



## BOARD OF SUPERVISORS AGENDA ITEM REPORT AWARDS / CONTRACTS / GRANTS

☐ Award ☒ Contract ☐ Grant

**Requested Board Meeting Date:** October 15, 2024

*\* = Mandatory, information must be provided*

**or Procurement Director Award:** ☐

**\*Contractor/Vendor Name/Grantor (DBA):**

Hazen and Sawyer DPC

**\*Project Title/Description:**

Wastewater Reclamation Data Analytics Support

**\*Purpose:**

Amendment 02: This amendment extends the term of the contract to 10/30/2025, adds \$54,000 and amends the Wastewater Reclamation Data Analytics Support scope for additional professional services and support for the transition of existing datasets, data analytics, data pipelines and reports from Power BI platform to Qlik or other selected County platform or configuration. Administering Department: Regional Wastewater Reclamation.

**\*Procurement Method:**

Direct Select per Board of Supervisors Policy D29.6 III-C

**\*Program Goals/Predicted Outcomes:**

Increased functionality for analysis, tracking and optimization of wastewater reclamation services within the existing enterprise-wide Power BI reporting system and transition to Qlik.

**\*Public Benefit:**

RWRD will utilize an extremely large amount of data sources to analyze current and historical data for dynamic data retrieval and assessment.

**\*Metrics Available to Measure Performance:**

Take assessment of data dashboard creation to the consultant and overall approval of said visualizations created.

**\*Retroactive:**

No.

To: (OB 9-27-24(1))  
vers: 1  
pgs: 7

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THE APPLICABLE SECTION(S) BELOW MUST BE COMPLETED

Click or tap the boxes to enter text. If not applicable, indicate "N/A". Make sure to complete mandatory (\*) fields

**Contract / Award Information**

Document Type: \_\_\_\_\_ Department Code: \_\_\_\_\_ Contract Number (i.e., 15-123): \_\_\_\_\_  
Commencement Date: \_\_\_\_\_ Termination Date: \_\_\_\_\_ Prior Contract Number (Synergen/CMS): \_\_\_\_\_  
☐ Expense Amount \$ \_\_\_\_\_ \* ☐ Revenue Amount: \$ \_\_\_\_\_

**\*Funding Source(s) required:** \_\_\_\_\_

Funding from General Fund? ☐ Yes ☐ No If Yes \$ \_\_\_\_\_ % \_\_\_\_\_

Contract is fully or partially funded with Federal Funds? ☐ Yes ☐ No

If Yes, is the Contract to a vendor or subrecipient? \_\_\_\_\_

Were insurance or indemnity clauses modified? ☐ Yes ☐ No

If Yes, attach Risk's approval.

Vendor is using a Social Security Number? ☐ Yes ☐ No

If Yes, attach the required form per Administrative Procedure 22-10.

**Amendment / Revised Award Information**

Document Type: ~~CT~~ PO Department Code: WW Contract Number (i.e., 15-123): CT 23\*044  
Amendment No.: 02 AMS Version No.: 01  
Commencement Date: 10/15/2024 New Termination Date: 10/30/2025  
Prior Contract No. (Synergen/CMS): \_\_\_\_\_

☒ Expense ☐ Revenue ☐ Increase ☐ Decrease

Amount This Amendment: \$ 54,000.00

Is there revenue included? ☐ Yes ☒ No If Yes \$ \_\_\_\_\_

**\*Funding Source(s) required: RWRD Enterprise Fund**

Funding from General Fund? ☐ Yes ☒ No If Yes \$ \_\_\_\_\_ % \_\_\_\_\_

**Grant/Amendment Information** (for grants acceptance and awards)

☐ Award ☐ Amendment

Document Type: \_\_\_\_\_ Department Code: \_\_\_\_\_ Grant Number (i.e., 15-123): \_\_\_\_\_  
Commencement Date: \_\_\_\_\_ Termination Date: \_\_\_\_\_ Amendment Number: \_\_\_\_\_  
☐ Match Amount: \$ \_\_\_\_\_ ☐ Revenue Amount: \$ \_\_\_\_\_

**\*All Funding Source(s) required:** \_\_\_\_\_

\*Match funding from General Fund? ☐ Yes ☐ No If Yes \$ \_\_\_\_\_ % \_\_\_\_\_

\*Match funding from other sources? ☐ Yes ☐ No If Yes \$ \_\_\_\_\_ % \_\_\_\_\_

\*Funding Source: \_\_\_\_\_

\*If Federal funds are received, is funding coming directly from the Federal government or passed through other organization(s)?  
\_\_\_\_\_

