



City of Columbia

701 East Broadway, Columbia, Missouri 65201

Department Source: City Utilities

To: City Council

From: City Manager & Staff

Council Meeting Date: November 20, 2023

Re: Authorizing a joint funding agreement for water resources investigations with the U.S. Geological Survey, United States Department of the Interior for groundwater monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.

Executive Summary

Staff has prepared for Council consideration, an ordinance authorizing the City Manager to execute an agreement with the United States Geological Survey (USGS) for ground water monitoring in the McBaine Bottoms, around the City's wetland treatment units, and on the Eagle Bluffs Conservation property, for a three year period. These wells will be monitored for constituents of interest to the City including inorganic ions, pesticides, wastewater organics, PFAS (Per- and polyfluoroalkyl substances) and pharmaceutical compounds. The City's FY2024 cost is \$131,700.00 and will be funded 80% by the Sewer Utility and 20% by the Water Utility operating budgets. USGS funding in FY2024 is anticipated to be \$56,500.00.

Discussion

In 1992 a collaborative agreement among the USGS, the City of Columbia and the Missouri Department of Conservation began groundwater monitoring in the McBaine Bottoms around the City's wetland treatment units and on the Eagle Bluffs Conservation property. The purpose of the study was to assess the effect of the constructed wetlands on the ground water quality and flow. This initial study was completed in 1999 and a significant conclusion was that the compounds associated with the sewage effluent in the wetlands potentially migrate from the wetlands toward the City's municipal drinking water supply well field. Based on the results, all parties involved concurred that the water quality monitoring should continue and that all analysis should be performed by the USGS laboratory for consistency. The objective of performing these studies is to continue to monitor the water quality throughout the McBaine Bottoms, to track changes in groundwater quality in the vicinity of the public supply well field and the Eagle Bluffs Conservation Area, and to provide the City with the information needed to protect the well field and ensure good quality drinking water.

Attached is the USGS proposal to continue the monitoring through 2026 with annual approval. One of the deliverables is an interpretive report describing and documenting trends of groundwater quality data and groundwater level data through the end of 2002. The last interpretive product was provided in 2008. The current proposal includes detailed information on the purpose and objective of the study, the wells to be monitored, analysis to be performed and the anticipated annual cost for each of the next three years as well as the proposed funding to be provided by USGS. Total proposed project costs for the three years would be \$613,900 with the City funding at \$429,600 and USGS funding at \$184,300. FY2024 City costs are \$131,700.00 with the Sewer Division paying 80% and the Water Division



paying 20%. The funding for this has been included in the FY2024 operating budgets for each division. The Utilities Department will continue to allocate funds in future fiscal year operating accounts to fund the project as described in the proposal. As noted in the proposal, annual groundwater sample results and data are entered into the USGS National Water Information System which is publically accessible at <https://waterdata.usgs.gov/nwis>.

Fiscal Impact

Short-Term Impact: FY2024 City costs are \$131,700.00 with the Sewer Division paying 80% and the Water Division paying 20%. The funding for this has been included in the FY2024 operating budgets for each division.

Long-Term Impact: The future costs for fiscal year 2025 is anticipated to be \$144,700 and fiscal year 2026 is \$153,200. These annual amounts will be included in the operating budgets for both utilities.

Strategic & Comprehensive Plan Impact

Strategic Plan Impacts:

Primary Impact: Reliable and Sustainable Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

Comprehensive Plan Impacts:

Primary Impact: Environmental Management, Secondary Impact: Infrastructure, Tertiary Impact: Not Applicable

Legislative History

Date	Action
10/03/2022	B272-22 Authorizing a joint funding agreement for water resources investigations with the U.S. Geological Survey, United States Department of the Interior for groundwater monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
09/20/2021	B290-21 Authorizing a joint funding agreement for water resource investigations with the U.S. Geological Survey, United States Department of the Interior for hydrological monitoring of well sites in the vicinity of the McBaine wetland treatment units and the Eagle Bluffs Conservation Area.
09/08/2020	B219-20 Authorizing a joint funding agreement for water resource investigations with the U.S. Geological Survey, United States Department of the Interior for groundwater monitoring of well sites in the vicinity of the McBaine wetland treatment units and the Eagle Bluffs Conservation Area.
09/19/2019	B284-19 Authorizing a joint funding agreement for water resources investigations with the U.S. Geological Survey, United



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09/17/2018	States Department of the Interior for groundwater monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area. B224-18 Authorizing a joint funding agreement for water resources investigations with the U.S. Geological Survey, United States Department of the Interior for groundwater monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
09/05/2017	B250-17 Authorizing a joint funding agreement for water resources investigations with the U.S. Geological Survey, United States Department of the Interior for groundwater monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
10/03/2016	B249-16 Authorizing a joint funding agreement with the USGS for groundwater monitoring of well sites in the vicinity of the wetland treatment units and Eagle Bluffs Conservation Area.
01/04/2016	B376-15 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and Eagle Bluffs.
10/20/14	Res. 201-14 Authorizing a joint funding agreement with the USGS for water resources investigations relating to the hydrologic monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
08/20/2012	Res. 135-12 Authorizing a joint funding agreement with the USGS for groundwater monitoring of well sites in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
09/19/2011	Res. 166-11 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
09/20/2010	Res. 195-10 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
11/17/2008	Res. 261-08 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
12/03/2007	Res. 278-07 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
10/16/2006	Res. 224-06 Authorizing a joint funding agreement with the USGS for groundwater monitoring in the vicinity of the wetland treatment units and the Eagle Bluffs Conservation Area.
11/07, 2005	Res. 245-05 Authorizing an agreement with the USGS for groundwater monitoring in the vicinity of the wetlands.
11/15/2004	Res. 236-04 Authorizing an agreement with the USGS for groundwater monitoring in the vicinity of the wetlands.



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01/05/2004	Res. 10-04 Authorizing an agreement with the USGS for groundwater monitoring in the vicinity of the wetlands.
12/16/2002	Res. 233-02 Authorizing agreements with the USGS RE: Groundwater Monitoring in the Vicinity of the Wetlands.
10/01/2001	Res. 209-01 Agreements with USGS RE: Groundwater Monitoring in the Vicinity of the Wetlands.
10/02/2000	Res. 197-00 Agreements with USGS RE: Groundwater Monitoring in the Vicinity of the Wetlands.
09/28/1999	Res. 185-99 Agreements with USGS RE: Groundwater Monitoring in the Vicinity of the Wetlands.
10/05/1998	Res. 197-98 Agreements with USGS for Groundwater Monitoring in the Vicinity of Wetlands Project.
09/02/1997	Res. 137-97 Agreements with USGS for Groundwater Monitoring of Well Sites Around Wetland Treatment Units.
09/16/1996	Res. 134-96 Agreement for Groundwater Monitoring of Well Sites at the Wastewater Treatment Units (USGS).
12/18/1995	Res. 231-95 Agreement with USGS for Ground Water Monitoring in Wetlands Vicinity.
03/20/1995	Res. 62-95 Agreement for Groundwater Monitoring of Well Sites Around Wetlands Treatment Units.
09/07/1993	Res. 143-93 Agreement with USGS for Groundwater Monitoring of Wells around Wetlands.
07/06/1992□	Res. 105-92 Authorizing agreement with Missouri Department of Conservation in connection with groundwater monitoring at the wetlands.

Suggested Council Action

Approve the ordinance authorizing the agreement.