BOARD OF SUPERVISORS AGENDA ITEM REPORT
CONTRACTS / AWARDS / GRANTS

Requested Board Meeting Date: December 1, 2015
or Procurement Director Award ☐

Contractor/Vendor Name (DBA): Westland Resources, Inc. (Headquarters: Tucson, AZ)

Project Title/Description:
Old Nogales Interceptor / Aerospace Corridor / Park Avenue Sewer Augmentation Design

Purpose:
Award of Contract: CT-WW-16-117. Contract is in the amount of $3,127,251.00, to the most qualified respondent to design the project and prepare all necessary documents for the successful construction of the Old Nogales Interceptor Augmentation /Aerospace Corridor Sewer /Park Avenue Sewer Augmentation Project. Contract term commences December 1, 2015 upon award of the contract and terminates March 31, 2020. Administering Department: Regional Wastewater Reclamation Department.

Procurement Method:
Pursuant to A.R.S. Title 34 and Board Of Supervisors Policy D29.1(A) Qualifications-Based Selection, Solicitation For Qualifications No. 176642 was conducted to establish a contract for all design work and preparation of all necessary documents for the Old Nogales Interceptor Augmentation /Aerospace Corridor Sewer /Park Avenue Sewer Augmentation Project No. 3ASC15.
Attachments: Contract No. CT-WW-16-117, Notice Of Recommendation For Award.

Rec'd Sept 11/16/15 PM02:48

Program Goals/Predicted Outcomes:
This contract will provide for the design of a gravity system to carry all future tributary flows from as far east as the Arizona State Prison Complex (ASPC) on Wilmot to the intersection area of 36th Street and 2nd Avenue. The flows will travel from the ASPC west along the Old Vail Road and then north along the Old Nogales Highway to the Hughes Access Road area. From the Hughes Access Road area flows will continue traveling north along the proposed Old Nogales Interceptor (ONI) alignment, which will eventually discharge into the Southeast Interceptor (SEI) near the intersection of 36th Street and 2nd Avenue. The Project will be designed for 14.37 MGD peak dry weather flow. The Park Avenue Sewer alignment shall consist of diverting sewer flows coming south and west to the intersection of Park Avenue and Drexel Rd and taking them along Drexel Rd from Park Ave to the proposed ONI.

Public Benefit:
The design and construction of this project will provide for the augmentation of existing conveyance systems and for construction of a new gravity conveyance sewer to support the anticipated future development along the Aerospace Corridor.

Metrics Available to Measure Performance:
Project schedule, Contract Fee Schedule and Established Milestones.

Retroactive:
No

To: COB - 11-18-15 (1)
Ver. - 1
Pgs. 1/6

Document Type: CT Department Code: WW Contract Number (i.e.,15-123): 16-117

Effective Date: 12/01/15 Termination Date: 3/31/20 Prior Contract Number (Synergen/CMS):

☒ Expense Amount: $ 3,127,251.00 ☐ Revenue Amount: $

Funding Source(s): RWRD Obligations

Cost to Pima County General Fund: N/A

Contract is fully or partially funded with Federal Funds? ☐ Yes ☒ No ☐ Not Applicable to Grant Awards

Were insurance or indemnity clauses modified? ☐ Yes ☒ No ☐ Not Applicable to Grant Awards

Vendor is using a Social Security Number? ☐ Yes ☒ No ☐ Not Applicable to Grant Awards

If Yes, attach the required form per Administrative Procedure 22-73.

Amendment Information

Document Type: Department Code: Contract Number (i.e.,15-123):

Amendment No.: AMS Version No.:

Effective Date: New Termination Date:

☐ Expense ☐ Revenue ☐ Increase ☐ Decrease Amount This Amendment: $

Funding Source(s):

Cost to Pima County General Fund:

Contact: Keith E. Rogers Keith E Rogers (MH) 10/30/15

Department: Procurement Mary Jo Lang 10/30/15 Telephone: 724-3542

Department Director Signature/Date: 11/3/15

Deputy County Administrator Signature/Date: 11/5/15

County Administrator Signature/Date: C Huckelberry 11/6/15

(Required for Board Agenda/Addendum Items)

PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT **CONSULTANT: Westland Resources, Inc.** **4001 E. Paradise Falls Drive** **Tucson, AZ 85712** **PROJECT: OLD NOGALES INTERCEPTOR / AEROSPACE CORRIDOR / PARK AVENUE SEWER AUGMENTATION DESIGN PROJECT No. 3ASC15** **AMOUNT: Not To Exceed $3,127,251.00** **FUNDING: RWRD Obligations**	CONTRACT NO. CT-WW-16000000000000117 AMENDMENT NO. _____ This number must appear on all invoices, correspondence and documents pertaining to this contract.

PROFESSIONAL SERVICES CONTRACT

THIS CONTRACT is entered into between Pima County, a body politic and corporate of the State of Arizona, hereinafter called COUNTY, and Westland Resources, Inc., hereinafter called DESIGN PROFESSIONAL ("DP") or "CONSULTANT".

WITNESSETH

WHEREAS, COUNTY requires engineering design services for the Old Nogales Interceptor/Aerospace Corridor/Park Avenue Sewer Augmentation project; and

WHEREAS, DP is willing, qualified, and properly registered within the State of Arizona to provide such services; and

WHEREAS, in response to COUNTY SFQ #176642 for such services, DP was adjudged to be the most qualified respondent.

NOW, THEREFORE, the parties hereto agree as follows:

ARTICLE 1 - TERM AND EXTENSION/RENEWAL

This Contract, as approved by the Board of Supervisors, shall commence on December 1, 2015 and shall terminate on March 31, 2020, unless sooner terminated or further extended pursuant to the provisions of this Contract.

The COUNTY shall have the option to extend this Contract for purposes of project completion. Any modification or extension shall be by formal written amendment executed by the parties hereto.

ARTICLE 2 - DEFINITIONS

Other Direct Costs. Other Direct Costs (ODC) are those costs that can be specifically identified with this Contract, are required for performance of the Contract, and are actually incurred. Includes Subcontract/Subconsultant costs; reproduction, copy and printing costs; courier services; and similar costs specifically necessary for this Contract and approved by COUNTY.

Project Baseline. The agreed Contract scope of work, total Cost Plus Fixed-Fee (CPFF), the allocation thereof among Contract tasks, and the accompanying schedule and expectations/assumptions upon which the schedule is based, collectively constitute the project Baseline.

ARTICLE 3 - SCOPE

DP agrees to provide Design Engineering Services for the COUNTY as described in **EXHIBIT "A" – SCOPE OF PROFESSIONAL ENGINEERING DESIGN SERVICES** (34 pages, including attachments), an attachment to this Contract, and in accordance with all incorporated Appendixes and Exhibits. Amendments and changes to the Scope or Contract must be approved by the Procurement Director or the Board of Supervisors, as required by the Pima County Procurement Code, before the work under the amendment commences.

ARTICLE 4 - PAYMENT

In consideration of the services specified in this Contract, the COUNTY agrees to pay DP on a Cost plus Fixed Fee (CPFF) basis, amounts up to the not to exceed total amount of this Contract. The parties agree that Cost shall be comprised of DP's Direct Labor Costs, Indirect Costs and Other Direct Costs and that DP's fee shall remain fixed and may be adjusted only as provided in **ARTICLE 5**.

