



Staff Report

File #: 22-0940

**REQUEST FOR CITY COUNCIL AND
CORONA UTILITY AUTHORITY ACTION**

DATE: 12/07/2022

TO: Honorable Mayor and City Council Members
Honorable President and Board Members

FROM: Utilities Department

SUBJECT:

Maintenance/General Services Agreement with Calgon Carbon Corporation for the Ion Exchange Treatment Plant Spent Resin Removal and Disposal Project.

EXECUTIVE SUMMARY:

This staff report asks Council to approve a Maintenance/General Services Agreement in the amount of \$621,692 with Calgon Carbon Corporation for the disposal of spent resin and purchase of granular activated carbon for the Ion Exchange Treatment Plant (IXTP). The resin has reached the end of its service life and requires replacement to ensure continued compliance with State drinking water standards.

RECOMMENDED ACTION:

That the:

- a. City Council authorize the creation of a new capital improvement project titled "Ion Exchange Treatment Plant Media Replacement Project."
- b. City Council authorize an appropriation of \$683,861 from the Water Utility Fund (570) to the new capital improvement project titled "Ion Exchange Treatment Plant Media Replacement Project".
- c. City Council approve the Maintenance/General Services Agreement with Calgon Carbon Corporation in the amount of \$621,692 and authorize the City Manager, or his designee, to execute the Agreement.

- d. City Council make a determination under Corona Municipal Code [Section 3.08.140\(b\)](#) that competitive bidding has been satisfied for the reasons provided in the "Basis of Determination of Competitive Bidding" section of this report.
- e. City Council authorize the City Manager, or his designee, to issue a purchase order to Calgon Carbon Corporation in the amount of \$621,692.
- f. City Council authorize the City Manager, or his designee, to issue change orders up to 10% or \$62,169.
- g. Corona Utility Authority review, ratify, and to the extent necessary, direct that the City Council take the above actions.

BACKGROUND & HISTORY:

Ion Exchange Treatment Plant (IXTP)

The Utilities Department (UD) operates an Ion Exchange Treatment Plant (IXTP) to treat water produced by groundwater wells. IXTP utilizes a resin media to remove contaminants of concern from water such as 1,2,3,-Trichloropropane (1,2,3-TCP), and per- and polyfluoroalkyl substances (PFAS). The resin media used in the treatment process has reached the end of its service life, requiring the removal and installation of new media. As such, UD seeks approval of a budget appropriation and purchase order for the disposal of spent media and purchase of new media.

PFAS and 1,2,3-TCP

The 1996 Safe Drinking Water Act (SDWA) amendments require that once every five years, the U.S. Environmental Protection Agency (EPA) issues a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). The third Unregulated Contaminant Monitoring Rule (UCMR 3) required monitoring for 30 contaminants (28 chemicals and two viruses) between 2013 and 2015 using analytical methods developed by the EPA, consensus organizations, or both. This monitoring provides a basis for future regulatory actions to protect public health.

During the monitoring of UCMR 3, PFAS was detected in several of the City's operating wells. The PFAS are a group of persistent anthropogenic organic compounds that may cause adverse health effects at trace level concentrations. The state of California has established stringent drinking water notification levels (NL) and response levels (RL) for two of the PFAS compounds, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA).

In addition to PFAS, 1,2,3-TCP is another organic trace contaminant that was detected in the City's drinking water sources. Most of the wells have moderate to low levels of 1,2,3-TCP. With a combination of treatment by the IXTP, Temescal Desalter, lowering well production, and blending, the City was able to control the 1,2,3-TCP at below the maximum contaminate levels (MCL).

Contaminants	MCLs	Notification Levels	Response Levels
PFOS	N/A(1)	6.5 PPT	40 PPT
PFOA	N/A(1)	5.1 PPT	10 PPT
1,2,3-TCP	5 PPT	-	-

NOTES:

- (1) MCL has not been established. The current notification levels and response levels are shown.
- (2) MCL is under review and may be lowered in the near future.
- (3) PPT = Parts per Trillion

On June 15, 2022, the EPA set interim health advisory levels for PFOA at 0.004 parts per trillion (PPT) and PFOS at 0.02 PPT. Current analytical methods have the ability to detect to 4 PPT. EPA is moving forward with proposing a PFAS National Drinking Water Regulation in the fall of 2022. As EPA develops this proposed rule, the agency is also evaluating additional PFAS beyond PFOA and PFOS and considering actions to address groups of PFAS. The interim health advisories will provide guidance to states, Tribes, and water systems for the period prior to the regulation going into effect.