Contact: Tracey Lindskog

Department: Regional Wastewater Reclamation Department

Telephone: 724-6774

Department Director Signature: Quinn Wilson for Jackson Jenkins

Date: 24 Sep 2024

Deputy County Administrator Signature: \_\_\_\_\_

Date: 9/25/2024

County Administrator Signature: \_\_\_\_\_


Date: 9/25/2024



WASTEWATER RECLAMATION  
201 NORTH STONE AVENUE  
TUCSON, ARIZONA 85701-1207

JACKSON JENKINS  
DIRECTOR

PH: (520) 724-6500  
FAX: (520) 724-9635

**DATE:** September 24, 2024  
**TO:** Jan Leshar, County Administrator  
**FROM:** Jackson Jenkins, Director, Pima County RWRD  for Jackson Jenkins  
**Cc:** Carmine DeBonis, Deputy County Administrator  
Terri Spencer, Procurement Director

**SUBJECT:** Amendment #2 Request - Direct Selection of Professional Services from Hazen-Sawyer, CT 23\*044

Pursuant to Board of Supervisors Policy D29.6 IIIC – Direct Selection and Procurement No. PO-50, approval was received to direct select Hazen and Sawyer DPC to provide for the transition of existing datasets, data analytics data pipelines and reports from Power BI platform to the preferred County platform/configuration under Contract Number 23\*044 which was awarded in the amount of \$70,000.

Amendment #1 was approved in the amount of \$29,000 to extend the contract to October 2024 and initiate the process to transfer data from Qlik to RWRD PowerBI Dashboards.

**Background:** RWRD requires additional professional services and support for the existing dataset and analytical instance as Pima County will migrate from the current departmental platform (Microsoft Power BI) to the County selected platform of Qlik or another allowable County platform.

**Requested Action:** The Regional Wastewater Reclamation Department requests approval for Amendment #2 to CT 23\*044 to increase funds in the amount of \$54,000 for a not-to-exceed amount of \$153,000 to allow for continued services with Hazen and Sawyer DPC for assistance in the integration of Workday pursuant to the Direct Select provisions of Board of Supervisors Policy D29.6, 111-C as detailed in the attached scope of services.

The Regional Wastewater Reclamation Department requests to extend this contract an additional year for a new contract termination date of October 30, 2025, pursuant to the Direct Select provisions of Board of Supervisors Policy 029.6, 111-C.

Approved as to Form:   
Terri Spencer  
Procurement Director

Date: 9/24/2024

Concur:   
Carmine DeBonis  
Deputy County Administrator

Date: 9/25/2024

Direct Select Approved:   
Jan Leshar  
County Administrator

Date: 9/25/2024

**Pima County Regional Wastewater Reclamation Department (RWRD)**

**Project: Wastewater Reclamation Data Analytics Support**

**Contractor: Hazen and Sawyer DPC**

**Contract No.: CT\_23000000000000000044**

**Contract Amendment No.: 02**

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<b>Orig. Contract Term:</b> 10/05/2022 – 10/30/2023	<b>Orig. Amount:</b>	\$ 70,000.00
<b>Termination Date Prior Amendment:</b> 10/30/2024	<b>Prior Amendments Amount:</b>	\$ 29,000.00
<b>Termination Date This Amendment:</b> 10/30/2025	<b>This Amendment Amount:</b>	\$ 54,000.00
	<b>Revised Total Amount:</b>	\$ 153,000.00

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**CONTRACT AMENDMENT**

The parties agree to amend the above-referenced contract as follows:

**1. Background and Purpose.**

1.1. Background. On October 5, 2022, County and Contractor entered into the above referenced agreement to provide Wastewater Reclamation Data Analytical Support.

1.2. Purpose. County requires additional professional services and support for the existing dataset and analytical instance as Pima County will migrate from the current departmental platform (MS Power BI) to the County selected platform of Qlik or other selected County platform.

**2. Term.** The parties agree to extend the contract term for one additional year commencing on October 15, 2024, and terminating on October 30, 2025. If the commencement date is before the Effective Date of this amendment, the parties will, for all purposes, deem the amendment to have been in effect as of the commencement date.

**3. Maximum Payment Amount.** The maximum amount the County will spend under this Contract, as set forth in Section 5.2, is increased by \$54,000.00. County's total payments to Contractor under this contract, including any sales taxes, will not exceed \$153,000.00.