DP's total CPFF shall be allocated among the major tasks contemplated by this Contract in such manner that each major deliverable will have associated with it a not-to-exceed cost and a fee amount, which Schedule of Payments shall be incorporated herein as **EXHIBIT "B" – COMPENSATION SCHEDULE** (45 pages, including attachments). For each such task and deliverable, DP may invoice monthly for its approved billable hours applied to that task up to the not-to-exceed cost plus fee amount for that task.

The total of all payments to DP for Services provided under this Contract shall not exceed Three Million One Hundred Twenty Seven Thousand Two Hundred Fifty one Dollars ($3,127,251.00).

Labor rates and all other rates included under this Contract shall remain fixed throughout the term of the Contract. The COUNTY may consider adjustments to rates subject to annual audited salary adjustments in connection with any extensions of the Contract term.

All invoices shall be accompanied by a narrative description of the work performed during the period covered by the invoice, time accounting information, and an allocation of all direct costs, including reimbursable costs and subconsultant charges, to the tasks identified in the Scope of Work for which those costs were incurred. The time accounting information should be sufficient to show the worker and hours worked per day for the period covered by the invoice. Subconsultant charges shall be supported by appropriate documentation with each separate invoice submitted.

For the period of record retention required under **ARTICLE 13**, COUNTY reserves the right to audit and question any payment made under this article and to require reimbursement therefor by setoff or otherwise for payments determined to be improper or contrary to the Contract or law.

DP shall not perform work in excess of the Contract Amount without prior authorization by an amendment executed by COUNTY. Work performed in excess of the Contract Amount without prior authorization by amendment shall be at DP's own risk.

ARTICLE 5 – PROJECT BASELINE AND ADJUSTMENTS

(A) COUNTY and DP have agreed upon the Project scope, the total Cost Plus Fixed Fee and a CPM-based schedule for the performance of the work. The schedule is based on assumptions and expectations agreed upon by COUNTY and the DP. Schedule estimates for the timeframes associated with outside party activities, i.e. design and other reviews, and/or permits or other clearances do not represent commitments made by either outside agencies or the permit-granting entities of the County. It is the intent of the parties that this Project Baseline represents a firm commitment by DP and COUNTY to complete the work within the schedule and total cost identified in the Baseline, subject to schedule variations by outside parties and other factors beyond the control of COUNTY and/or DP.

(B) COUNTY and DP understand that the although the Baseline reflects the best estimates and expectations of the parties at the time of agreement, there may be elements of uncertainty

associated with the design process that makes the actual schedule and effort required to complete the work difficult to establish in advance. COUNTY and DP acknowledge that unusual citizen input, litigation, regulatory changes, significant delays by utilities or others, unforeseen decisions or commitments by policy makers, or other unanticipated events or factors beyond the control of the parties that differ materially from the expectations of COUNTY and DP may delay or disrupt the schedule and/or require a change in the level of resources or effort. The parties agree, therefore, that the Project Baseline may be adjusted as follows:

(1) A delay in the work attributable to a failure by COUNTY to adhere to its commitments with respect to schedule shall be deemed an excusable delay for which an adjustment may be made to the schedule. In any such case affecting a task on the critical path, the schedule of the affected task or activity may be extended one day for each day of COUNTY-caused delay; provided, however, that if the COUNTY-caused delay overlaps a period of delay attributable to any other cause, the extension for COUNTY-caused delay is limited to the number of nonoverlapped days of COUNTY-caused delay.

(2) There shall be no adjustment for any delay in the work attributable to a failure by DP to adhere to its commitments with respect to schedule. In the event of a significant delay attributable to a failure by DP to adhere to its schedule expectations, DP will provide a recovery plan to COUNTY within five days of COUNTY's request. For the purposes of this paragraph, a delay arising from or attributable to a necessity for DP to make more than two submissions of plans or documents for approval shall be deemed a failure by DP to adhere to its schedule commitments. Effort associated with additional reviews shall be noncompensable.

(3) A delay in the work attributable to any other cause that differs materially from the expectations of COUNTY and DP regarding that cause shall be deemed an excusable delay for which COUNTY and DP agree to negotiate an appropriate schedule adjustment. If the period of delay attributable to any cause under this paragraph overlaps a period of delay attributable to any other cause, the adjustment under this paragraph shall be made first and the delay attributed to such other cause shall be limited to that occurring outside of the overlap.

(4) If a cause of delay under either Paragraph 1 or 3 above affects a task or activity on the critical path, then the schedule adjustment may include adjustment to the completion date. If the cause does not affect a task or activity on the critical path, then the adjustment shall be made from Float and the completion date shall not be changed.

(5) If a cause of delay under either Paragraph 1 or 3 above results in material provable additional costs to the affected task or tasks as a result of disruption of the schedule, then the parties agree to negotiate an equitable adjustment to the cost for the affected task or tasks, but not fee.

(6) COUNTY and DP agree to negotiate an equitable adjustment of cost and fee for any task or tasks for which there is any significant change in the level of effort arising from additional or changed work requested or directed in writing by COUNTY that materially deviates from or adds to the baseline expectations/assumptions of the parties with respect to the work.

(7) If any action, comment, cause, decision, or other event attributable to any third party results in a change in requirements that differs materially from expectations, then COUNTY and DP agree to negotiate in good faith an equitable adjustment in the cost and fee for the affected task or tasks.

(8) COUNTY and DP may reallocate costs and proportionate fee between or among tasks by an amendment executed by the Procurement Director, provided that the transfer does not change the total amount of the Contract. Costs and fee may not be reallocated from any task on which work has not progressed significantly and which does not include actual or

demonstrable savings or reductions in required effort such that that task may be completed for less than the balance of the task remaining after the transfer

(C) DP agrees to complete the work by the completion date in the schedule, as it may be adjusted under the preceding provisions of this Article. Costs incurred by DP to complete the work after the completion date in the schedule shall not be reimbursable under this Contract.

ARTICLE 6 - TERMINATION FOR CONVENIENCE

COUNTY may terminate this Contract for convenience at any time by giving written notice to DP of such termination and specifying the effective date thereof, at least fifteen (15) days before the effective date of such termination. In that event, all finished and unfinished documents and other materials shall, at the option of the COUNTY, become its property. If the Contract is terminated by COUNTY as provided herein, DP shall be paid an amount based on the time and expenses incurred by DP prior to the termination date, however, no payment shall be allowed for anticipated profit on unperformed services.

Notwithstanding any other provision of this Contract, this Contract may be terminated if for any reason there are not sufficient appropriated and available monies for the purpose of maintaining COUNTY or other public entity obligations under this Contract. COUNTY shall have no further obligation to DP, other than to pay for services rendered prior to termination.