ANALYSIS:

With the emergence of PFAS, UD searched for the most effective, efficient, and versatile methods of treatment. In November 2019, UD acquired the services of Montrose Environmental, one of the City’s approved on-call environmental firms, to conduct a pilot study. The goal of the pilot study was to evaluate the performance and efficacy of resin media and granular activated carbon (GAC) for the removal of TCP-1,2,3, and PFAS compounds, specifically PFOA and PFOS, in groundwater.

Rapid small-scale column testing (RSSCT) was performed on water samples taken from the influent of the IXTP and were tested with a variety of GAC and Resin media. The RSSCTs are designed to systematically scale-down and accelerate the treatment and contaminant breakthrough process to evaluate in a shorter timeline with a lower amount of water samples. Testing was conducted for approximately two weeks and samples were taken and submitted for laboratory analysis.

Media Tested

Media Type	Brand/Model
GAC	Calgon Filtrasorb 600 (F600)
GAC	Calgon Filtrasorb 400 (F400)
Resin	Purolite PFA694E

The following conclusions were made by Montrose Environmental from the RSSCT tests:

- For all media used in the RSSCTs, PFOA breakthrough occurred earlier than PFOS.
- F400 GAC was more effective than F600 GAC in removal of PFOS and PFOA.
- Both GACs were able to effectively remove 1,2,3-TCP, while ion exchange (IX) resins did not effectively remove 1,2,3-TCP.
- The selected ion exchange resins were able to achieve longer bed volume capacity compared with GACs in treating PFOS and PFOA from the drinking water sources.
- For the source waters requiring reduction of both 1,2,3-TCP and PFAS, GAC is a preferred alternative as IX resins only remove PFAS.

As more stringent advisories and MCL's are forecasted, the UD is being proactive in the treatment of 1,2,3-TCP and PFAS compounds. The utilization of Calgon F400 GAC at select facilities will allow the full production from our local groundwater sources while complying with all current and expected future laws and regulations. Additionally, UD will be adding Calgon F400 GAC to the PCC 3400 Exclusive Standard Equipment Product List.

If the treatment media in the IXTP vessels are not replaced soon, PFAS and 1,2,3-TCP concentrations in IXTP effluent water will eventually reach and exceed the MCL or Notification level. When this occurs, specific groundwater wells will require shutdown, and the UD will need to import more surface water to offset the water demand. Importing surface water costs approximately twice as much as treating well water. Therefore, it is in the City's best interest to replace the spent media as soon as possible. This cost-effective option will ensure the uninterrupted treatment of groundwater while complying with state and federal drinking water standards.

Basis for Determination of Competitive Bidding

The F400 GAC is a proprietary product manufactured by Calgon Carbon Corporation, and staff believes that Competitive Bidding has been accomplished for these purchases pursuant to CMC [Section 3.08.140\(B\)](#), which states as follows:

"No competitive market." When the purchasing agent and the authorized contracting party, with the approval of the City Manager, determines, in accordance with applicable law, that competitive market does not exist and that no competitive advantage will be gained by the public bidding process. The most cost-effective manner is to purchase F400 granular activated carbon (GAC) directly from Calgon Carbon Corporation, as a sole source vendor as an equivalent product is not available elsewhere. As a result, there is no competitive market for this product.

Staff requests approval of an agreement and purchase order in the amount of \$621,692 with Calgon

Carbon Corporation for the purchase and installation of GAC F400 and disposal of spent resin media based on this exception.

FINANCIAL IMPACT:

Approval of the recommended actions will result in an appropriation of \$683,861 for a purchase order and contingencies from the Water Utility Fund (570) to the new capital improvement project titled "Ion Exchange Treatment Plant Media Replacement Project". There is sufficient working capital in the Water Utility Fund (570) for the recommended actions.

ENVIRONMENTAL ANALYSIS:

This action is exempt pursuant to Section 15061(b)(3) of the Guidelines for the California Environmental Quality Act (CEQA), which states that a project is exempt from CEQA if the activity is covered by the commonsense exemption that CEQA applies only to projects that have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. This action involves the purchase of water treatment media, and there is no possibility that the recommended actions will have a significant effect on the environment. Therefore, no environmental analysis is required.

PREPARED BY: KRISTIAN ALFELOR, OPERATIONS MANAGER

REVIEWED BY: TOM MOODY, DIRECTOR OF UTILITIES

Attachments:

1. Exhibit 1 - MGSA
2. Exhibit 2 - Sole Source Letter
3. Exhibit 3 - Quote
4. Exhibit 4 - Pilot Study by Montrose Environmental