



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

DEPARTMENT OF NATURAL RESOURCES

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OCT 10 2013

Mr. Tom Wall, Public Works Director
City of Excelsior Springs
103 East Water Street
Excelsior Springs, MO 64024

RE: Re-activation of historic mineral wells in the City of Excelsior Springs, Missouri

Dear Mr. Wall:

We apologize for our delay in following up with a written response from our visit to Excelsior Springs to observe the Hall of Waters facility and the four wells that the City desire's to utilize for serving drinking water of varying mineral qualities to the public as part of the revitalization of the Hall of Waters with historical tourism.

This scenario of re-activation of mineral wells in the City of Excelsior Springs was addressed by the Department back in the 1990's. While the wells to be used may have changed, the observations and concerns from the 1990's about these wells producing safe drinking water still exist today. It was observed that some of the wells are located in pits; areas flooded during 1993; and have substandard well head construction and deteriorated conditions. The construction details and current conditions of the wells are unknown. A greater amount of maintenance is going to be required to maintain these older wells, even with rehabilitation. Accessibility to some of the wells, specifically Superior Springs Well and Pagoda, was restricted to a small rectangular entrance. During review of the surrounding area the Department noted the existence of approximately 46 abandoned unplugged wells within the Excelsior Springs Downtown area. These abandoned, unplugged wells could serve as conduits for the introduction and spread of contamination in the groundwater, and should be properly addressed.

Since the 1990's the Department has developed a Non-compliant well policy for water wells used by a public drinking water system that were not constructed to the proper construction standards. Non-compliant wells are defined as a non-community well that was constructed after July 27, 1987, not to community well standards, and has been in continuous operation providing water for human consumption. The well can continue to be used as long as the owner enters into a non compliant well agreement with the Department. This agreement requires additional sampling of the well to prove the well is capable of providing safe water. Otherwise, the owner must plug the well and install a well that complies with the applicable construction standards, or connect to an alternate, approved source of drinking water.

The wells visited during our trip to Excelsior Springs have not been in continuous use and were constructed prior to July 27, 1987; therefore, these wells would not qualify for the non-compliant well agreement.

A technical assistance visit form is attached to this letter which provides more specific details from the site visit on July 10, 2013.

Based on the limited information available on the construction details of each well, current condition of the wells and brief observations from the site visit, the Department can only provide general options and path forward for the City with respect to use of these four wells as water sources to serve the public.

The City identified the idea of bottling the water from these four wells to sell at the Hall of Waters water bar. Bottle water is regulated by the FDA and Missouri Department of Health and Senior Services; therefore, the City would need to contact these agencies to determine the necessary requirements to produce bottle water.

To use the existing wells as a water source for public consumption, the following requirements must be met:

1. Comprehensive engineering evaluation of each well to document construction details, water quality, flow, current condition of each well, necessary improvements to meet current well construction standards and detailed specifications of the proposed distribution system from the wells to Hall of Waters;
2. Engineering Report and Construction Permit Application for any necessary improvements to the wells and proposed distribution system; and
3. Any of the wells that are not to be utilized through reconstruction to state construction standards shall be plugged in accordance with Department of Natural Resources Regulation 10 CSR 23-3.110, Plugging of Wells. The Department has grant monies available for Public Drinking Water Systems for the plugging of abandoned wells. A fact sheet has been attached to this letter.

Another option for the City would be to hire an engineer to design and install four new wells to current construction standards and properly abandoned the existing wells four wells.

Thank you for your interest in the Public Drinking Water regulations and producing safe drinking water for the public.

If you have any questions, please contact Mr. Mitch Roberts, Environmental Manager or Mr. Scott F. Honig, P.E. at (816) 251-0700 in the Kansas City Regional Office, 500 Northeast Colbern Road, Lee's Summit, Missouri 64086-4710. Thank you.

