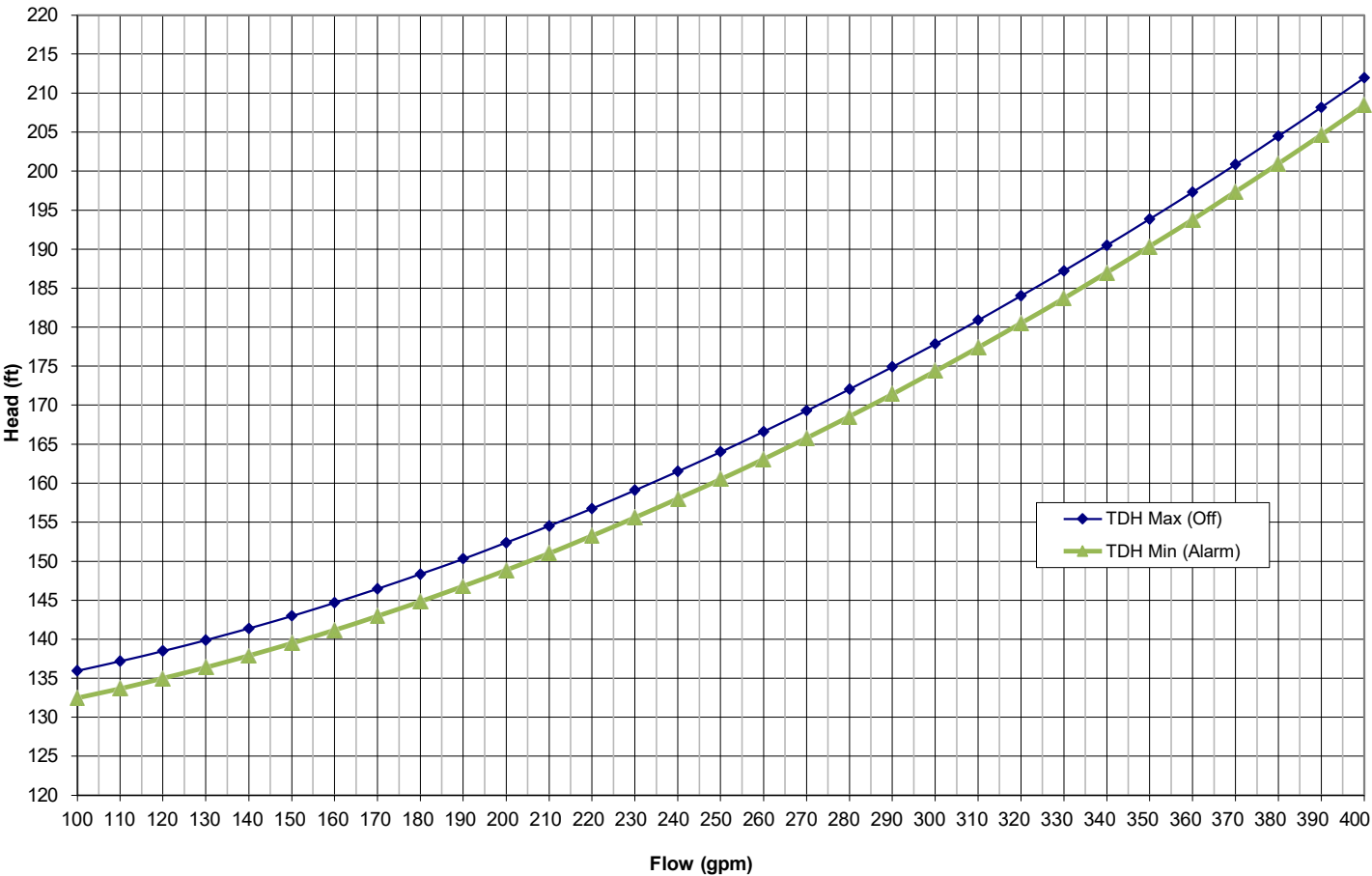
Existing Heaven's Ridge Lift Station: Existing grinder pumps are sized for 80 gpm at 108' TDH. We are matching existing pumping conditions.

