

**PROFESSIONAL SERVICE AGREEMENT  
BETWEEN SANTA FE COUNTY AND  
INTERA, INC. FOR ENGINEERING SERVICES  
PERTAINING TO PFAS CONTAMINATES**

This Agreement is entered into this 22<sup>nd</sup> day of August 2024, between **Santa Fe County**, a political subdivision of the state of New Mexico (the "County"), and **INTERA, Inc.**, 2440 Louisiana Blvd. Suite 700, Albuquerque, New Mexico 87110 (the "Contractor").

**WHEREAS**, the County requires professional engineering services for the sampling, analysis, modeling of Per- and Polyfluoroalkyl Substance ("PFAS") contaminants in domestic wells in Santa Fe County, and to identify sources of the contaminants, evaluate remediation and mitigation options; and

**WHEREAS**, in accordance with NMSA 1978, Section 13-1-112, and the Santa Fe County Purchasing Regulations and Policy Manual, the County issued Request for Proposal No. 2024-0265-PW/BT; and

**WHEREAS**, the Contractor was recommended for selection by the County's Evaluation Committee as the most qualified offeror; and

**WHEREAS**, the County requires the services of the Contractor and the Contractor is willing to provide these services and both parties wish to enter into this Agreement.

**NOW, THEREFORE**, the parties agree as follows:

Agreement

1. CONTRACTOR'S SERVICES

- A. Upon receipt of a notice to proceed from the County the Contractor will complete a professional report that includes without limitation the following data and documentation:
  - a. Evaluate existing PFAS sampling data for the area of La Cienega/ La Cieneguilla in Santa Fe County including data sources from the City of Santa Fe, State of New Mexico Environment Department (NMED), and the Department of Defense (DOD)
  - b. Develop an implementation and analysis plan and analysis data from samples.
  - c. Complete modeling based upon data analysis including modeling techniques and procedures and assess and interpret results of model outputs.
  - d. Provide comparable approaches to addressing PFAS contamination and recommended best practices.
  - e. Identify potential alternative options for remediation and/or mitigation of PFAS contaminants in domestic wells, including a cost estimations and prioritized plan to mitigate or potentially eliminate impact of PFAS contamination.

- f. Identify actual and potential sources of PFAS contamination in both surface and groundwater.
- g. Coordinate with the County’s communications consultant to generate a comprehensive FAQ sheet to address PFAS issues, concerns and treatment options.
- h. Contractor’s Services are as more fully described by the Contractor in the Contractor’s proposal dated August 16, 2024 (see Attachment A). And Contractor will perform the Services using a team of two professionals: JSAI and WEPL.

2. ADDITIONAL SERVICES

A. The parties agree that the Services in section 1 above will be completed to the County’s satisfaction and for the amount stated section 3 (Compensation, Invoicing and Set-off).

B. The County may request changes in the Contractor’s Services. Any changes to the Contractor’s Services must be made by written amendment.

3. COMPENSATION, INVOICING AND SET-OFF

A. The total compensation payable to the Contractor will not exceed **\$555,567.11**, exclusive of NM GRT. Any NM GRT levied on the amounts payable under this Agreement will be paid by the County to the Contractor.

B. The compensation payable to the Contractor is based on the following fee schedule.

<b>TASKS</b>	<b>Cost</b>
<b>Task 1:</b> Review and evaluate data	\$74,307.02
<b>Task 2:</b> Data analysis, development and implementation of sampling analysis plan	\$271,855.80
<b>Task 3:</b> Refine CSM and groundwater model	\$37,164.78
<b>Task 4:</b> Comparison of other similar projects	\$34,521.51
<b>Task 5:</b> Identify sources of PFAS	\$28,166.00
<b>Task 6:</b> Evaluate mitigation/ remediation options	\$85,600.00
<b>Task 7:</b> Coordinate with County’s communications consultant	\$23,952.00

C. The Contractor will submit a written request for payment to the County when payment is due under this Agreement. Upon the County’s receipt of the written request the County will issue a written certification of complete or partial acceptance or rejection of the services for which payment is sought.

- 1) The County’s representative for certification of acceptance or rejection of and services is Paul Choman, Utilities Division Director,

[pchoman@santafecountynm.gov](mailto:pchoman@santafecountynm.gov), (505) 992-9872, or such other individual as may be designated in the absence of the County representative.

- 2) Within 30 days of the issuance of the certification accepting the services, the County will make payment for the services. If the County does not issue payment for accepted services within 30 days of the certification by the County, the County will pay a late payment fee of 1.5% per month until the amount due is paid in full.

D. If the Contractor breaches this Agreement, the County may, without penalty, withhold payments due the Contractor for the purpose of set-off damages it suffered as a result of the breach.