ARTICLE 7 - TERMINATION FOR CAUSE

If, through any cause, DP shall fail to fulfill in timely and proper manner its obligations under this Contract, or if DP shall violate any of the covenants or stipulations of this Contract, the COUNTY shall thereupon have the right to terminate this Contract by giving written notice to DP of such termination and specifying the effective date thereof, at least ten (10) days before the effective date of such termination and DP fails to cure such default within such notice period. In that event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, and reports prepared by DP shall, at the option of the COUNTY, become its property and DP shall be paid an amount based on time and expenses incurred by DP prior to the termination date, however, no payment shall be allowed for anticipated profit on unperformed services. Notwithstanding the above, DP shall not be relieved of liability to COUNTY for damages sustained by COUNTY by virtue of any breach of the Contract by DP and the COUNTY may withhold payments to DP for the purpose of set-off until such time as the exact amount of damage due the COUNTY from DP is determined.

ARTICLE 8 - CONFLICT OF INTEREST

This Contract is subject to the provisions of A.R.S. 38-511 which provides in pertinent part:

"The state, its political subdivisions or any department of either may, within three years after its execution, cancel any contract, without penalty or further obligation, made by the state, its political subdivisions, or any of the departments or agencies of either if any person significantly involved in initiating, negotiating, securing, drafting or creating the contract on behalf of the state, its political subdivisions or any of the departments or agencies of either is, at any time, while the contract or any extension of the contract is in effect, an employee or agent of any other party to the contract in any capacity or a DP to any other party to the contract with respect to the subject matter of the contract."

ARTICLE 9 - STATUS OF DESIGN PROFESSIONAL

The status of the DP shall be that of an Independent Contractor. DP shall not be considered an employee of Pima County and shall not be entitled to receive any of the fringe benefits associated with regular employment, and will not be subject to the provisions of the merit system. DP will be responsible for payment of all Federal, State and Local taxes associated with the compensation received by DP from COUNTY. DP shall be responsible for program development and operation without supervision by COUNTY.

ARTICLE 10 - DESIGN PROFESSIONAL'S PERFORMANCE

DP shall perform the work in accordance with generally accepted engineering principles and standards in effect at the time the services are rendered. DP shall employ suitably trained and skilled professional personnel to perform all required services under this Contract. Prior to changing any key personnel identified in **EXHIBIT "C"**, DP shall obtain the approval of COUNTY.

DP shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all its effort and other services furnished by DP under this Contract. Without additional compensation, DP shall correct or revise any errors, omissions, or other deficiencies in all products of its efforts and other services provided. This shall include resolving any deficiencies arising out of the acts or omissions of DP found during or after the course of the services performed by or for DP under this Contract, regardless of COUNTY having knowledge of or condoning/accepting the products or the services. Any such resolving of deficiencies shall be at no cost to COUNTY.

ARTICLE 11 - SUBCONSULTANT

DP will be fully responsible for all acts and omissions of its subconsultants and of persons directly or indirectly employed by subconsultants and of persons for whose acts any of them may be liable to the same extent that DP is responsible for the acts and omissions of persons directly employed by it. Nothing in this Contract shall create any obligation on the part of COUNTY to pay or see to the payment of any money due any subconsultant, except as may be required by law

ARTICLE 12 - OWNERSHIP OF DOCUMENTS

All original drawings, field data, estimates, field notes, plans, specifications, documents, reports, calculations, and other information developed by DP under this Contract shall vest in and become the property of the COUNTY and shall be delivered to COUNTY upon completion or termination of the services, but DP may retain and use copies thereof. The COUNTY agrees that the material will not be used for any project other than the project for which it was designed without the expressed permission of the DP.

ARTICLE 13 - BOOKS AND RECORDS

DP shall keep and maintain proper and complete books, records and accounts, which shall be open at all reasonable times for inspection and audit by duly authorized representatives of COUNTY. In addition, DP shall retain all records relating to this Contract at least five (5) years after its termination or cancellation or, if later, until any related pending proceeding or litigation has been closed.

ARTICLE 14 – DELAYS

Neither party hereto shall be considered in default in the performance of its obligations hereunder to the extent that the performance of any such obligation is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. DP shall not be responsible for delays caused by circumstances beyond its reasonable control, including, but not limited to (1) strikes, lockouts, work slowdowns or stoppages, or accidents; (2) acts of God; (3) failure of OWNER to furnish timely information or to approve or disapprove DP's submittals promptly, and (4) faulty performance or nonperformance by Owner, Owner's independent contractors or subcontractors, or governmental agencies. DP shall not be liable for damages arising out of any such delay, nor shall the DP be deemed to be in breach of this Agreement as a result thereof.

ARTICLE 15 - CONTINUATION OF SERVICES

DP shall continue to render all services requested in the Contract without interruption, notwithstanding any disputes concerning the interpretation of this Contract, all disputes to be adjusted at a later time, if appropriate.

ARTICLE 16 - ARBITRATION

All claims, disputes, counterclaims, and other matters in question, under $50,000, arising out of or relating to this Contract which the COUNTY and DP are unable to resolve shall be decided by arbitration. The American Arbitration Association is hereby designated as the arbitrator, and arbitration shall proceed in accordance with the Arbitration Rules of the American Arbitration Association. All arbitration hearings will be held in Tucson, Arizona. Arbitration shall be limited to claims with a maximum of $50,000. Arbitrator shall not have jurisdiction to consider or find any claim or matter in controversy or render a monetary award against any party in excess of $50,000, exclusive of interest and costs. DP shall continue to render all services required by this Contract, without interruption, notwithstanding the pendency of any claims, disputes, counterclaims, and other matters in question.

ARTICLE 17 - NON-ASSIGNMENT

DP shall not assign its rights to this Contract in whole or in part, without prior written approval of the COUNTY. Assignment may be withheld at the sole discretion of the COUNTY, provided that such approval shall not be unreasonably withheld.

ARTICLE 18 - NON-DISCRIMINATION

DP will comply with all provisions and requirements of Arizona Executive Order 2009-09 which is hereby incorporated into this Contract as if set forth in full herein **including flow down of all provisions and requirements to any SUBCONSULTANTS.** During the performance of this Contract, CONSULTANT will not discriminate against any employee, client or any other individual in any way because of that person's age, race, creed, color, religion, sex, disability or national origin.

ARTICLE 19 - AMERICANS WITH DISABILITIES ACT

DP shall comply with all applicable provisions of the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. 12101-12213) and all applicable federal regulations under the Act, including 28 CFR Parts 35 and 36. If CONSULTANT is carrying out government programs or services on behalf of COUNTY, then CONSULTANT shall maintain accessibility to the program to the same extent and degree that would be required of the COUNTY under 28 CFR Sections 35.130, 35.133, 35.149 through 35.151, 35.160, 35.161 and 35.163. Failure to do so could result in the termination of this Contract.

ARTICLE 20 - NON-WAIVER

The failure of COUNTY to insist in any one or more instance upon the full complete compliance with any of the terms and provisions of this Contract to take any action permitted as a result thereof shall not be construed as a waiver or relinquishment of the right to insist upon full and complete performance of the same or any other covenant or condition either in the past or in the future. The acceptance by either party of sums less than may be due and owing it at any time shall not be construed as an accord and satisfaction.