Existing Best Western Lift Station: Existing non-clog submersible pumps are sized for 120 gpm at 114' TDH. We are matching existing pumping conditions.

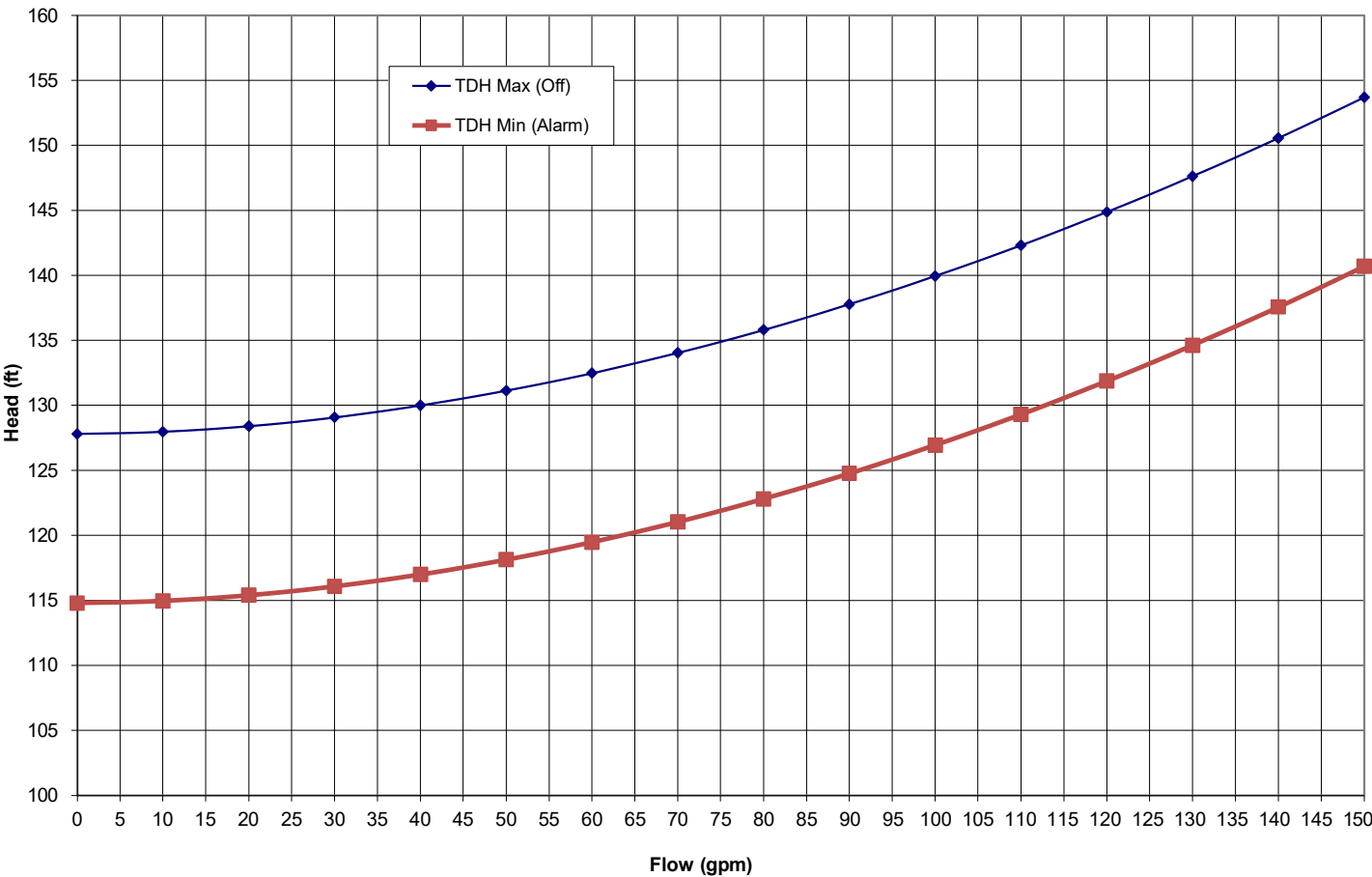
Existing Sam's Trailer Lift Station: Existing grinder pumps are sized for 40 gpm at 94 TDH. We are matching existing pumping conditions.