E. Payment The County's payment to Contractor will not foreclose the County's right to recover excessive or illegal payment.

#### 4. EFFECTIVE DATE AND TERM

This Agreement will be effective as of the date of last signature by the parties and will terminate one year from that date, unless earlier terminated under Section 5 (Termination) or Section 6 (Appropriations and Authorizations).

#### 5. TERMINATION

A. Termination of Agreement for Cause. Either party may terminate this Agreement based upon a breach by the other party. The non-breaching party must give the breaching party written notice of termination specifying the grounds for the termination. The termination will be effective 30 days from the breaching party's receipt of the notice of termination, during which time the breaching party will have the right to cure the breach. If, however, the breach cannot with due diligence be cured within 30 days, the breaching party shall have a reasonable time to cure the breach, provided that, within 30 days of its receipt of the written notice of termination, the breaching party began to cure the breach and advised the non-breaching party in writing that it intended to cure.

B. Termination for Convenience of the County. The County may terminate this Agreement at any time for any reason or no reason, by giving the Contractor written notice of termination. The notice must state the effective date of termination, which must not be less than 15 days from the Contractor's receipt of the notice. The County will pay the Contractor for acceptable services performed before the effective date of termination. The County will not be liable for any services performed by the Contractor after the date of termination.

#### 6. APPROPRIATIONS AND AUTHORIZATIONS

The County's performance of the obligations under this Agreement is contingent upon sufficient appropriations and authorizations by the Board of County Commissioners of Santa Fe County, and if state funds are involved, the Legislature of the State of New Mexico. If sufficient appropriations and/ or authorizations are not made in this or future fiscal years, this Agreement will terminate

upon written notice by the County to the Contractor. A termination for non-appropriations or lack of authority will be without penalty to the County, and the County will not be required to reimburse the Contractor for expenditures made in the performance of this Agreement. The County is not committed to the expenditure of any funds until such time as they are programmed, budgeted, encumbered and approved for expenditure by the County. The County's decision regarding appropriations and authorization will be final and will not be subject to challenge by the Contractor in any way, or forum, including a lawsuit.

7. INDEPENDENT CONTRACTOR

The parties intend that the Contractor and its agents and employees will be independent contractors and not employees or agents of the County. Accordingly, the Contractor and its agents and employees will not accrue leave, participate in retirement plans, insurance plans, or liability bonding, use County vehicles, or participate in any other benefits afforded to County employees. Except as may be authorized in this Agreement, the Contractor has no authority to bind, represent, or otherwise act on behalf of the County.

8. ASSIGNMENT AND SUBCONTRACTING BY THE CONTRACTOR

A. The Contractor must not assign or transfer any interest in this Agreement or assign any claims for money due under this Agreement without the advance written approval of the County. Any attempted assignment or transfer in violation of this Agreement will be void.

B. The Contractor must not subcontract or delegate any portion of the services without the advance written approval of the County. Any attempted subcontract or delegation by the Contractor to a non-party in violation of this Agreement will be void.

9. CONTRACTOR'S PERSONNEL

A. The services in section 1 (Contractor's Services) must be performed by the Contractor or under its supervision.

B. The Contractor states that it has, or will secure at the Contractor's expense, all personnel required to perform the services and obligations under this Agreement. Such personnel must not be employees of or have any contractual relationship with the County, and must be qualified and licensed by federal, state and local law to perform the services.

10. RELEASE

The Contractor's receipt of payments due under this Agreement serves as a release of the County, its elected officials, officers, agents and employees from all liabilities, claims, and obligations arising from this Agreement.

11. CONFIDENTIALITY

Any confidential information provided to or developed by the Contractor in the performance of this Agreement must be kept confidential and not be made available to any individual or organization by the Contractor without the prior written approval of the County.

12. PUBLICATION, REPRODUCTION, AND USE OF MATERIAL; COPYRIGHT

A. The County has the unrestricted right to publish, disclose, distribute and otherwise use, in whole or in part, any reports, data, or other material prepared under or pursuant to this Agreement.

B. The Contractor acknowledges and agrees that any material produced in whole or in part under or pursuant to this Agreement is a work made for hire. Accordingly, to the extent that any such material is copyrightable in the United States or in any other country, the County will own any such copyright.

13. CONFLICT OF INTEREST

The Contractor represents that it has no and will not acquire any interest, direct or indirect, that would conflict in any manner or degree with the performance of its obligations under this Agreement.

14. AMENDMENT

This Agreement may not be modified, altered, changed, or amended orally. To be valid any amendment to this Agreement must be in writing signed by the parties.