ARTICLE 21 - COMPLIANCE WITH LAWS

The DP shall comply with all applicable federal, state, and local laws, rules, regulations, standards and Executive Orders, without limitation to those designated within this Contract. The laws and regulations of the State of Arizona shall govern the rights of the parties, the performance of this Contract, and any disputes hereunder. Any action relating to this Contract shall be brought in a court in the State of Arizona in Pima County. Any changes in the governing laws, rules, and regulations during the term of this Contract shall apply, but do not require an amendment.

ARTICLE 22 - INSURANCE

The Insurance Requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. COUNTY in no way warrants that the minimum limits

contained herein are sufficient to protect the CONSULTANT from liabilities that arise out of the performance of the work under this Contract. The CONSULTANT is free to purchase additional insurance.

CONSULTANT'S insurance will be placed with companies licensed in the State of Arizona or hold approved non-admitted status on the Arizona Department of Insurance List of Qualified Unauthorized Insurers. Insurers will have an "A.M. Best" rating of not less than A- VII. COUNTY in no way warrants that the above-required minimum insurer rating is sufficient to protect the CONSULTANT from potential insurer insolvency.

22.1 Minimum Scope and Limits of Insurance:
CONSULTANT will procure and maintain, until all of their obligations have been discharged, coverage with limits of liability not less than those stated below.

22.1.1 Commercial General Liability (CGL) – Occurrence Form with limits of $1,000,000 Each Occurrence and $2,000,000 General Aggregate. Policy will include bodily injury, property damage, and broad form contractual liability coverage.

22.1.2 Business Automobile Liability – Bodily Injury and Property Damage for any owned, hired, and/or non-owned automobiles used in the performance of this Contract with a Combined Single Limit (CSL) of $1,000,000.

22.1.3 Workers' Compensation and Employers' Liability - Statutory requirements and benefits. Coverage is compulsory for employers of one or more employees. Employer's Liability - $500,000.
Note: The Workers' Compensation requirement will not apply to a CONSULTANT that is exempt under A.R.S. § 23-901, and when such CONSULTANT executes the appropriate COUNTY Sole Proprietor or Independent CONSULTANT waiver form.

22.1.4 Professional Liability (Errors and Omissions) Insurance – This insurance is required when soliciting work from licensed professionals. The policy limits will be not less than $2,000,000 Each Claim and $2,000,000 Annual Aggregate. The policy will cover professional misconduct or negligent acts for those positions defined in the Scope of Work of this contract.
In the event that the Professional Liability insurance required by this Contract is written on a claims-made basis, CONSULTANT warrants that any retroactive date under the policy will precede the effective date of this Contract and, either continuous coverage will be maintained, or an extended discovery period will be exercised, for a period of two (2) years beginning at the time work under this Contract is completed.

Examples of Professional Services requiring E&O insurance: Accounting, Architecture, Asbestos Design, Inspection or Abatement Contractors, Licensed Health Care Practitioners, Legal Services, Engineering Services, or Surveying

22.2 Additional Insurance Requirements:

The policies will include, or be endorsed to include, as required by this written agreement, the following provisions:

22.2.1 Additional Insured Endorsement: The General Liability and Business Automobile Liability Policies will each be endorsed to include COUNTY, its departments, districts, boards, commissions, officers, officials, agents, and employees as additional insureds with respect to liability arising out of the activities performed by or on behalf of the CONSULTANT.

22.2.2 Subrogation Endorsement: The General Liability, Business Automobile Liability and Workers' Compensation Policies will each contain a waiver of subrogation endorsement in favor of COUNTY, and its departments, districts, boards, commissions, officers, officials, agents, and employees for losses arising from work performed by or on behalf of the CONSULTANT.

22.2.3 Primary Insurance Endorsement: The CONSULTANT'S policies will stipulate that the insurance afforded the CONSULTANT will be primary and that any insurance carried by the Department, its agents, officials, employees or COUNTY will be excess and not contributory insurance, as provided by A.R.S. § 41-621 (E).

22.2.4 Insurance provided by the CONSULTANT will not limit the CONSULTANT'S liability assumed under the indemnification provisions of this Contract.

22.3 Notice of Cancellation:

For each insurance policy required by the insurance provisions of this Contract, the CONSULTANT

must provide to COUNTY, within two (2) business days of receipt, a notice if a policy is suspended, voided, or cancelled for any reason. Such notice will be mailed, emailed, hand-delivered or sent by facsimile transmission to (Enter Contracting Agency Representative's Name, Address, and Fax Number here).

22.4 Verification of Coverage:

CONSULTANT will furnish COUNTY with certificates of insurance (valid ACORD form or equivalent approved by COUNTY) as required by this Contract. An authorized representative of the insurer will sign the certificates.

22.4.1 All certificates and endorsements, as required by this written agreement, are to be received and approved by COUNTY before work commences. Each insurance policy required by this Contract must be in effect at, or prior to, commencement of work under this Contract. Failure to maintain the insurance coverages or policies as required by this Contract, or to provide evidence of renewal, is a material breach of contract.

22.4.2 All certificates required by this Contract will be sent directly to the Department. COUNTY project or contract number and project description will be noted on the certificate of insurance. COUNTY reserves the right to require complete copies of all insurance policies required by this Contract at any time.

22.5 Approval and Modifications:

COUNTY Risk Management reserves the right to review or make modifications to the insurance limits, required coverages, or endorsements throughout the life of this contract, as deemed necessary. Such action will not require a formal Contract amendment but may be made by administrative action.

ARTICLE 23 - NON-APPROPRIATION OF FUNDS

Notwithstanding any other provision in this Contract, this Contract may be terminated if for any reason the Pima County Board of Supervisors does not appropriate sufficient monies for the purpose of maintaining this Contract. In the event of such termination, COUNTY shall have no further obligation to DP, other than for services rendered prior to termination.

ARTICLE 24 - INDEMNIFICATION

To the fullest extent permitted by law, DP indemnifies and holds harmless COUNTY, its officers, employees and agents from and against any and all suits, actions, legal administrative proceedings, claims or demands and costs attendant thereto, including reasonable attorney's fees and court costs, to the extent caused by any negligent, reckless or intentionally wrongful act or omission of DP, its agents, employees or anyone acting under its direction or control or on its behalf in connection with performance of this Contract. The obligations under this Article do not extend to the negligence of COUNTY its agents, employees or indemnities.

All warranty and indemnification obligations under this Contract survive expiration or termination of the Contract, unless expressly provided otherwise. Any indemnification provision inconsistent with A.R.S. § 34-226 is, in all cases, not void, but will be interpreted and applied as if it were consistent with A.R.S. § 34-226.

Upon request, DP may fully indemnify and hold harmless any private property owner granting a right of entry to DP for the purpose of completing the project.

ARTICLE 25 - SEVERABILITY

Each provision of this Contract stands alone, and any provision of this Contract found to be prohibited by law shall be ineffective to the extent of such prohibition without invalidating the remainder of this Contract.

ARTICLE 26 - OTHER DOCUMENTS

DP and COUNTY in entering into this Contract have relied upon information provided in the Solicitation

for Qualifications, and on information provided in the DP's response to said SFQ #176642. These documents are hereby incorporated into and made a part of this Contract as if set forth in full herein, to the extent not inconsistent with the provisions of this Contract.

