



Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

December 1, 2014

Mr. Jeff Fisher, Director of Public Works
City of Belton
506 Main Street
Belton, MO 64012

RE: C295712-01 City of Belton, MO – Belton Wastewater Treatment Facility Improvements Project, Belton Wastewater Treatment Facility (WWTF), MO-0117412, Construction Permit No. CP0001680

Dear Mr. Fisher:

The Department of Natural Resources' Water Protection Program has reviewed and approved the plans and specifications submitted by Carollo Engineers, Inc. for the city of Belton. Please find enclosed Construction Permit No. CP0001680 and one set of approved specifications. One set of approved plans has been sent under separate cover by Mrs. Emily Carpenter of my staff. You must maintain these with your official project file for a minimum of four years following completion of the project.

This permit will terminate 24 months from the date of issuance. In accordance with 10 CSR 20-6.010(4)(G), the Department may grant an extension only one time. If you believe that an extension is necessary, you must submit a request and a justification in writing for the extension at least 30 days prior to the permit expiration date.

Nothing in this permit removes any obligations to comply with county or other local ordinances or restrictions.

If you were adversely affected by this decision, you may appeal to have the matter heard by the Administrative Hearing Commission. To appeal, you must file a petition with the Administrative Hearing Commission 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 Administrative Hearing Commission.

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If you have any questions concerning this matter, please contact Mrs. Emily Carpenter, of the Water Protection Program, at (573) 751-6569 or Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102-0176.

Thank you for your efforts to help ensure clean water in Missouri.

Sincerely,

WATER PROTECTION PROGRAM



Byron F. Shaw, Jr., P.E.
SRF Engineering Unit Chief

BFS:ecc

Enclosures

c: Ms. Maya Turner, P.E., Carollo Engineers, Inc.
Kansas City Regional Office
Ms. Joan Doerhoff, Water Protection Program, Compliance and Enforcement
Mr. Doug Garrett, Water Protection Program, Financial Assistance Center
Mrs. Emily Carpenter, Water Protection Program, Financial Assistance Center

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 Belton
506 Main Street
Belton, MO 64012

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.

December 1, 2014
Effective Date

November 30, 2016
Expiration Date


Sara Parker Pauley, Director, Department of Natural Resources


Director, Water Protection Program

CONSTRUCTION PERMIT

COLLECTION SYSTEM:

The proposed wastewater collection system consists of constructing a second influent pump station and a parallel force main. The construction of a second influent pump station will allow for a higher peak flow to reach the Belton WWTF and more operational flexibility.

Construction and installation of approximately 600 linear feet (lf) of 36-inch centrifugally cast fiberglass mortar pipe (CCFMP) gravity sewer with two manholes, 50 lf of 24-inch ductile iron pipe (DIP), 2,300 lf of 20-inch DIP, and 325 lf of four-inch DIP force mains, one influent pump station with six pumps each pump capable of 1,042 gallons per minute (gpm) at 92 feet of total dynamic head (TDH) with a standby generator, ten-foot square influent pump station control structure with sluice gates, and all necessary appurtenances to make a complete and usable wastewater collection system. The project will also include general site work appropriate to the scope and purpose of the project.

WASTEWATER TREATMENT FACILITY:

The Belton WWTF, Missouri State Operating Permit No. MO-0117412, is located at 21200 South Mullen Road, Belton, MO in Cass County. The proposed construction consists of a new headworks facility to meet a design average flow of 5.33 million gallons per day (MGD) and a peak flow of 23.67 MGD. The existing headworks building will be demolish as part of this project.

The proposed headworks facility consists of the following components:

- One mechanical fine screen with bar spacing of one quarter inch maximum capable of a design average flow of 3.7 MGD and a peak hourly flow of 20 MGD.
- One manual bar screen with bar spacing of one-inch maximum.
- One vortex grit basin 16 feet in diameter with a grit trap chamber and hopper capable of a design average flow of 20 MGD.
- Two grit slurry pumps each capable of 220 gpm at 39 feet of TDH.
- One grit classifier system and a grit cyclone for grit separation, washing, and classification capable of 220 gpm.
- One parshall flume and ultrasonic flow meter.
- One 20 feet by 10 feet concrete influent splitter structure with sluice gates to control the influent flow to the existing aeration basins.

This project also includes the installation of a new supervisory control and data acquisition (SCADA) system to remotely monitor the influent pump stations and treatment plant components.