15. ENTIRE AGREEMENT; INTEGRATION

This Agreement incorporates all the agreements and understandings between the parties and all agreements and understandings are merged into this Agreement. No prior or contemporaneous agreements or understandings, verbal or otherwise, of the parties will be valid or enforceable unless embodied in this Agreement.

16. NOTICE OF PENALTIES

The Procurement Code, NMSA 1978, Sections 13-1-28, imposes civil and criminal penalties for its violation. In addition, New Mexico criminal statutes impose felony penalties for bribes, gratuities, and kickbacks.

17. EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE

A. The Contractor agrees to abide by federal, state, local laws, ordinances, and rules and regulations pertaining to equal employment opportunity and unlawful discrimination. The Contractor must not discriminate against any person with regard to employment with the

Contractor or participation in any program or activity offered pursuant to this Agreement on the grounds of race, age, religion, color, national origin, ancestry, sex, physical or mental handicap, serious medical condition, spousal affiliation, sexual orientation, or gender identity.

B. The Contractor acknowledges that failure to comply with this section will constitute a breach of this Agreement.

## 18. GOVERNING LAW

A. The Contractor will comply with all applicable laws, ordinances, and regulations, including Santa Fe County Ordinance 2014-1 (Establishing a Living Wage).

B. This Agreement will be construed in accordance the laws of the State of New Mexico without regard to its choice of law rules. The Contractor acknowledges that the exclusive forum for any litigation related to this Agreement will be state district courts of New Mexico, located in Santa Fe County.

## 19. RECORDS AND INSPECTIONS

A. To the extent its books and records relate to (i) its performance of this Agreement or any subcontract entered into pursuant to it or (ii) cost or pricing data (if any) set forth in this Agreement or that was required to be submitted to the County as part of the procurement process, the Contractor agrees to (i) maintain such books and records for a period of six years from the date of final payment under this Agreement; (ii) allow the County or its designee to audit such books and records at reasonable times and upon reasonable notice; and (iii) to keep such books and records in accordance with generally accepted accounting principles (GAAP).

B. To the extent its books and records relate to (i) its performance of this Agreement or any subcontract entered into pursuant to it or (ii) cost or pricing data (if any) set forth in this Agreement or that was required to be submitted to County as part of the procurement process, the Contractor also agrees to require any subcontractor it may hire to perform its obligations under this Agreement to (i) maintain such books and records during the term of this Agreement and for a period of six years from the date of final payment under the subcontract; (ii) to allow the County or its designee to audit such books and records at reasonable times and upon reasonable notice; and (iii) to keep such books and records in accordance with GAAP.

## 20. INDEMNIFICATION

A. The Contractor shall indemnify the County and its elected officials, agents, and employees from any liabilities, damages, demands, suits, costs or expenses, including court costs and legal fees, resulting from the Contractor's performance or non-performance of its obligations under this Agreement.

B. The County may control and participate in the defense of any demand, suit, or cause of action that relate to the County. No matter will be settled without the County's consent. Consent must not be unreasonably withheld.

C. The Contractor's obligations under this indemnification section will not be limited by the terms of the insurance policy the Contractor is required to maintain under this Agreement.

21. SEVERABILITY

If any provision of this Agreement is held invalid or non-enforceable by a court of competent jurisdiction, other provisions will not be affected and will remain valid and enforceable.

22. NOTICES

Notice required to be given to either party must be in writing and delivered in person, by courier service or by U.S. mail, either first class or certified, return receipt requested, postage prepaid, to:

To the County: Santa Fe County Public Works Department  
Attn: Paul Choman, Utilities Division Director,  
424 NM Highway 599 Frontage Rd  
Santa Fe, New Mexico 87504  
[pchoman@santafecountynm.gov](mailto:pchoman@santafecountynm.gov)

To the Contractor: INTERA, Inc.  
Joe Tracy, Project Manager  
2440 Louisiana Blvd., Suite 700  
Albuquerque, New Mexico, 87110  
[jtracy@intera.com](mailto:jtracy@intera.com)

23. CONTRACTOR REPRESENTATIONS

The Contractor hereby represents and warrants that:

A. This Agreement is duly authorized by the Contractor, the person signing this Agreement has authority to do so, and, once signed by the Contractor, this Agreement will constitute a binding obligation of the Contractor.

B. The terms of this Agreement do not conflict with Contractor's corporate agreement or any statement that may be filed with the New Mexico Secretary of State.

C. The Contractor is legally registered and is properly licensed by the State of New Mexico to provide the services and will maintain such registration and licensure for the term of this Agreement.

24. FAX OR ELECTRONIC SIGNATURE

A fax or electronic signature will have the same force and effect as an original signature.

25. NO THIRD-PARTY BENEFICIARIES

The parties do not intend by this Agreement to create any rights in any non-parties.

