



SECOND AMENDMENT TO PROFESSIONAL SERVICES AGREEMENT FOR GRANULAR ACTIVATED CARBON SERVICES

Riverside Public Utilities

Board of Public Utilities

November 14, 2022

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BACKGROUND

1. On October 28, 2019, RPU's Board approved Work Order No. 2008392 in the total amount of \$850,000 to address emerging contaminants per- and polyfluoroalkyl substances (PFAS). Part of the approved amount was assigned to test Bituminous Coal Based Granular Activated Carbon (GAC) for reduction of PFAS.
2. On January 11, 2021, the Board awarded two contracts to Calgon Carbon Corp. and Carbon Activated Corp. to test their Bituminous Coal Based GAC products.
3. On April 11, 2022, the Board authorized the extension of the agreements through December 2022, to allow more time to evaluate the GAC performance.



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DISCUSSION

1. Each vendor filled two vessels at Palmyrita Water Treatment Facility with virgin Bituminous Coal based GAC.
2. Each vendor also filled one vessel with custom reactivated Bituminous GAC.
3. RPU also retained the original Coconut Shell based GAC vendor throughout the duration of this project.



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DISCUSSION

1. Palmyrita Water Treatment Facility (WTF) is permitted by the State water Resources Control Board – Division of Drinking Water for dibromochloropropane (DBCP) treatment from Electric, Moore Griffith, Palmyrita and Twin Springs wells.
2. The source water for these wells contains the following chemicals; DBCP, 1,2,3-Trichloropropane (1,2,3-TCP), perfluorooctane sulfonic acid (PFOS), perfluorooctanoic acid (PFOA), perfluorobutane sulfonic acid (PFBS), perfluorohexane sulfonic acid (PFHxS), perfluorohexanoic acid (PFHxA), and perfluoroheptanoic acid (PFHpA). These are detected over the current analytical detection level for reporting (DLR) of our contract laboratory, note State DLRs can differ from laboratory DLRs.
3. Palmyrita WTF has 15 GAC vessels. Each vessel requires 20,000 pounds of GAC per change out.



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DISCUSSION

1. GAC is steam activated and meets specifications for iodine numbers, abrasion numbers, moisture %, and mesh size.
2. Virgin GAC is reactivated by placing spent GAC into a rotary furnace at 1450° F. This process removes any contaminants that have adsorbed to the GAC.
3. The reactivated GAC is rescreened to ensure it is the proper mesh size. 20% of virgin GAC is added to the reactivated GAC to make up the amount of GAC lost during processing.



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PALMYRITA WTF



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DISCUSSION

GAC	DBCP		1,2,3-TCP		PFOS		PFOA		PFBS		PFHxS		PFHxA		PFHpA	
	Days	AF	Days	AF	Days	AF	Days	AF	Days	AF	Days	AF	Days	AF	Days	AF
Filtrosorb 400 (F400)	292	23	240	20	269	22	253	20	253	20	253	20	234	19	293	20
COL-L 60 (12x40)	393	31	280	24	351	28	280	24	280	24	280	24	280	24	329	24
PSC1240 (Coconut)	256	22	238	20	194	18	194	18	194	18	194	18	295	18	204	18



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STRATEGIC PLAN ALIGNMENT



Strategic Priority 2 - Community Well-Being

Goal 2.3 - Strengthen neighborhood identities and improve community health and the physical environment through amenities and programs that foster an increased sense of community and enhanced feelings of pride and belonging citywide



Strategic Priority 4 - Environmental Stewardship

Goal 4.2 - Sustainably manage local water resources to maximize reliability and advance water reuse to ensure safe, reliable and affordable water to our community

Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability & Resiliency



Equity



Innovation



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RECOMMENDATIONS

That the Board of Public Utilities:

1. Approve the expenditure not to exceed \$2,652,000 for granular activated carbon testing for a three-year term; and

That the Board of Public Utilities recommend that the City Council:

2. Approve a Second Amendment to the Professional Services Agreement for Granular Activated Carbon Testing with Carbon Activated Corporation of Compton, California, for a three-year term through December 31, 2025, in an amount not to exceed \$2,652,000; and
3. Authorize the City Manager, or designee, to execute the Second Amendment to the Professional Services Agreement, including making minor and non-substantive changes and to sign all documents and instruments necessary to complete the transactions.