Sincerely,

KANSAS CITY REGIONAL OFFICE



Andrea D. Collier, P.E.
Regional Director

ADC/shv

Enclosure

C: Mr. Maher Jaafari, Engineering Section, Public Drinking Water Branch



MISSOURI DEPARTMENT OF NATURAL RESOURCES
TECHNICAL ASSISTANCE VISIT

CHECK PROGRAM		
<input type="checkbox"/> APCP	<input type="checkbox"/> HWP	<input type="checkbox"/> SWMP
<input checked="" type="checkbox"/> PDWP	<input type="checkbox"/> WPCP	

FACILITY INFORMATION

FACILITY NAME City of Excelsior Springs – mineral wells			
FACILITY ADDRESS Throughout the downtown area			
CITY Excelsior Springs	STATE MO	ZIP CODE 64024	COUNTY Clay
PERMIT NUMBER Unpermitted		EXPIRATION	
FACILITY CONTACT Chad Birdsong		TITLE Public Works Director	TELEPHONE NUMBER WITH AREA CODE 816-630-0755 ext 223
OWNER NAME City of Excelsior Springs		OWNER ADDRESS 103 East Water Street	
CITY Excelsior Springs	STATE MO	ZIP CODE 64024	TELEPHONE NUMBER WITH AREA CODE

DEPARTMENT REQUEST FACILITY REQUEST

WHY WAS THE REQUEST MADE?
 Discuss the options for using the old mineral wells in the area for drinking water and spa at the Hall of Waters (historical) landmark.

PEOPLE PRESENT AT TIME OF VISIT:
 Larry Murry, Community Development; Chad Birdsong, Public Works Director; Scott F. Honig, P.E. Engineering Unit Chief Kansas City Regional Office

DATE OF VISIT:
 July 10, 2013

LOCATIONAL INFORMATION

UTM EASTING See Below	UTM NORTHING See Below
HORIZONTAL COLLECTION METHOD	ESTIMATED POSITION ERROR OR PDOP
REFERENCE POINT	COORDINATED DATA SOURCE

COMMENTS/RECOMMENDATIONS

June 2013 Kansas City Regional Office (KCRO) was contact by Tom Wall, Utilities Director for the City of Excelsior Springs. They would like to start using again a total of four old mineral wells located on City property in the vicinity of the downtown area. The City is exploring two options – one is to open up the wells to use them as a bathing spa for the public and the other is to open up the water bar (water from the wells to be available on tap and perhaps bottled).

July 10, 2013, 1:00 PM I met with Mr. Larry Murry, Building Official and Mr. Chad Birdsong, Public Works Director for the city of Excelsior Springs to complete a preliminary site visit to evaluate the wells – location, condition, setbacks, etc. We started the tour at City Hall/Hall of Waters in the downtown area. Mr. Birdsong re-stated that the City is looking to use four of the old mineral wells to provide various mineral waters at the Hall of Waters to serve at the water bar (bottle/tap) or use in the polio pool as part of historical tourism. Mr. Birdsong also provided MDNR State Historic Preservation Office Architectural/Historic Inventory forms for the four wells to be inspected today (attached). The City would like to know is it possible for them to start using these wells again to serve water to the public.

In the 1990's Mr. Bates approached the Department with the idea of bottling the water from the mineral wells to sell. Mr. Birdsong stated that Mr. Bates abandoned the idea of using the old mineral wells as his water source but took raw water from the City's wells. Mr. Bates' operation did not last very long and you can observe his bottling equipment in the basement of the City Hall/Hall of Waters. During the file review to prepare for the site visit, a 1997 letter from the Department to Mr. Bob Bates identified the following improvements to the wells proposed to be used

1. Above ground construction re-done with the well casings to be extended to four feet (4') above the highest known flood elevation,
2. Disinfection required until it can be established that any particular well is capable of producing bacteriologically safe water, and
3. Approximately 46 known wells in the immediate area of the Hall of Waters. Any of the wells that are not to be utilized by

being reconstructed to state standards will have to be plugged in accordance with Department of Natural Resources Regulation 10 CSR 23-3.110.

These requirements were re-stated in a November 25, 1997 letter from the Department to The Honorable Rodger Fitzwater.

Mr. Birdsong identified that water was being pumped to the Hall of Waters up to five (5) years ago and the system can be observed in the basement of the Hall of Waters. (Photograph #3) The options currently being discussed by the City include pumping the water to a bottling facility and selling the bottled water at the water bar. To allow visitors to touch and/or wade into a pool, the water would also be used to fill the polio pool. (Photograph #2). The other option would be to sell it from the tap at the water bar. Mr. Murry had tasted the various mineral waters and does not believe they are going to have a large demand for the water.