26. CONTRACTOR'S INSURANCE

A. General Conditions. Contractor will submit evidence of insurance as is required below. Policies of insurance must be written by companies authorized to write such insurance in New Mexico.

B. General Liability Insurance, Including Automobile. Contractor will maintain during the term of this Agreement a comprehensive general liability and automobile insurance policy and liability limits in amounts not less than \$1,050,000 combined single limits of bodily injury, including death, and property damage for any one occurrence. Said policies of insurance will include coverage for all operations performed for the County by the Contractor; coverage for the use of all owned, non-owned, hired automobiles, vehicles and other equipment both on and off work; and contractual liability coverage under which this Agreement is an insured contract. Santa Fe County must be named additional insured on the policy.

C. Workers' Compensation Insurance. Contractor will comply with the provisions of the Workers' Compensation Act.

D. Malpractice/Errors and Omissions Insurance. Contractor must procure and maintain during the term of this Agreement professional liability (errors and omissions) insurance with policy limits of not less than \$1,500,000.00 per claim, \$2,500,000.00 per aggregate.

E. Increased Limits. If, during the life of this Agreement, the Legislature of the State of New Mexico increases the maximum limits of liability under the Tort Claims Act, NMSA 1978, Section 41-4-1, the Contractor will increase the maximum limits of its insurance.

F. Contractor may use a combination of its underlying insurance policies and its excess insurance policies to meet the insurance requirements described above.

27. PERMITS AND FEES

Contractor will procure all permits, licenses, and pay all fees associated with the performance of the Services and the Contractor's obligations under this Agreement.

28. NEW MEXICO TORT CLAIMS ACT

No provision of this Agreement will modify or waive the sovereign immunity or limitation of liability enjoyed by County or its public employees at common law or under the New Mexico Tort Claims Act, NMSA 1978, Section 41-4-1.

29. CAMPAIGN CONTRIBUTION DISCLOSURE FORM

The Contractor must complete and submit simultaneous with signing this Agreement, the Santa Fe County Campaign Contribution Disclosure form.

30. SURVIVAL

The provisions of the following paragraphs will survive termination of this Agreement: Indemnification, Records and Inspection; Release; Confidentiality; and Choice of Law.

The parties execute this Agreement as of the date of last signature by the parties.

**SANTA FE COUNTY:**

Hank Hughes  
Hank Hughes, Chair  
Santa Fe County Board of County Commissioners



**ATTESTATION:**

Katharine E. Clark  
Katharine E. Clark  
Santa Fe County Clerk

08/20/2024  
Date

Approved as to form:

Roberta D. Joe for J.Y.  
Jeff Young  
Santa Fe County Attorney

August 21, 2024  
Date

**CONTRACTOR - INTERA, Inc.:**

Peter Castiglia  
Signature

AUGUST 21, 2024  
Date

Peter Castiglia, President of Mining & Environmental  
Print name and title

## ATTACHMENT A



INTERA Incorporated  
2440 Louisiana Blvd. NE, Suite 700  
Albuquerque, NM 87110  
+1 (505) 246 1600  
INTERA.com



August 16, 2024

### **Work Plan and Cost Estimate, Professional Consultant and Engineering Services Regarding Per- and Polyfluoroalkyl Substance (PFAS) Contaminants in Drinking Water Wells, Santa Fe County Request for Proposal No. 20241-02656-PW/BT**

#### **Activity 1**

##### **Task 1: Review and Evaluate Existing Data**

The objective of Task 1 is to obtain sufficient data to refine our existing Conceptual Site Model (CSM). Our existing CSM was presented to the County in our proposal dated May 24, 2024 and also in the County Oral Presentation on July 19, 2024. Our first step will be to gather all available data and information including the current hydrogeologic framework developed by the New Mexico Bureau of Geology (NMBG), and JSAL. The specific data and information needed from the County includes any available sampling/analysis data the County may have from either public or private well owners. INTERA will also request data from the New Mexico Environment Department (NMED) via the Inspection of Public Records (IPRA) process. INTERA will work with the County to determine the most efficient way to request data from the Department of Defense (DOD) for the Army Aviation Support Facility (AASF) and then follow the defined process. We will search multiple federal, state, and local government databases for information related to the use of PFAS in the region to identify other potential sources of PFAS (i.e. research into fire-fighter training and use of PFAS at the Santa Fe Regional Airport), well (domestic and monitoring) completion and production information, contact elevations between the Ancha Formation and underlying units, and water level elevations will be gathered from NMBG and New Mexico Office of the State Engineer (OSE) databases and from technical reports such as discharge permit monitoring reports for the City of Santa Fe (COSF) Paseo Real Water Reclamation Facility (PRWRF).

