STATE OF MISSOURI
Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director
DEPARTMENT OF NATURAL RESOURCES
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CERTIFIED MAIL: 7009 2250 0000 0886 6001
RETURN RECEIPT REQUESTED

April 24, 2015

The Honorable Raeanne Presley, Mayor
City of Branson West
P.O. Box 2229
Branson West, MO 65737

RE: City of Branson West – Standard Specification for Public Improvements Revised January 2015, Standard Sewer Specifications and Details Comments

Dear Mayor Presley:

The Department of Natural Resources' Water Protection Program has finalized the review of the city of Branson West's Standard Specification for Public Improvements Revised January 2015 received on March 13, 2015. We expect a response to the following requirements and recommendations below within 30 days receipt of this letter:

REQUIREMENTS:

The following items are required to be in compliance with 10 CSR 20-8. The city of Branson West's Standard Specification for Public Improvements Revised January 2015 must be updated to incorporate the following requirements.

1. Provide steep slope protection in accordance with 10 CSR 20-8.120(5)(D)6.

2. Incorporate curvilinear alignment of sewers consistent with 10 CSR 20-8.120(5)(E)2.

3. "All water entering the excavations or other parts of the work shall be removed until all the work has been completed. No sanitary sewer that ultimately arrives at existing pumping stations or wastewater treatment facilities shall be used for the disposal of trench water", per 10 CSR 8.120(5)(H)2.D. Incorporate this dewatering requirement.

4. "Bedding Classes A, B, C, or crushed stone, as described in ASTM C12, shall be used and carefully compacted for all rigid pipe provided the proper strength pipe is used with the specified bedding to support the anticipated load based on the type of soil encountered and potential groundwater conditions", per 10 CSR 8.120(5)(H)3.A. Include this ASTM standard for rigid piping in the granular stone part 102.1.5 on page 100-11 of the specifications.

5. Address the bedding, haunching, and initial backfill of plastic pipe and composite pipe according to 10 CSR 20-8.120(5)(H)3.C and 10 CSR 20-8.120(5)(H)3.D respectively.

6. Update the deflection test requirements to specify that the mandrel must have nine or more odd number of flutes or points in accordance with 10 CSR 20-8.120(5)(H)5.C.

7. "Service connections to the sewer main shall be watertight and not protrude into the sewer... All materials used to make service connections shall be compatible with each other and with the pipe materials to be joined and shall be corrosion proof", per 10 CSR 8.120(5)(I)2. Incorporate these conditions into the specifications.

8. "When using precast manholes, drop connections must not enter the manhole at a joint," per 10 CSR 20-8.120(6)(B)3. Include this requirement for all drop type manholes.

9. Incorporate the bench requirements of manholes according to 10 CSR 20-8.120(6)(E).

10. Provide corrosion protection for manholes consistent with 10 CSR 20-8.120(6)(H).

11. Per 10 CSR 20-8.120(8)(A)3, manholes shall be located so they do not interfere with the free discharge of flood flows of a stream. Specify this requirement with stream crossings.

12. Please provide two finalized copies of the city of Branson West's Standard Specification for Public Improvements signed, sealed, and dated for review and department approval.

13. Please provide a copy of the city's passed and signed ordinance adopting the finalized Standard Specification for Public Improvements.

RECOMMENDATIONS:

The department is providing the following recommendations to improve the provided standard specifications and details. These recommendations are not required actions, but will allow for a more well-rounded standard specifications and details.

1. Recommend the addition of high velocity protection of pipes in accordance with 10 CSR 20-8.120(5)(D)5.

2. For existing sewers and new service connections a saddle type connection should be used in accordance with 10 CSR 20-8.120(5)(I)2.

3. Details can clearly demonstrate what the expectation is in certain instances often better than words. The following details are a suggested addition:

a. Standard manhole inside drop;
b. Shallow manhole;
c. Doghouse manhole;
d. Concrete anchor;
e. Thrust blocks; and
f. Typical bore detail.

4. The department would like to provide a link on our webpage (dnr.mo.gov/env/wpp/permits/sewer-specs.htm) to the finalized copy of the city of Branson West's Standard Specification for Public Improvements. Does this city plan on posting their specifications online and if so, please provide the web address?

Construction, installation, expansion or modification of any collection system or wastewater treatment facility is prohibited until a construction permit is issued by the department, per 10 CSR 20-6.010(4)(A).

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

Sincerely,

WATER PROTECTION PROGRAM

Byron F. Shaw, Jr.

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

BFS:ecc

c: Mr. Kurt Higgins, P.E., Allgeier, Martin & Associates, Inc.
Southwest Regional Office
Mr. Refaat Mefrakis, P.E., Water Protection Program, Engineering Section
Mrs. Emily Carpenter, Water Protection Program, Financial Assistance Center