From discussions with Mr. Birdsong and Mr. Murry, the system would be a transient non-community water system.

We then went to the basement of City Hall/Hall of Waters to look at the first well – Siloam Springs. The well includes a pump which is still active. The basement was under water in the 1993 flood. Less than 100 feet outside City Hall to the east are two unplugged abandoned wells (photographs #5). The well pad is raised concrete, with a rectangular sheet metal covering and a round cylinder pump. Rust staining was observed on the concrete pad and metal plate. The metal plate was bolted down over the well head which prevent observing the condition of the well head. UTM for well #1 was taken immediately outside City Hall loading dock Easting 394680 and Northing 4355421. The East Fork of Fishing River is 300 to 400 ft from well #1 beyond the flood levee.

Well #2 is located to the east of well #1 off of Broadway Avenue beneath a gazebo. See attached Architectural/Historic Inventory Form for more information. Well #2 is known as Lithia No. 1 Spring. Well head is in a concrete pit (Photograph #6). Concrete casing is reported as 20 to 30 ft deep. Currently there is no pump in the well. UTM for well #2 was Easting 394766 and Northing 4355462. The gazebo is in an alley between retail establishments on Broadway Avenue.

Well #3 is the Superior Springs, Well and Pagoda (Photograph #7) located south of Roosevelt Avenue along the Fishing River Linear Park. Sanitary sewer line is approximately 100 ft to the south of the well which parallels the Linear Park Trail. There is no pump in the well. The Superior Spring No. 1 Pagoda has a tall (15 ft), two –story circular (17 ft diameter) stone base with a concrete deck above. The inner circular structure for the well is 8 to 12 ft in diameter. Access to the well is through a pair of small opening on the south side of the circular structures with the outer being covered by a metal plate. I was not able to observe the condition of the well because of the confined space entry requirements. This well was under water in the 1993 flood. UTM for well #3 was Easting 395178 and Northing 4355055.

Well #4 is the Park Lithia Spring; Lithia No. 2 Spring located in the fishing River Linear Park. The east fork of Fishing River is approximately 300 ft to the north of the well. The well is located in a pit beneath a wooden structure. UTM for well #4 was Easting 394664 and Northing 4355255. There is a pump in the well but no power to operate the pump (Photograph #8). This well was under water in the 1993 flood. The well is located downhill off a city road.

All the wells observed were constructed in the earlier 1900's; therefore, would not meet current well construction standards.

The wells inspected today exhibit the same deficiencies as identified by the Department during the evaluation in the 1990's for Mr. Bates.

1. Some of the wells are in pits
2. Some were located in areas flooded during 1993.
3. Some were of substandard well head construction.
4. Unknown construction specifications and condition
5. Unknown distribution system while some are connected to the Hall of Waters
6. These old of well will require a higher level of maintenance.
7. Accessibility issues with some of the wells.
8. There are still approximately 46 abandoned unplugged wells located in the vicinity of the Excelsior Springs downtown area. The City does not know which wells have been properly abandoned or those that are now under buildings or roads. I have attached a map of the known well in the Excelsior Springs downtown area and highlighted the four wells inspected today.

Since 1990 the Department has developed a Non-compliant well policy for water wells used by public drinking water system but not constructed to the proper construction standards. Non-compliant wells are defined as a non-community well that was constructed after July 27, 1987 and have been in continuous operation providing water for human consumption but was not built to public water supply well standards. If a well is producing safe water, the well can continue to be used as long as the owner enters into a settlement agreement with the Department. Otherwise, the owner must plug the well and install a well that complies with the applicable construction standards.

As the wells visited today have not been in continuous use and were constructed prior to July 27, 1987; they would not qualify for the non-compliant well policy agreement.

Options

1. Bottle water is regulated by FDA and Department of Health and Senior Services; therefore, the City would need to contact these agencies to determine the necessary requirements.
2. Using the existing wells --- comprehensive engineering evaluation of wells to document casing conditions, construction specifics and improvements to meet public well standards to provide safe drinking water, construction application for