During our contract negotiation meeting on July 31, 2024, the County provided a copy of a Memorandum of Agreement (MOA) dated June 6, 2024 between the County and the COSF. The MOA includes a provision for the COSF and County to share data related to the investigation of known PFAS contamination at the Santa Fe Regional Airport. During the meeting, the County requested and INTERA agreed that correspondence should be sent to the COSF to use COSF groundwater data to develop a County groundwater model and also to further refine the CSM. The County sent a written request to the COSF via email on August 6, 2024. The COSF responded on August 6, 2024 via email with approval to use all COSF chemical data and use the COSF MODFLOW model for purposes outlined in the MOA. The INTERA Team will use COSF data accordingly and will abide by the conditions set forth in the MOA.

Subtasks as part of Task 1 include: Project Management (Task 1.1), Internal Status Meetings (Task 1.2), Client Meetings (Task 1.3), Work Plan Development (Task 1.4), CSM Development (Task 1.5), and Project Schedule (Task 1.6).

The generated data will be entered into a database so it can be readily accessed by the County and the INTERA Team and easily transferred and used by other data analysis tools (e.g., data visualization,



modeling, and water quality statistical software). For example, the sampling/analysis data, well, geologic, and potential source information will be synthesized into a Leapfrog™ 3-D geologic model to assist with visualization of available data. The CSM, the deliverable for Task 1, will be used to iteratively convey what is known about contaminants at a site, how they move through the subsurface, and potential exposure points. This first iteration of the CSM will include preliminary groundwater modeling results and will inform the selection of environmental media and areas within the Communities to be sampled as detailed below in Task 2. The CSM will also provide key project details for communications professionals to use in conveying information to stakeholders so that critical decisions can be scientifically justified (e.g., the selection of specific domestic wells for sampling). The CSM will include not only the results of the 3-D modeling mentioned above, but also: a graphical presentation of contaminant sources and their movement to receptors (including travel times estimated from groundwater flow direction, effective porosity, hydraulic conductivity, and gradients), documentation of all data (and their sources) including tables and maps that summarize salient data, discussion of the basis for elements of the CSM (e.g., distribution of PFAS in the subsurface, key hydrogeologic factors such as geometry of the saturated Ancha Formation, the interaction of surface water from streams and springs with groundwater and specific transport mechanisms for movement of PFAS) and most importantly, clearly identified data gaps needed to address uncertainties in the CSM (e.g., accurate locations of domestic wells, the lateral and vertical extent of the PFAS contamination).

#### **Task 2: Data Analysis and Development and Implementation of a Sampling and Analysis Plan (SAP)**

The objective of this task is to build on the CSM developed as part of Task 1 to investigate the probable flow path(s) for fate and transport of PFAS. Our approach to addressing the “where” to sample will be based on the results of the CSM related to the likely environmental media (i.e., groundwater and surface water in streams and springs) and the JSAI groundwater flow model that will show estimated particle movements from potential sources to potential receptors within specified time limits.

Task 2.1 – Groundwater Modeling. The objective of this task is to build on the CSM developed as part of Task 1 and to investigate the probable flow path(s) for fate and transport of the PFAS. Task 2.1 will identify specific domestic wells that are impacted and require some form of mitigation, and will inform the scope of all subsequent project tasks. This effort will be lead by JSAI and will include the following elements:

Step 1 – Incorporation of collected data into JSAI historical-transient groundwater flow model and analysis of model calibration and representation.

Step 2 – Minor model calibration measures to better represent La Cienega – La Cieneguilla areas. Key hydrogeologic features for the project area that will be included in the CSM include:

- Tesuque Formation surface and preferential flow paths in paleo-valleys;
- Distribution of saturated Ancha Formation overlying the Tesuque Formation and ridge of Tesuque Formation bifurcating the Santa Fe River system from La Cienega
- Area of upward vertical head gradients in the La Cienega and La Cieneguilla groundwater discharge areas
- Infiltration rates of PRWRF discharges of treated effluent to the Santa Fe River

- Effects of groundwater mounding on groundwater flow direction between PRWRF and Cieneguilla
- Geologic conditions that create perched groundwater conditions

Step 3 – Initial groundwater flow model and particle tracking simulations to estimate potential flow paths and timing from identified PFAS sources. Includes development of tables, graphs and maps of results for developing the project SAP.

Step 4 – Assist with SAP and sample collection, such as identifying best wells to sample, and sample collection efforts.

Task 2.2 – Sampling and Analysis Plan. This task includes the development of an integrated work plan that includes a site-specific health and safety plan (SSHASP) and a SAP. A SSHASP will be developed for the planned field activities that meets the requirements of 29 Code of Federal Regulations (CFR) 1910.120, Hazardous Waste Operations and Emergency Response, and the applicable subparts of 29 CFR 1910. The SSHASP will be developed in accordance with standard health and safety protocol for groundwater monitoring for PFAS contaminated sites.