Existing Carol Jones Lift Station: Existing non-clog submersible pumps are sized for 400 gpm at 129' TDH. We are matching existing pumping conditions.

INDIAN POINT ROAD LIFT STATION
ESTIMATED SYSTEM CURVE



WASTEWATER LAGOON LIFT STATION
ESTIMATED SYSTEM CURVE





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: CWSRF Project #: C295958-01

1.2 Has the Department of Natural Resources approved the proposed project's engineering report*?
☒ YES Date of Approval: March 2025 ☐ 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

Highway 76 Sanitary Sewer Improvements - Section 1 and Section 2 Contracts

ADDRESS	CITY	STATE	ZIP CODE	COUNTY
Hwy. 76	Branson West	MO	65737	Stone

2.2 Legal Description: $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, Sec. 29 & 20, T 23N, R 22W

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 Section 1 project includes the construction of 1,021 L.F. of 4" diameter and 7,241 L.F. of 8" diameter pressure sewer, 1,192 LF of 8" diameter, 1,983 LF of 12" diameter, and 36 LF of 16" diameter gravity sewer, 23 manholes, and miscellaneous appurtenances.

The Section 2 project includes the construction of two (2) duplex, non-clog submersible pump type lift stations, modifications and relining of an existing wastewater emergency storage lagoon, replacement of pumps and controls at five (5) existing duplex lift stations, installation of one (1) individual duplex grinder pump station and force main, replacement of pumps and controls at three (3) existing individual duplex grinder pump stations and ten (10) existing individual simplex grinder pump stations.

2.5 DESIGN INFORMATION

A. Population or number of lots to be served by this extension: 1,789

B. Estimated flow to be contributed by this extension: Design Average Flow: 178,855gpd Design Peak Hourly Flow: 736,664 gph

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

D. Receiving Sewer: Size: 12 inches Capacity: 750 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: \$ 4,486,820 Estimated costs associated with lift station(s): \$ 1,298,000

3.0 PROJECT OWNER

NAME	TELEPHONE NUMBER WITH AREA CODE	EMAIL ADDRESS
City of Branson West	417-272-3313	cityadmin@bransonwestmo.gov
ADDRESS	CITY	STATE
PO Box 2229	Branson West	MO
ZIP CODE		
65737		

CHARTER NUMBER (SECRETARY OF STATE) or REGISTERED AGENT

Steve Dalton, City Administrator

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 City of Branson West		TELEPHONE NUMBER WITH AREA CODE 417-272-3313	EMAIL ADDRESS cityadmin@bransonwestmo.gov
ADDRESS PO Box 2229	CITY Branson West	STATE MO	ZIP CODE 65737

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 Kevin Sprenkle/Sprenkle Engineering Services LLC		TELEPHONE NUMBER WITH AREA CODE 417-236-8025	EMAIL ADDRESS ksprenkle@sprenkle.com
ADDRESS 5704 Lawrence 2220	CITY Pierce City	STATE MO	ZIP CODE 65723

6.0 RECEIVING WASTEWATER TREATMENT FACILITY

NAME Branson West South Ance Creek Road WWTP		TELEPHONE NUMBER WITH AREA CODE 417-272-3313	EMAIL ADDRESS cityadmin@bransonwestmo.gov
MISSOURI STATE OPERATING PERMIT # MO-0119997		COUNTY Stone	REMAINING CAPACITY (GPD) 650,000

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?	☐ Yes	☒ No
If yes, would you like information about military-related services in Missouri?	☐ Yes	☒ No

7.0 Application Fee

☐ Check Number	☒ 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



PRINTED NAME Steve Dalton		DATE 03-30-2026
TITLE OR CORPORATE POSITION City Administrator	TELEPHONE NUMBER WITH AREA CODE 417-272-3313	EMAIL ADDRESS cityadmin@bransonwestmo.gov