**4. Scope of Services.** The parties have revised the Scope of Services as described in the attached **Exhibit A** (5 pages).

All other provisions of the Contract not specifically changed by this Amendment remain in effect and are binding upon the parties.

**PIMA COUNTY**

\_\_\_\_\_  
Chair, Board of Supervisors

\_\_\_\_\_  
Date

**ATTEST**

\_\_\_\_\_  
Clerk of the Board

\_\_\_\_\_  
Date

**APPROVED AS TO FORM**

  
\_\_\_\_\_  
Deputy County Attorney

Cindy Nguyen  
\_\_\_\_\_  
Print DCA Name

8/27/24  
\_\_\_\_\_  
Date

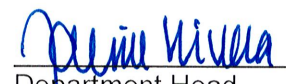
**CONTRACTOR**

  
\_\_\_\_\_  
Authorized Officer Signature

Curtis D. Courter, Vice President  
\_\_\_\_\_  
Printed Name and Title

9/11/2024  
\_\_\_\_\_  
Date

**APPROVED AS TO CONTENT**

 for Jackson Seniors  
\_\_\_\_\_  
Department Head

24 Sep 2024  
\_\_\_\_\_  
Date





Hazen and Sawyer  
1400 E. Southern Avenue, Suite 340  
Tempe, AZ 85282 • 480.436.7959

**Exhibit A (5 pages)**  
**Scope of Services**  
**Commencement Date: October 15, 2024**

July 10, 2024

Belinda Gamboa-Felix  
Program Manager Sr.  
Pima County Regional Wastewater Reclamation Department  
2955 W. Calle Agua Nueva  
Tucson, AZ 85745

**Re: Wastewater Reclamation Data Analytics Support – Amendment No. 2**

Dear Ms. Gamboa-Felix:

Please find herein for your consideration a scope of work for continued services related to increased functionality for analysis, tracking, and optimization of wastewater reclamation services within the existing enterprise-wide Power BI reporting system.

## **1. Background**

Pima County Regional Wastewater Reclamation Department (RWRD) has an existing enterprise-wide Power BI reporting system and data warehouse storing data from multiple sources. Hazen and Sawyer (Consultant) has been assisting RWRD in providing upgrades and maintenance to the system on an on-call basis. RWRD seeks to extend time and budget of this on-call contract in order to maintain support for updating the Power BI-reporting system to support the integration of Workday and further tracking of wastewater reclamation specific KPIs, calculations, and trends, including new wastewater reclamation operations specific analytics and technical support for as-needed troubleshooting of the existing wastewater reclamation analytics system. Updates to the system will require specific knowledge of wastewater treatment and conveyance in order to identify, properly incorporate and effectively visualize this wastewater specific information.

## **2. Scope of Work**

Consultant will provide wastewater reclamation analytics support on a time and material basis for development and refinement of queries, measures, data model attributes, and display-layer functionality within RWRD's existing Power BI environment. The work will be conducted on an as-needed basis with the objective of supporting RWRD technical staff in their ongoing improvements to and optimization of the existing Power BI tool. The actual level of effort will be dependent entirely upon how much assistance RWRD requests on each task item. The overall budget has been established to provide for a reasonable amount of effort to be expended at RWRD's request, rather than a specific set of work items or deliverables. The tasks described below identify the major categories of work that may be requested under this work order, as well as potential work items that may be requested.

## Task 1: Requirements and Design

The objective of this task is to provide planning support, including identification of critical wastewater reclamation metrics and data sources for the integration of new data sources into the existing BI system and for the optimization of existing data flow processes to provide increased functionality for wastewater reclamation operations and to maintain or improve upon responsiveness of the system as more data sources are integrated.

### Task 1.1: User and Workflow Requirements

The objective of this task is to identify core user and workflow requirements that drive the design and development of the BI system, including both back-end data extract-transform-load (ETL) processes and display-layer calculation and user interaction needs. Work on this subtask will require a detailed understanding of wastewater reclamation treatment and collections processes and operations to facilitate:

- Solicitation of technical and functional business intelligence (BI) system requirements from County end-users via meetings or interviews with target user groups
- Assessment and compilation of BI-related needs and requirements, including identification of key responsibilities, data sources, data transformations, data dependencies/interconnections, data outputs, performance measures/KPIs, visualizations, data reporting needs, and sharing/dissemination methods. Assessment is performed by reviewing existing system documentation, workflows, databases, or files and via meetings or interviews with users and managers of the respective data systems.
- Workflow analysis to identify opportunities for streamlining workflows, eliminating intermediate file stores, reducing redundancies or bottlenecks, eliminating repetitive manual data collection and transfer steps, improving accessibility to data from multiple different silos, eliminating data gaps that limit situational awareness and timely decision-making, or other steps to support the County's overall efforts to cultivate a cohesive and responsive data-driven culture.