The SAP will detail proposed field activities to investigate PFAS contamination in groundwater. The SAP will contain two components- a field sampling plan (FSP) and a quality assurance project plan (QAPP). The FSP will include the following:

- A summary of findings from previous investigations and summary of additional data needs.
- Details on the methods, schedule, and personnel to complete field activities and reporting.
- A table summarizing the wells and/or springs proposed to be sampled. The table will be organized in prioritization with the name and/or address of the property owner. This table will aid in determining where access agreements may need to be collected.
- Details on collecting access agreements from property owners as well as other property specific information (e.g. well construction details, septic tank location, pump information).
- Specific details regarding groundwater sampling procedures at domestic wells and surface water sampling from springs.
- Requirements for documentation

The FSP will contain figures and tables that clearly illustrate proposed sample locations and the information to be collected. It will also detail a dynamic work strategy that clearly specifies the sequencing of sample collection and data quality objectives (DQOs) needed for informed decision making.

The QAPP will document the project goals and DQOs and will contain all quality assurance (QA) procedures that will be used to ensure that the collected samples are (1) representative of the media being investigated or monitored, (2) that results are defensible, and (3) the overall quality of the data supports project goals, objectives, and decision-making.

The QAPP will include the following:

- Minimum qualifications and training required for field personnel
- Standard operating procedures (SOPs) for field activities and laboratory testing
- Requirements for the collection of QC samples such as duplicates, field blanks, trip blanks, and equipment rinsate blanks
- Accuracy and precision criteria for laboratory data will be specified along with agreement criteria
- Data review and validation procedures.

The SAP will be approved by Santa Fe County prior to the initiation of any field activities.

Task 2.3 Field Sampling and Analysis. A groundwater monitoring event will be completed as part of Task 2.3. Groundwater samples will be collected from the domestic wells and surface water (springs) identified as the most important locations to sample by the groundwater modeling work and CSM development (Task 1). The INTERA Team estimates that up to 60 domestic wells and up to 10 surface water samples will be collected as part of Task 2.3.

Evaluation of residential septic systems as a source of PFAS will be addressed in a stepwise fashion. Sampling of eight (8) select domestic supply wells and/or monitoring wells for pharmaceuticals and personal care products (PPCP) analysis will happen first and will occur concurrently with the sampling of domestic wells for PFAS analysis. A comparison of PFAS and PPCP data will be used to evaluate whether correlations between the two data sets exist. The potential contribution of PPCP and PFAS from the biosolids surface disposal area and effluent associated with the PRWRF will be considered.

If we cannot definitively determine whether the septic systems are contributing PFAS to the La Cienega domestic supply wells, a second, more intrusive evaluation step is proposed. This next step will involve collecting pore water samples near selected residential septic drain fields. To collect the porewater samples, lysimeters will be installed in soil borings advanced either by hand auger or drill rig; for cost estimating purposes, a hand auger boring advancement method at eight (8) locations has been included. This installation method will need to be further evaluated once locations for lysimeter installations are selected. Pore water samples will be analyzed for PFAS by USEPA Method 1633. Installation of lysimeters will require additional discussions and modified access agreements with property owners. Our present understanding of the approximate cost to evaluate septic systems for the presence of PFAS is **\$60,261** plus New Mexico Gross Receipts Tax (includes labor, hand auger installation of lysimeters, and laboratory analysis).

The INTERA Team will collaborate with the County and its communications project consultant to obtain access agreements with well owners. We envision that this element of Task 2 will include community meeting(s) and distribution of flyers along with door-to-door visits to inform residents of what is needed and when. It is unlikely that access agreements to all wells identified to be sampled will be obtained, so the SAP will include redundancies and a priority ranking of sample location importance to help guide the level of effort to obtain access to specific locations.

Once access agreements are obtained and sample containers secured from the laboratory, our sampling teams will be deployed to implement the SAP. A sampling schedule will be developed in collaboration with the County and will be provided to well owners if requested by the County. Bilingual, certified

water well samplers will be included in each sample crew. During well purging, groundwater quality field parameters (conductivity, temperature, pH, dissolved oxygen, oxidation-reduction potential) will be monitored using a multi-parameter water quality meter for stabilization to ensure the collection of representative groundwater samples. Once stabilization is achieved, groundwater samples will be collected and submitted for one of the following analyses:

- PFAS via EPA Method 533, 537.1, and/or 1633

QA and QC samples will be collected. Additional details pertaining to QA/QC samples (duplicates, field blanks, equipment rinsate blanks, and trip blanks) will be provided in the SAP developed as part of Task 2.2.