The following Exhibits and Appendices are incorporated into this Contract the same as it set forth herein, to the extent not inconsistent with the provisions of this Contract:

EXHIBIT "A" – SCOPE OF PROFESSIONAL ENGINEERING DESIGN SERVICES w/ Attachments
EXHIBIT "B" – COMPENSATION SCHEDULE w/Attachments
EXHIBIT "C" – PROJECT ORGANIZATION CHART
EXHIBIT "D" – COST PLUS FIXED FEE BILLING STANDARDS
APPENDIX 'A' – CMAR - DP GENERAL CONDITIONS

ARTICLE 27 - REMEDIES

Either party may pursue any remedies provided by law for the breach of this Contract. No right or remedy is intended to be exclusive of any other right or remedy and each shall be cumulative and in addition to any other right or remedy existing at law or at equity or by virtue of this Contract.

ARTICLE 28 - NOTICES

Any notice required or permitted to be given under this Contract shall be in writing and shall be served by delivery or by certified mail upon the other party as follows:

COUNTY:	**DESIGN PROFESSIONAL:**
Jackson Jenkins, Director	Mark F. Taylor, PE, Vice President
Regional Wastewater Reclamation Dept.	Westland Resources, Inc.
201 North Stone Avenue	4001 E. Paradise Falls Drive
Tucson, AZ 85701	Tucson, AZ 85712
Phone: 520.724.6549	Phone: 520.206.9585
FAX: 520.579.6006	FAX: 520.206.9518
Email: jjenkins@pima.gov	Email: mtaylor@westlandresources.com

ARTICLE 29 – PUBLIC INFORMATION

Pursuant to A.R.S. § 39-121 et seq., and A.R.S. § 34-603(G) in the case of construction or Architectural and Engineering services procured under A.R.S. Title 34, Chapter 6, all information submitted in response to this solicitation that underlies this contract, including, but not limited to, pricing, product specifications, work plans, and any supporting data becomes public information and upon request, is subject to release and/or review by the general public including competitors.

Any records submitted in response to the solicitation that underlies this contract that respondent believes constitute proprietary, trade secret or otherwise confidential information must be appropriately and prominently marked as CONFIDENTIAL by respondent prior to the close of the solicitation.

Notwithstanding the above provisions, in the event records marked CONFIDENTIAL are requested for public release pursuant to A.R.S. § 39-121 et seq., County shall release records marked CONFIDENTIAL ten (10) business days after the date of notice to the respondent of the request for release, unless respondent has, within the ten day period, secured a protective order, injunctive relief or other appropriate order from a court of competent jurisdiction, enjoining the release of the records. For the purposes of this paragraph, the day of the request for release shall not be counted in the time calculation. Respondent shall be notified of any request for such release on the same day of the request for public release or as soon thereafter as practicable.

County shall not, under any circumstances, be responsible for securing a protective order or other relief enjoining the release of records marked CONFIDENTIAL, nor shall County be in any way financially responsible for any costs associated with securing such an order.

ARTICLE 30 - ENTIRE AGREEMENT

This document constitutes the entire Contract between the parties and shall not be modified, amended, altered or changed except through a written amendment signed by the parties.

IN WITNESS WHEREOF, the parties have affixed their signatures to this Contract on the dates written below.

PIMA COUNTY

Chair, Board of Supervisors

Date ____/____/____

DESIGN PROFESSIONAL

Signature

Mark F. Taylor

Name and Title (Please Print)

Date 11/4/15

ATTEST

Clerk of the Board

APPROVED AS TO FORM

Deputy County Attorney

CHARLES WESSELHOFT

Printed name

Date 11/02/2015

EXHIBIT "A"

SCOPE OF PROFESSIONAL ENGINEERING DESIGN SERVICES

FOR

OLD NOGALES INTERCEPTOR/AEROSPACE CORRIDOR/PARK AVENUE SEWER AUGMENTATION DESIGN

PROJECT OVERVIEW

The Pima County Wastewater Management Department (PCRWRD) desires to secure the services of a Professional Engineering Design Firm (CONSULTANT) to design and prepare all necessary documents for the successful construction of the Old Nogales Interceptor (ONI) augmentation /Aerospace Corridor (ASC) sewer /Park Avenue Sewer (PAS) Augmentation Project (Project). This Project is a gravity system to carry all future tributary flows from as far east as the Arizona State Prison Complex (ASPC) on Wilmot to the intersection area of 36th Street and 2nd Avenue. The flows will travel from the ASPC west along the Old Vail Road and then north along the Old Nogales Highway to the Hughes Access Road area. From the Hughes Access Road area flows will continue traveling north along the proposed ONI alignment, which will eventually discharge into the Southeast Interceptor (SEI) near the intersection of 36th Street and 2nd Avenue. The Project will be designed for 14.37 MGD peak dry weather flow. The PAS alignment shall consist on diverting sewer flows coming south and west to the intersection of Park Avenue and Drexel Rd and taking them along Drexel Rd from Park Ave to the proposed ONI. The project phases have been identified as follows:

- Phase 1 is the ASC from Hughes Access Road to the State Prison
- Phase 2 is the PAS from Park Ave. to the new ONI along Drexel Road
- Phase 3 is the ONI from 36th Street to Hughes Access Road

Most of the Project, if not all, will be designed and constructed along existing rights-of-way or easements. If additional right-of-way, easements, and temporary easements for construction are required, it will be within the scope of this contract to provide the necessary research and documentation needed to secure those additional easements. Efforts to minimize disruption caused by construction shall be evaluated and applied if economically reasonable. The sewer shall be designed and located so as to provide both visual and vehicular access to the manholes and to minimize the release of odors as the sewage flows through the new sewer.

In addition to the work described above, PCRWRD has asked that the CONSULTANT provide a utility corridor study along Old Vail Road from Old Nogales Highway to Wilmot Road. The study will be coordinated with PCRWRD and Pima County to include locations for wet and dry utilities along Old Vail Road as well as an alignment for Union Pacific Railroad (UPRR).

General Description

A. This Project has a very short schedule, and is of the utmost importance to PCRWRD. The CONSULTANT will make every effort to reduce the design period, potentially through the use of multiple design packages to accommodate an expedited construction process.

B. The specific services being furnished during the life of this Contract shall be rendered by engineers registered to practice in their particular field of endeavor within the State of Arizona. The professional and associated services provided shall be rendered by personnel pre-approved by PCRWRD, which reserves the right to approve or reject any personnel substitutions. The Consultant shall provide a list of all project

personnel promptly and diligently upon receipt of written Notice to Proceed with any or all of the services herein.

C. The CONSULTANT shall be responsible for the completeness and accuracy of all services rendered under this Contract and to correct all errors or omissions on the drawings, specifications and other documents notwithstanding prior acceptance by PCRWRD. Correction of errors, omissions and acts discovered on the engineering plans and specifications at any time, including during construction, until completion and acceptance of the Project by PCRWRD, shall be the responsibility of the CONSULTANT, and corrected without additional compensation.