### Task 1.2: Data Discovery

The objective of this task is to identify specific characteristics and relationships of wastewater reclamation data sources that the County may seek to integrate into its BI system at a sufficient level of detail to guide overall system planning and architecture decisions. Data source investigation may include:

1. Additional attributes or features of existing BI data sources (i.e. insights for RWRD KPI dashboard)
2. Other sources identified by the County (i.e. migration from SharePoint on-premises to SharePoint online, module enhancements to dashboards from IPS, or other sources)

Data discovery activities may include review of existing data source documentation and meetings with data source owners/administrators to present key wastewater treatment and conveyance engineering concepts, identify critical features of the data source, including software platform, version, and license; database characteristics such as accessibility, user permissions, size, and update frequency; identity of

critical fact or dimension tables; identification of any views or tables intended for data export; identification of critical keys and relationships between tables; and development of concise technical documentation.

For file-based data sources, data discovery activities may include distinguishing among columns that constitute an original (primary) data source, columns that are a copy of data stored elsewhere, and columns that contain formulae for derived (calculated) parameters of interest; characterization of file-naming protocols; assess the level of variability in placement or naming of primary data columns; and characterization of calculations, including all required inputs and the minimum timestep at which the calculation is valid.

## **Task 2: Data System Refinement**

The objective of this task is to provide as-needed support for the data system that feeds the Power BI dashboard. This system includes the various scripts, queries, procedures, routines, tables, and views that ultimately extract data from its original source(s) into staging tables, transform it as needed to meet end-user requirements, and load it into the Power BI data model.

The overall objective of this task is to provide as-needed support for any refinements or modifications to this system that may be needed to integrate new sources; improve performance, reliability, or ease of maintenance; or respond to changes in the overall IT network, database, or software environment.

### **Task 2.1: Data Source Connections and Transformations**

Support provided under this task may include development or refinement of scripts, procedures, queries, or other code necessary to establish automatic recurring data transfers from the source system(s) to the BI Reporting Database, and from the BI Reporting Database to the Power BI Data Model. Specific scripts, procedures, queries and other code will be set up to provide clean, interpretable data that can be incorporated into wastewater reclamation specific KPIs, trends, and calculations. Data transformations under this task may include such joins, filters, grouping, typing, cleaning, or other steps as are necessary to create data tables that are appropriately shaped, typed, and populated to meet system requirements and user needs. The final outcome of the data transformation processes executed under this task is the set of tables that are loaded into the Power BI Data Model.

The consultant shall ensure that all transformations and calculations executed under this task deliver data sets that are grounded in fundamentals of wastewater conveyance and treatment and are useful to operations and engineering staff.

Data transformation activities under this task may also include updates or refinements to the existing Excel configuration file that is used by system administrators to specify the metadata associated with dashboard data sets.

## **Task 3: Exploratory Data Analysis**

The objective of this task is to gather and analyze existing data relevant to tools that can be used to predict key performance metrics such as H<sub>2</sub>S concentration or sanitary sewer overflows (SSO's). This task may include a data-gathering workshop with Pima County to identify the key performance indicators (KPIs)



that are important for predictions. Work under this task may include data quality checks, identifying explanatory parameters, calculating new variables (feature engineering), and evaluating the appropriate data science and statistical techniques to identify what explanatory variables best predict the KPIs of interest (e.g., H2S concentration or SSO minimization).

## **Task 4: Dashboard Measure Technical Support**

The objective of this task is to provide as-needed support for RWRD's ongoing development and refinement of Power BI measures and report pages. Work under this task will be driven by RWRD needs, and may include activities such as developing DAX measures, leveraging new software features, and providing on-call tech support for debugging measures or displays. Work may also include support in establishing automatic dashboard measure documentation routines or as-needed training in the aftermarket software programs that may be required to build out certain functionalities in Power BI.