### **Task 3: Refine CSM and Groundwater Model**

In general, the groundwater model will provide an assessment of risk, both current and future, to La Cienega and La Cieneguilla water sources, provide a means to prioritize mitigation measures, guide the evaluation of potential effectiveness of remediation methods (Task 6), and test and constrain the possible PFAS source locations. A refined CSM will be the most important tool for investigating distribution of PFAS concentrations, PFAS source area identification, and PFAS flow paths. Key hydrogeologic features for the project area that will be included in the CSM include:

- Tesuque Formation surface and preferential flow paths in paleo-valleys
- Distribution of saturated Ancha Formation overlying the Tesuque Formation and ridge of Tesuque Formation bifurcating the Santa Fe River system from La Cienega
- Area of upward vertical head gradients in the La Cienega and La Cieneguilla groundwater discharge areas
- Infiltration rates of PRWRF discharges of treated effluent to the Santa Fe River
- Effects of groundwater mounding on groundwater flow direction between PRWRF and Cieneguilla
- Geologic conditions that create perched groundwater conditions

Existing groundwater elevation contour maps prepared by the NMBG help the understanding of regional groundwater flow direction and the La Cienega groundwater discharge area, but do not provide the full picture of potential flow paths from potential PFAS source areas. INTERA and JSAI will build on previous work (using both NMBG and COSF data) to better understand local groundwater flow paths from the potential PFAS source areas, and the importance of vertical head gradients. Our technical approach includes two steps. The first is to develop a refined CSM using previous work by NMBG and JSAI and additional data collected from potential PFAS source areas and the latest CSM generated from execution of Tasks 1 and 2. The refined CSM will include a 3-D representation of the geology, details about the groundwater flow system (head gradients, flow direction, groundwater velocities, etc.), and water budget analysis that includes potential for recharge (Santa Fe River, biosolids landfarm, and airport site). The second step is to update the groundwater flow model to evaluate PFAS flow paths, transport timing (particle tracking), impacts to downgradient wells and springs, and remedial options. INTERA and JSAI will use particle tracking for assessing the migration of PFAS in the groundwater system.

### **Task 4: Comparison with Other Similar Projects**

Task 4 will compare how this project was designed and executed versus other PFAS projects in New Mexico and this region of the US that have similar attributes. Task 4 will go one step further by comparing and contrasting the various approaches that others have used to deal with PFAS issues and

present current best practices for remediation and mitigation. The INTERA Team will identify and summarize best practices from other locations in the US that have addressed similar issues and may be best suited to the specific needs and objectives of the affected Communities. These may include point-of-use (POU) treatment systems, extension of centralized water and wastewater service, construction of deeper wells, in-situ remediation to reduce or eliminate long-term sources of PFAS contamination in the vadose zone, and groundwater pump and treat systems.

Similar projects that will serve as a guide or model for the solutions to project issues are, Cannon Air Force Base, Clovis, New Mexico; Hollomon Air Force Base, Alamogordo, New Mexico; and Kirtland Air Force Base, Albuquerque New Mexico. The deliverable for Task 4 will be the Activity 1 Professional Report. The Professional Report will integrate the findings from the sampling and analysis performed as part of Task 2 with findings of Task 1 into a revised CSM and addresses key project elements Nos. 1 through 4.

## **Activity 2**

### **Task 5: Identify PFAS Source(s)**

The two most probable sources for the PFAS compounds identified in the drinking water samples collected from the Communities' domestic wells are the AASF and PRWRF (and associated effluent discharge and biosolids land application areas). Given that over 14,000 PFAS chemicals have been identified and used for a wide variety of commercial and industrial purposes, associating the PFAS in the domestic well samples with a specific source will be challenging. INTERA will employ a "lines of evidence (LOE)" approach using historical data, modeling, and PFAS component modeling methods (described below) to address key project element No. 3 (Determine the source(s) of the PFAS contamination discovered in the domestic water wells). This effort will be led by INTERA with support from Western Environmental and JSAI.

PFAS component modeling will use concentrations and presence/absence of compounds through laboratory analysis (component modeling) and require interpretation of information on the types and fractional distributions of PFAS that may have been used or transported via environmental pathways to the site. If enough information is available, focused quantitative and statistical approaches can be used to evaluate the composition of samples. These approaches provide a LOE into source differentiation. For the component modeling, the INTERA Team will first employ screening-level approaches, which focus on simplifying large amounts of data. These screening-level approaches, from simpler to complex, include data visualization, concentration-based statistics and ratios, isomer ratios, and PCA.