In addition, the project includes the construction and installation of all necessary appurtenances to make a complete and usable wastewater treatment facility. The project will also include general site work appropriate to the scope and purpose of the project.

FINDING OF AFFORDABILITY:

The Finding of Affordability is not applicable in accordance with RSMO §644.145. The Department is not adding any new environmental requirements by issuance of this construction permit.

PERMIT CONDITIONS:

1. All construction shall be in accordance with the plans and specifications submitted by Carollo Engineers, Inc. on October 24, 2014 and approved by the Department on December 1, 2014.
2. Regulation 10 CSR 20-4.040(19)(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.
3. The Department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(8).
4. As per 10 CSR 20-4.040, all changes in contract price or time within the approved scope of work must be by change order in accordance with Section 20 of this rule.
5. This construction permit does not authorize discharge.
6. 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 Kansas City Regional Office per 10 CSR 20-7.015(9)(E)2.
7. 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 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 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 should be located at least ten feet horizontally from any existing or proposed water main.
 - D. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. When it is impossible to obtain proper vertical separation as stipulated above, one of the following methods must be specified:
 - 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 on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the Department for use in water main construction.
8. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of one acre or more to obtain a Missouri State Operating Permit to discharge stormwater. The permit requires Best Management Practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits may only be obtained by means of the Department's ePermitting system available online at www.dnr.mo.gov/env/wpp/epermit/help.htm.

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

9. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of Jurisdictional Waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Water Protection Program at 573-751-1300 for more information.

See www.dnr.mo.gov/env/wpp/401/ for more information.

10. Upon completion of construction:
 - A. The city of Belton will become the continuing authority for operation, maintenance, and modernization of these facilities;
 - B. Submit the enclosed form Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D); and
 - C. Submit an electronic copy of the as-builts.



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
APPLICATION FOR CONSTRUCTION PERMIT
WASTEWATER TREATMENT FACILITY

RECEIVED

SEP 3 2014

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

9-3-14 JS-

WATER PROTECTION PROGRAM

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

PART A – BASIC INFORMATION

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: MoDNR Project #: C295712-01
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
 - YES Date of Approval: _____
 - Attached is the No Degradation Evaluation Conclusion of Antidegradation Review form
- 1.3 Has the department approved the proposed project's facility plan*?
 - YES Date of Approval: 6/9/14 NO N/A (If Not Applicable, complete No. 1.4.)
- 1.4 [Complete only if answered Not Applicable on No. 1.3.] Is a copy of the engineering report* for wastewater treatment facilities with a design flow less than 22,500 gpd included with this application?
 - YES NO
- 1.5 Is a copy of the appropriate plans* and specifications* included with this application? Previously submitted
 - YES Denote which form is submitted: Hard copy Electronic copy (See instructions.) NO
- 1.6 Is a summary of design* included with this application? YES NO Previously submitted
- 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?
 - YES Date of submittal: _____
 - Enclosed is the appropriate operating permit application submittal. Denote which form: A B B2
 - N/A Please explain: Current permit still active; no change in design/operating parameters
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? YES NO
- 1.9 Is the appropriate fee included with this application? YES NO (See instructions for appropriate fee.)
Previously submitted

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

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT
 Belton Wastewater Treatment Facility Improvements Project

2.2 PROJECT DESCRIPTION
 Project consists of construction of a new influent pumping station with subgrade wet well, and associated electrical building with the pump valves in the basement (pump station will operate in parallel with existing pump station); new 20-inch force main in parallel with existing; new Headworks facility with screenings and grit removal systems for preliminary treatment.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
 No modifications are being made to the sludge handling facilities. The City will continue hauling dewatered solids to the landfill.

2.4 DESIGN INFORMATION
 A. Current population: 11,000; Design population: 22,600
 B. Actual Flow: 1,500,000 gpd; Design Average Flow: 2,260,000 gpd;
 Actual Peak Daily Flow: 14,000,000 gpd; Design Maximum Daily Flow: 16,000,000 gpd