D. PCRWRD intends to use the Construction Manager at Risk (CMAR) alternative delivery method for this Project. PCRWRD will contract separately for the Project design services (with the CONSULTANT) and the pre-construction and construction management services (with the CMAR). The CONSULTANT shall coordinate with the selected CMAR to evaluate costs, provide estimates and value analysis, schedule assistance, and in concert with the CMAR ensure constructability within budget prior to the CMAR establishing a single, or multiple GMPs. The CMAR coordination will be conducted through weekly meetings with appropriate CONSULTANT staff attending, and the CONSULTANT shall provide for those meeting expenses within the overall Project contract. The CONSULTANT may be required to be a non-voting member of the evaluation committee that selects the CMAR. If required, attendance at all CMAR selection meetings, and participation in accordance with all procurement policies, rules and regulations for a committee member is expected.

E. The CONSULTANT shall reaffirm the Project requirements through constant coordination with the PCRWRD Project Manager (PM) or designated third-party Project Manager. Pre-Design conferences will be held with interested parties to confirm the requirements of the Project. The persons concerned with the development of the Project may include, but are not limited to, the following, in no particular order:

1. PCRWRD Project Manager or designated alternate
2. PCRWRD Director and Deputy Directors, or designated alternate
3. PCRWRD Design Team
4. PCRWRD Office of Regulatory Affairs
5. PCRWRD Financial Management Team
6. PCRWRD Owner Division designated Project team representatives
7. CMAR
8. Pima County Public Works Capital Improvement Program Team
9. Pima County Transportation Department
10. Pima County Cultural Resources Department
11. Pima County Real Property Department
12. Pima County Procurement Department
13. Pima County Regional Flood Control
14. Tucson Airport Authority
15. Tribal Lands
16. Residents and businesses of the affected area
17. Utility Company (including Union Pacific Railroad and KINDER-MORGAN) representatives
18. City of Tucson and the City of South Tucson
19. ADOT

F. The CONSULTANT shall utilize the latest version of the PCRWRD "Engineering Design Standards", Pima County/City of Tucson Standard Specifications for Public Improvements, and Pima County/City of Tucson Standard Details for Public Improvements. The final product shall comply with the Arizona Department of Environmental Quality (ADEQ) requirements for an ADEQ Construction Authorization (CA) and, when constructed, for an ADEQ Discharge Authorization (DA). CONSULTANT shall complete the application and be responsible for submission and approval of the ADEQ CA and DA Form. Pima County RWRD will provide the required ADEQ fee check to be included in the ADEQ CA package.

G. PCRWRD may provide information and documentation to CONSULTANT during the performance of this Contract. The CONSULTANT shall assume the responsibility of determining the validity of such data provided as well as any engineering support activities (e.g., surveying, soils studies, etc.) required for the successful performance of this Contract. Final responsibility for the gathering of needed data shall rest with the CONSULTANT.

H. PCRWRD requires the use of Subsurface Utility Engineering (SUE) on the Project. It is PCRWRD's belief that the use of SUE technology will benefit the design and construction phases of this Project, so that construction change orders caused by unidentified buried utilities are kept to a minimum. The CONSULTANT shall include SUE in their cost proposal. All SUE work shall be per ASCE Standard 38-02 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data).

I. PCRWRD desires to retain the services of the CONSULTANT during Construction of the Project to perform submittal approval and address requests for information. The CONSULTANT shall provide a fixed price for these services. Design changes caused by unknown conditions but inside the original scope of this Project will be handled through a contingency line item in the contract, managed by PCRWRD. Design changes resulting from errors or omissions will be resolved by the CONSULTANT at no additional charge.

J. Optionally, PCRWRD may retain the services of the CONSULTANT, during Construction of the Project, to perform Resident Engineering and Construction Inspection. The Fee for these services will be negotiated separately at a later date when the level of effort can be defined. These services will be conducted only after the execution of an approved amendment to the Contract. If the PCRWRD and CONSULTANT are not able to reach an agreement on the fee for these services the PCRWRD will contract these services separately.

K. All parties understand that PCRWRD has limited funds for the completion of this Project. Therefore, this Project shall be designed so that the completed Project represents quality consistent with wise budget management.

PROJECT DESCRIPTION

The construction of the Project will begin with the ASC segment at the ASPC and head west along Old Vail Road and then north along the Old Nogales Highway to Hughes Access Road. Then the ONI segment will be augmented from Hughes Access Road to the termination point of this Project where the existing ONI connects with the SEI near the intersection of 36th Street and 2nd Avenue. The augmentation of the PAS shall take place independent of the construction of the ONI or ASC segments. It is foreseen at this time that construction of the Project will take place in three (3) segments, although this could change depending on the timing of future development. Changes to the alignment due to future corridors as directed by PCRWRD may require an amendment to this contract.

Per the Old Nogales Interceptor Augmentation Feasibility Study Alignment Study and Design (Study) prepared by WestLand Resources, Inc. for PCRWRD in February 2015 the Project shall be a gravity sewer line capable of handling 14.37 MGD peak dry weather flow. The total length of the Project is approximately 14.54 miles. The sewer sizes for the Project are anticipated to vary between 12" and 36".

The CONSULTANT shall provide periodic construction cost estimates as the design progresses.

The Study conducted an evaluation of the routing and infrastructure requirements to augment the ONI; and to identify the preferred route for the construction of the new ASC sewer. The CONSULTANT will be provided with the final alignments identified in this Study and any information developed to date on the selected alignment, prior to the notice to proceed.

The Project will have several wash crossings. In conjunction with the CMAR, the CONSULTANT shall determine the most efficient and cost-effective method of installation of the sewer line under the washes by methods such as open trench or jack & bore. To accomplish this, the CONSULTANT shall coordinate with all regulatory agencies, governing bodies and utilities to gain their agreement with the chosen method of installation under the washes.

Odor control measures will need to be provided within the design for the entire alignment. The CONSULTANT shall work with PCRWRD for specific requirements, but at this stage it is assumed that three (3) odor control facilities will be needed for the alignment.

The CONSULTANT shall provide the following for the Project:

1. All design plans and a 30% Opinion of Probable Cost, required for the construction of this Project. All information needed to construct the Project shall be on the plans and specifications.

2. A Technical Design Report covering all information needed to secure an ADEQ "CA".

3. Plan approval by all agencies having jurisdiction over this Project. The final plans shall comply with the Arizona Department of Environmental Quality (ADEQ) requirements necessary to secure a "CA".

4. Shop drawings approvals used in the field to depict the final means and method of construction. The use of performance specifications, which require specific portions of a Project be engineered by the construction contractor are prohibited.

5. Record Drawings (As-built) of the completed Project.

PCRWRD has assumed a fifty three (53) month Project schedule broken down as follows; eighteen (18) months for the discovery phase and design and review by affected agencies, two (2) months at the end of the design for ADEQ review and approval, three (3) months for the Phase 1 GMP negotiation and BOS approval after receipt of the ADEQ CA, and thirty (30) months for construction of the first phase. If the CONSULTANT is in disagreement with this assumption, they shall make PCRWRD aware of this concern. (CONSULTANT is not

responsible for construction schedule estimates, but shall be coordinated with selected CMAR). Assume a 2-week turn around for RWRD review and roll that time into the Scope Timeframe.