The technical work executed under this task shall be grounded in the fundamentals of wastewater conveyance and treatment. Development of measures or KPIs under this task shall support the level of detail and complexity that is necessary to deliver a reliable product that enhances situational awareness for daily operations while also delivering meaningful trend analysis for strategic performance tracking.

## **Task 5: Transition to Alternative Platform**

The objective of this task is to provide as-needed support for migrating existing RWRD ETL, data, data models, and reports from the current Power BI platform to a new platform. Specific support may be in the form of troubleshooting, providing guidance and recommendations, or performance of some tasks, as discussed and agreed upon with RWRD.

## **Task 6: Project Management**

Project management activities include quality control, cost control and monitoring, invoicing, and general coordination with the County's project manager and staff. Assuming 12 months of services under this scope at two hours per month, the estimated effort for this task is 24 hours.

### **Task 6 Deliverables**

- Monthly invoices and progress reports

## **Budget**

The budget for the above as-needed services is \$54,000.00. The budget has been developed using the categorical rates below, which are from Hazen's Wastewater Treatment Consulting Services, MA-PO-24-220 contract and a level of effort estimated from the prior year of on-call data analytics support services. Monthly billing will be based on actual hours for each labor category and the total billed will not exceed the stated budget unless it is revised in writing through an addendum.

Overhead % 195.6%  
Profit % 8%

	A	B	C	D
DISCIPLINE	DIRECT LABOR RATE	OVERHEAD	PROFIT	BILLING RATE
Vice President	\$ 89.27	\$ 174.62	\$ 21.11	\$ 285.00
Associate Vice President	\$ 87.71	\$ 171.55	\$ 20.74	\$ 280.00
Senior Associate	\$ 81.44	\$ 159.30	\$ 19.26	\$ 260.00
Associate	\$ 75.18	\$ 147.05	\$ 17.78	\$ 240.00
Senior Principal Engineer	\$ 65.78	\$ 128.66	\$ 15.56	\$ 210.00
Principal Engineer	\$ 56.38	\$ 110.28	\$ 13.33	\$ 180.00
Principal GIS Analyst	\$ 50.12	\$ 98.03	\$ 11.85	\$ 160.00
Engineer	\$ 51.68	\$ 101.09	\$ 12.22	\$ 165.00
Assistant Engineer II	\$ 48.55	\$ 94.97	\$ 11.48	\$ 155.00
Assistant Engineer I	\$ 43.85	\$ 85.78	\$ 10.37	\$ 140.00
Senior GIS Analyst	\$ 42.29	\$ 82.71	\$ 10.00	\$ 135.00
Technician	\$ 29.76	\$ 58.21	\$ 7.04	\$ 95.00
Construction Manager	\$ 68.91	\$ 134.79	\$ 16.30	\$ 220.00
Senior Field Coordinator (Home Office/Part-Time)	\$ 57.95	\$ 113.35	\$ 13.70	\$ 185.00
Senior Field Coordinator (Field Office)	\$ 42.29	\$ 82.71	\$ 10.00	\$ 135.00
Field Coordinator (Home Office)	\$ 37.59	\$ 73.52	\$ 8.89	\$ 120.00
Field Coordinator (Field Office/Part - Time)	\$ 32.89	\$ 64.33	\$ 7.78	\$ 105.00
Principal Graphics Designer	\$ 32.89	\$ 64.33	\$ 7.78	\$ 105.00
Senior Principal CAD/BIM Designer	\$ 53.25	\$ 104.16	\$ 12.59	\$ 170.00
Principal CAD/BIM Designer	\$ 50.12	\$ 98.03	\$ 11.85	\$ 160.00
Senior CAD/BIM Designer	\$ 39.15	\$ 76.59	\$ 9.26	\$ 125.00
CAD/BIM Designer	\$ 32.89	\$ 64.33	\$ 7.78	\$ 105.00
Assistant CAD/BIM Designer	\$ 29.76	\$ 58.21	\$ 7.04	\$ 95.00
Administrative Assistant	\$ 29.76	\$ 58.21	\$ 7.04	\$ 95.00

**Formulas:**

- (A) Direct Labor Rate
- (B) Overhead% x (A)
- (C) Profit % x (A+B)
- (D) Billing Rate (A+B+C)

**Notes:**

Subconsultants: Subconsultants are not anticipated. Should a subconsultant be needed on a particular assignment, their rates can be provided.  
Reimbursible Direct Costs: Reimbursible costs, such as reprographics and travel, will not be marked up.