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

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?	☒	☐
2.	8.110(3)(B)	Are average design flows, peak hourly flows and I&I contributions for new systems calculated?	☒	☐
3.	8.110(9)(B)	Is there a detailed plan showing tributary area, boundaries, pertinent elevations, topography, existing and proposed facilities?	☒	☐
4.	8.120(2)	Does the sewer exclude water from roofs, streets, groundwater from foundation drains and combined wastewater?	☒	☐
5.	8.120(3)(A)	Is the pipe installation, embedment and backfill designed to prevent damage to the pipe and its joints?	☒	☐
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?	☒	☐
7.	8.120(3)(A)2	Is the pipe covered with at least 36" of soil or sufficiently insulated to prevent freezing?	☒	☐
8.	8.120(3)(B)	Is deflection testing specified to ensure no pipe exceeds a deflection of 5% of the inside diameter?	☒	☐
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?	☒	☐
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"?	☒	☐
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"?	☐	☒
12.	8.120(4)(E)	Are the manholes watertight, constructed and installed in accordance with the manufacturer's recommendations and procedures?	☒	☐
13.	8.120(4)(F)	Do the specifications include a requirement for inspection and testing for manholes?	☒	☐
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?	☒	☐
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?	☒	☐
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?	☒	☐
17.	8.125(5)(A)2.	Is the diameter of the pressure sewer main pipe at least 1.5"?	☒	☐
18.	8.125(5)(B)	Are appurtenances compatible with the piping system?	☒	☐
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?	☒	☐
20.	8.125(5)(C)	Do service line pipes have a minimum diameter of 1.25"?	☒	☐
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.	☒	☐
22.	8.125(5)(D)1.B	Are multiple unit pump stations owned, operated and maintained by an approved continuing authority?	☒	☐
23.	8.125(5)(D)3.	Is there at least 70 gallons of storage in the grinder pump unit?	☒	☐
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?	☒	☐
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)?	☒	☐
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?	☒	☐
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?	☐	☒
28.	8.125(6)(F)	Are duplex pumps provided for the design flow of 1,500 gallons or greater?	☒	☐

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"?	☐	☒
30.	8.130(2)(A) 8.140(2)(B)	Is the pump station designed to withstand the 100-year flood?	☒	☐
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?	☐	☒
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?	☒	☐
33.	8.130(3)(D)	Are valves located outside wet well unless integral to a pump or its housing?	☒	☐
34.	8.130(3)(F) 8.140(8)(J)	Do wet and dry wells have separate ventilation systems?	☒	☐
35.	8.130(3)(G)	Does all potable water brought to pump stations comply with 8.140(7)(D)?	☐	☒
36.	8.130(6)	Is an alarm system provided with uninterrupted power?	☒	☐
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?	☒	☐
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?	☐	☒
39.	8.130(8)(A)	Is the force main velocity of ≥ 2 ft/s maintained?	☒	☐
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?	☒	☐

12.0 SUCTION LIFT PUMP AND SUBMERSIBLE PUMP STATION CHECKLIST

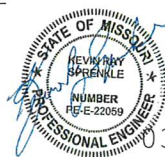
	REGULATION		YES	N/A
41.	8.130(4)	Are the suction lift pumps of the self priming or vacuum priming type?	☐	☒
42.	8.130(4)(A)	Is the combined total of dynamic suction lift at the "pump off" elevation and required net positive suction head at design operating conditions less than or equal to 22 feet?	☒	☐
43.	8.130(4)(B)	Are there dual vacuum pumps capable of removing air from the suction lift pump?	☐	☒
44.	8.130(5)(A)	Are submersible pumps readily removable and replaceable without personnel entering, or disconnecting any pipe in the wet well?	☒	☐

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.

11. No new lateral lines included in project, so no new cleanouts.
 27. No STEP system included in the project.
 29. No STEG system included in the project.
 31. Project does not include a dry well.
 35. No potable water is being brought to lift station site.
 38. No. Lift station sites include emergency standby generators.
 41. Suction lift pumps are not included in the project.
 43. Suction lift pumps are not included in the project.

Missouri Professional Engineer's seal, signature and date:



03/27/2026

Name: Kevin Sprenkle

Address: 5704 Lawrence 2220

City: Pierce City

State: MO

ZIP Code: 65723

Telephone Number with Area Code: 417-236-8025

Email: ksprenkle@sprenkle.com