PROJECT SUBMITTAL

Through the design of this Project, the CONSULTANT shall submit the following for review and approval by PCRWRD and other governing agencies as may be required. This list is a preliminary listing of proposed Project deliverables. The final listing is to be negotiated and based on information from PCRWRD and the CONSULTANT's proposal prior to contract execution.

I. Preliminary Design and Report: This phase includes:

A. Document acquisition
B. Preliminary Project Schedule
C. Preliminary design of the gravity sewer to include sewer sizing, alignment, & manhole locations
D. Preliminary design report
E. Preliminary survey & visual inspection
F. Photography (ground based & fly-over) sufficient to document existing conditions at the start of design.
G. Examination and assessment of easements & Right of Way issues
H. Identification of all utility conflicts along the route
I. Identification of all other potential conflicts to design or construction
J. Start of environmental studies to include Biological Evaluation (BE) and any other required special surveys; Cactus Ferruginous Pygmy-Owl (CFPO), Pima Pineapple Cactus (PPC), etc. and Cultural Resources where necessary.

(The CONSULTANT should assume one review cycle for all items in this phase, and may include a rolling review process)

II. 30% Design: This phase includes:

A. Coordinate w/ the CMAR on development of Preliminary Construction Schedule
B. Survey of the selected route by a Registered Land Surveyor in the State of Arizona
C. In coordination with the CMAR, design of the gravity sewer to include alignment, pipe material selection, installation methods, manhole locations and final sewer sizing,
D. Proposed plan for resolution of any potential conflicts
E. In coordination with the CMAR, prepare preliminary by-pass pumping plan
F. Completion of the Preliminary Design Report
G. Native Plant Preservation Ordinance (NPPO) initial survey and plant identification. Riparian areas are not identified at this time, an allowance will be set aside under PCRWRD's Contingency to address the need for NPPO surveys and requirements. Once alignments are finalized and the NPPO scope is determined, the allowance will be turned into a NTE line item based on a Consultant quote to fund the NPPO needs of the project. No irrigation plans are considered for NPPO mitigation along the alignment.
H. Letters to Utility Companies, Government Agencies, neighborhood and business association affected directly or indirectly by the alignment. A letter of "foreseen impact" or "no foreseen impact" for each utility in the alignment will be required to be on file at Final Design.
I. Utility Information & Coordination (Subsurface Utility Engineering Analysis, Quality Level B)
J. Soil Testing
K. Perform site surveys and initial permitting strategy for:
    a. Section 401 Permit
    b. Section 404 Permit (Nationwide or Individual). Identification of impacts to Waters of the US (WUS)
    c. Section 402, NPDES Permit (including storm water)
    d. Biological Evaluation (may include special surveys, CFPO, PPC, etc.)
L. Cultural Resource Review
M. Identify ROW and Easement requirements based on 30% alignment
N. Initiate contact with all affected agencies (Union Pacific Railroad, ADOT, water, gas, electric, etc.) to establish requirements for plan review and comment.

O. Submit plans to UPRR for review of alignment within the UPRR ROW
P. Transfer of the Preliminary Project Schedule to the CMAR

(The CONSULTANT should assume one review cycle for all items in this phase and may include a rolling review process)

III. 60% Design: This phase includes:

A. Review and evaluation of the Cost Model presented by the CMAR for the 30% Design Phase (this item is to be delivered 2 weeks after the CMAR Cost Model for the 30% design is made available).
B. In coordination with the CMAR, design of the gravity sewer to include plan and profile drawings consistent with 60% completion of the design
C. Provide a Draft submittal log based on the Plans and Specifications
D. In coordination with the CMAR, revise by-pass pumping plan, if necessary
E. Completion of the Final Design Report
F. Design for resolution of any conflicts
G. NPPO Design (60%)
H. Complete applications for federal, state, and local permits
I. Section 401 Permit
J. Section 404 Permit (Nationwide or Individual) These studies to be completed in this phase of the design
K. Section 402, NPDES Permit (including storm water)
L. Others as required
M. Provide affected agencies with plans for review and comments.
N. Finalize ROW and Easement requirements
O. Send Legal Descriptions (ROW and Easements) to Pima County Real Property Department

(The CONSULTANT should assume one review cycle for all items in this phase)

IV. 99% Design (Final Preliminary): This phase includes:

A. Review and evaluation of the Cost Model presented by the CMAR for the 60% Design Phase (this item is to be delivered 2 weeks after the CMAR Cost Model for the 60% design is made available).
B. In coordination with the CMAR, complete design of the gravity sewer to include plan and specifications ready to be sealed and signed
C. Provide a submittal log based on the provided Plans and Specifications
D. Utility Information & Coordination (Subsurface Utility Engineering Analysis, Quality Level A) for all identified potential conflicts. It is the expectation of the owner that all utilities identified in the design will be located in the field either by visible surface monuments or appurtenance (valves) or by potholing to be completed by the SUE Company. Utilities not located in the field will be noted as such to the CMAR contractor for their evaluation of the potential Risk
E. In coordination with the CMAR, finalize by-pass pumping plan
F. NPPO design for review by Pima County (99%, ready to be sealed and signed)
G. Provide all affected agencies with plans and specifications for review and comments.

(The CONSULTANT should assume two review cycles for all items in this phase)

V. Final Design (Sealed & Signed): This phase includes:

A. Review and evaluation of the Cost Model presented by the CMAR for the 99% Design Phase (this item is to be delivered 2 weeks after the CMAR Cost Model for the 99% design is made available).
B. Review and evaluation of the GMP presented by the CMAR for the Final Design Phase.
C. Completed design of the gravity sewer to include plans and technical specifications for review and approval by PCRWRD and ADEQ
D. NPPO design for review by Pima County, the City of Tucson, and the City of South Tucson if required.
E. Contractual Documents, including Biddable Plans (if required)

(The CONSULTANT should assume one review cycles for all items in this phase)

VI. Post-Design/Construction Services

A. Submittal Review (LOE based on the Submittal Log)
B. Request for Information responses
C. Design Engineer change order proposals from PCRWRD or CMAR
D. Record Drawings (as-built) delivery in AutoCAD

See the Task Description section that follows for explanation of some of the items listed above.

TASK DESCRIPTION

Preliminary Design Report

The CONSULTANT shall prepare and submit a preliminary design report, which documents how the following information was developed and presents the results. The preliminary design report shall include, as appendices or attachments, all documentation produced during the creation of this task.

A. Pipe(s) sizing.
B. Preliminary line and grade.
C. If utility conflicts are evident, how they are to be resolved.
D. Pipe materials recommended for each installation methodology.
E. Any design alternates.
F. Construction methods proposed.
G. If archeological site(s), endangered plant(s), specie(s), riparian areas or 401 designated areas are involved, can problems be successfully resolved? Discuss resolutions.
H. What soils information is needed before proceeding to final design, and where borings should be sited?
I. What governmental agency reviews will be necessary.
J. Are any temporary or permanent easements required and, if so, where are they to be located.
K. What are the preliminary locations for manholes?
L. How will visual and vehicular access for maintenance purposes be assured?
M. How will manhole corrosion be minimized?
N. How will flow velocity be suitably maintained at horizontal alignment changes?
O. What odor control provisions are envisioned?
P. A summary of public comments and any reasonable design modification(s) and or alternative(s) which may be developed in response based on any public meetings held during this phase.
Q. A preliminary cost estimate, which also addresses any proposed alternative(s).
R. Any other significant design information pertinent to the Project.