2.5 ADDITIONAL INFORMATION
 A. Is a topographic map attached? YES NO
 B. Is a process flow diagram attached? YES NO

3.0 WASTEWATER TREATMENT FACILITY				
NAME Belton Wastewater Treatment Facility		TELEPHONE NUMBER WITH AREA CODE 816-331-7789		E-MAIL ADDRESS rolinger@belton.org
ADDRESS (PHYSICAL) 21200 S. Mullen Rd		CITY Belton	STATE MO	ZIP CODE 64012
COUNTY Cass				
Wastewater Treatment Facility: Mo- 0117412 (Outfall 001 Of 1)				
3.1 Legal Description: <u>NW</u> $\frac{1}{4}$, <u> </u> $\frac{1}{4}$, <u> </u> $\frac{1}{4}$, Sec. <u>7</u> , T <u>45N</u> , R <u>32W</u> (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): <u>3680837</u> Northing (Y): <u>4288860</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: <u>East Creek</u>				
4.0 PROJECT OWNER				
NAME City of Belton		TELEPHONE NUMBER WITH AREA CODE (816) 331-4331		E-MAIL ADDRESS jfisher@belton.org
ADDRESS 506 Main Street		CITY Belton	STATE MO	ZIP CODE 64012
5.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.				
NAME Jeff Fisher, Director of Public Works		TELEPHONE NUMBER WITH AREA CODE (816) 331-4331		E-MAIL ADDRESS jfisher@belton.org
ADDRESS 520 Main Street		CITY Belton	STATE MO	ZIP CODE 64012
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A				
5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.				
A. Is a copy of the certificate of convenience and necessity included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A				
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION.				
A. Is a copy of the as-filed restrictions and covenants included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A				
B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input type="checkbox"/> NO				
ENGINEER NAME / COMPANY NAME Maya J. Turner, P.E./Carollo Engineers, Inc.		TELEPHONE NUMBER WITH AREA CODE (816) 326-6716		E-MAIL ADDRESS mturner@carollo.com
ADDRESS 903 E. 104th Street, Ste 320		CITY Kansas City	STATE MO	ZIP CODE 64131
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 Missouri Clean Water Law. I also understand the issuance of the construction permit does not guarantee the proposed wastewater treatment will meet the required effluent limitations of the issued Missouri State Operating Permit for this facility.				
PROJECT OWNER SIGNATURE 				
PRINTED NAME Jeff Fisher			DATE 8-29-14	
TITLE OR CORPORATE POSITION Director of Public Works		TELEPHONE NUMBER WITH AREA CODE (816) 331-4331		E-MAIL ADDRESS jfisher@belton.org
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176				
END OF PART A.				
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.				

PART B – LAND APPLICATION ONLY
(Submit only if the proposed construction project includes land application of wastewater.)

8.0 FACILITY INFORMATION

8.1 Type of wastewater to be irrigated: Domestic State/National Park Seasonal business
 Municipal Municipal with a pretreatment program or significant industrial users
 Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:
 12 months per year Part of the year (list months): _____

8.3 This system is designed for:
 No-discharge.
 Partial irrigation when feasible and discharge rest of time.
 Irrigation during recreational season, April – October, and discharge during November – March.
 Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: _____ (Use additional pages if greater than three basins.)

9.2 Type of basins: Steel Concrete Fiberglass Earthen Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.
 Basin #1: Length _____ Width _____ Depth _____ Freeboard _____ Berm Width _____ % Slope _____
 Basin #2: Length _____ Width _____ Depth _____ Freeboard _____ Berm Width _____ % Slope _____
 Basin #3: Length _____ Width _____ Depth _____ Freeboard _____ Berm Width _____ % Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).
 Basin #1: Maximum operating water level _____ ft Minimum operating water level _____ ft
 Basin #2: Maximum operating water level _____ ft Minimum operating water level _____ ft
 Basin #3: Maximum operating water level _____ ft Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.
 Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.
 Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

9.7 Total design sludge storage: _____ dry tons and _____ cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites _____ Total Acres _____ Maximum % field slopes _____
 Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
 Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
 Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
 (Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation: Grass hay Pasture Timber Row crops
 Other (describe) _____

10.3 Wastewater flow (dry weather) gallons per day: Average annual _____ Seasonal _____ Off-season _____

10.4 Land application rate (design flow including 1-in-10 year storm water flows):
 Design: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week
 Actual: _____ inches/year _____ inches/hour _____ inches/day _____ inches/week

10.5 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal

10.6 Actual months used for irrigation (check all that apply):
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

10.7 Land application rate is based on:
 Hydraulic Loading Other (describe) _____
 Nutrient Management Plan (N&P) If N&P is selected, is the plan included? YES NO