### **Task 6: Evaluate Remediation or Mitigation Options**

We anticipate that a combination of mitigation and remediation approaches may be required to first address the immediate health risks, and then implement robust, effective, affordable, and sustainable long-term solutions. The selection of approach(es) will depend on the extent of the contamination and the scale of the necessary mitigating or remedial action. The INTERA Team will follow a structured decision making (SDM) approach to foster collaboration and informed and transparent decision making regarding the best mitigation and remediation options. Our overall approach to the development and evaluation of mitigation and remediation options incorporates the following elements. This effort will be led by INTERA with support from Western Environmental and JSAI.

- Clarify Framework for Evaluation of Alternatives;
- Establish Objectives and Performance Measures;
- Develop Mitigation and Remediation Options;
- Evaluate Expected Performance of Alternatives; and,
- Evaluate Trade-Offs of Various Approaches with Stakeholders and Develop Recommendations.

**Task 7: Coordinate with Communications Project Consultant**

INTERA will work with the County and their communications consultant so that reliable, clear, and concise information concerning technical issues and planned activities are conveyed to the Communities. INTERA will provide data summary sheets and other graphics/figures as needed by the County and communication consultants for Public Outreach use.

Santa Fe County PFAS Investigation  
 Cost Estimate  
 August 16, 2024

**INTERA TEAM Cost Estimate Summary**

Task 1	Task 1.1	Task 1.2	Task 1.3	Task 1.4	Task 1.5	Task 1.6	Task 1 Subtotal
Labor	\$7,416.00	\$3,684.00	\$3,020.00	\$4,556.00	\$35,832.00	\$1,992.00	\$56,500.00
Subcontracted Services	\$0.00	\$0.00	\$0.00	\$0.00	\$17,807.02	\$0.00	\$17,807.02
Expenses	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Subtotal</b>	<b>\$7,416.00</b>	<b>\$3,684.00</b>	<b>\$3,020.00</b>	<b>\$4,556.00</b>	<b>\$53,639.02</b>	<b>\$1,992.00</b>	<b>\$74,307.02</b>

Task 2	Task 2.1	Task 2.2	Task 2.3	Task 2 Subtotal
INTERA Labor	\$22,768.00	\$13,552.00	\$57,496.00	\$93,816.00
Subcontracted Services	\$51,285.80	\$0.00	\$105,424.00	\$156,709.80
Expenses	\$0.00	\$0.00	\$21,330.00	\$21,330.00
<b>Subtotal</b>	<b>\$74,053.80</b>	<b>\$13,552.00</b>	<b>\$184,250.00</b>	<b>\$271,855.80</b>

Task 3	Task 3.1	Task 3.2	Task 3 Subtotal
INTERA Labor	\$9,128.00	\$5,778.00	\$14,906.00
Subcontracted Services	\$0.00	\$22,258.78	\$22,258.78
Expenses	\$0.00	\$0.00	\$0.00
<b>Subtotal</b>	<b>\$9,128.00</b>	<b>\$28,036.78</b>	<b>\$37,164.78</b>

Task 4	Task 4.1	Task 4 Subtotal
INTERA Labor	\$14,728.00	\$14,728.00
Subcontracted Services	\$19,793.51	\$19,793.51
Expenses	\$0.00	\$0.00
<b>Subtotal</b>	<b>\$34,521.51</b>	<b>\$34,521.51</b>

Task 5	Task 5.1	Task 5 Subtotal
INTERA Labor	\$6,188.00	\$6,188.00
Subcontracted Services	\$21,978.00	\$21,978.00
Expenses	\$0.00	\$0.00
<b>Subtotal</b>	<b>\$28,166.00</b>	<b>\$28,166.00</b>

Task 6	Task 6.1	Task 6.2	Task 6 Subtotal
INTERA Labor	\$13,372.00	\$33,728.00	\$47,100.00
Subcontracted Services	\$0.00	\$38,500.00	\$38,500.00
Expenses	\$0.00	\$0.00	\$0.00
<b>Subtotal</b>	<b>\$13,372.00</b>	<b>\$72,228.00</b>	<b>\$85,600.00</b>

Task 7	Task 7.1	Task 7.2	Task 7 Subtotal
INTERA Labor	\$13,392.00	\$10,560.00	\$23,952.00
Subcontracted Services	\$0.00	\$0.00	\$0.00
Expenses	\$0.00	\$0.00	\$0.00
<b>Subtotal</b>	<b>\$13,392.00</b>	<b>\$10,560.00</b>	<b>\$23,952.00</b>

<b>Subtotal</b>		<b>\$555,567.11</b>
<b>NMGRT (7.6250%)</b>		<b>\$42,361.99</b>
<b>Total</b>		<b>\$597,929.09</b>