Final Design Report

The Final Design Report shall include calculations, specifications (cut sheets), references, etc., used to determine the sewer size, slope, and alignment, the manhole locations, special construction methods to be employed (pile support, jack & bore, etc.), corrosion protection measures to be taken, and all other information pertinent to the successful construction of this Project. The Final Design Report shall comply with the Arizona Department of Environmental Quality (ADEQ) requirements. The Final Design Report shall list all government agency review and approval that will be necessary for the successful construction of this Project. The Final Design Report will be formatted as follows:

1. Content

   The Final Design Report shall present and develop all the information necessary to design a constructible Project. It shall set forth the criteria necessary to produce the Construction Documents.

2. Structure

   The Final Design Report shall include, at least, the following chapters:

a. Executive Summary

The Executive Summary section should include a brief summary of the scope of the Project, a summary of the effects of the completed Project on up-gradient and down-gradient sewers and wastewater facilities, a table of design criteria, a review of the constraints and stipulations imposed on the Project by regulatory agencies, a summary of other agency improvements, and a summary of the major findings of the design process.

b. Introduction

The Introduction should explain the scope of the Project and discuss any technical, economic, governmental, and political implications.

c. Alignment

The Alignment section should discuss the selected alignment and alternate alignments considered. Where multiple alignment options where considered, a short summary of the evaluation of those alignments and reasoning for final selection will be included in this section.

d. Land Survey Requirements

A design survey shall be performed. This section shall summarize the results of the surveying and mapping, including the basis of bearing and source of datum used. The results of the design survey requirements, including appropriate mapping of the survey control traverse and vertical datum "monumentation", and copies of the pages of the field survey books shall be appended to the Final Design Report.

e. Soils Analysis

This section shall summarize the results of the soils analysis report.

f. Corrosion Control

This section shall summarize the results of the corrosion control report.

g. Sewer Design Criteria

The CONSULTANT shall specify pipe material to be used with each construction method. This section shall contain sufficient engineering data, calculations, and cost analyses to justify the selected pipe materials, strength, and size for the construction methods selected. The CONSULTANT shall use the flow information specified in the overview for the requisite calculations included in the report. Detailed calculations shall be included as an appendix and referenced in this section.

h. Cost Estimate

This section shall include an independent final construction cost estimate, which shall be formatted similar to a line item Bid Schedule that would be used in a Construction Bid Document. All alternatives, e.g., pipe material, construction method, shall be set forth and addressed.

i. Appended Material

This section shall include Appendices to the Final Design Report that detail material upon which the text, conclusions, and recommendations are based within the body of the report. Appended material shall include the detailed calculations, survey information and notes, soils and corrosion information, and other necessary and/or relevant material. (Appropriate material from the preliminary design report should also be included.)

3. Construction Authorization

The CONSULTANT shall insure that the Final Design Report contains, and presents appropriately, all the information and documentation required to successfully address all requirements of ADEQ.

Preliminary Project Schedule

The following is PCRWRD's schedule for this Project. This is for design of all segments and construction of the first two segments:

Selection of Design Firm	July 2015
Selection of CMAR	November 2015
Preliminary Design Report Complete	January 2016
Discovery Phase	April 2016
30%Design Complete	September 2016
60% Design Complete	January 2017
99% Design Complete	March 2017
Submittal to Agency Review	April 2017
Construction Start	August 2017
Construction Complete	February 2020

The CONSULTANT shall prepare a preliminary Project Schedule, using the Critical Path Method (CPM) acceptable to PCRWRD, showing how the CONSULTANT will meet the target date for completion of the Design Phase. The CONSULTANT shall define major and/or critical Project activities and specify the duration in work days for the design. The CONSULTANT shall include sufficient time for ADEQ review when preparing this schedule. Upon acceptance by PCRWRD, the CONSULTANT shall then be bound by the date(s) for completion for the Design Phase as provided on the CONSULTANT's Project Schedule. The project schedule will identify design stages for each segment identified and will make every effort to stagger deliverables of each segment based on obtaining information in order of segment construction. For estimating purposes only, the CONSULTANT shall also include in the Project Schedule a line item for construction based on the CONSULTANT's estimate for completion. However, the final, binding completion date for construction in the Project Schedule shall be the responsibility of the CMAR after the Design Engineer has turned the schedule over to the CMAR. This task shall not be considered complete until this Design Phase schedule is approved by PCRWRD. The schedule shall take into consideration, but not be limited to, the following:

1. The events needed to satisfy each of the design tasks.
2. The dates each design task will start, and be completed.
3. The dates of all public meeting and design review meetings.
4. Issues that will hinder normal progress of the design.
5. The Company responsible for each task will be identified in the schedule.

Upon agreement between PCRWRD and the CMAR for Construction Services Scope and fee the CONSULTANT will turn the schedule over to the CMAR. The Schedule will then become responsibility of the CMAR. The CONSULTANT will be required to provide input into the Project Schedule for use by

the CMAR.

The purpose of the Project Schedule will be used to identify, coordinate, and record the tasks and activities to be performed by all of the Project Team members. The Project Team will utilize the schedule as a basis for managing and monitoring all members' compliance with the requirements of the Project. Each Project Team member is responsible for their compliance with the Project Schedule Requirements. The Project Schedule will use the Critical Path Method (CPM) technique, unless required otherwise, in writing by PCRWRD.

Scheduling Recommendations

Based on past experience, PCRWRD recommends that the CONSULTANT use the following minimum time periods for review:

1. All PCRWRD reviews at 2 weeks
2. All agency reviews (COT, ADEQ, etc.) at 4 weeks

The CONSULTANT should refer to the Project Submittal Requirements and Project Submittal Schedule for the number of submittals, and re-submittals to assume at each phase of the Project.

Project Submittals Requirements

For each submittal, deliver six (6) copies each of the design report, the plans, and other pertinent documents to PCRWRD for review and comment. Copies of the plans and specifications, and other documents, in the proper quantities, are to be transmitted by the CONSULTANT to the CMAR, the appropriate governmental agencies, and utilities for review and comment as required. The submittal to the RWRD PM will also include three (3) USB drives with electronic copies of all submittal documents.

For the Final submittal, the CONSULTANT shall also provide PCRWRD with a set of plans, signed and sealed.

Submittal Requirements: All documents submitted under this contract shall have affixed a Quality Review Box acceptable to PCRWRD. The box shall contain the name of the individual who prepared the document and performed the initial quality review, the name of the Quality Control Engineer who reviewed the document, and the CONSULTANT's Project Manager. There shall be contained in this box a place for these individuals to initial and date the document. The box shall contain a statement that each individual has personally reviewed the document and it is of a quality consistent with the level of completion. By initialing and dating the Quality Review Box they attest to this fact.

The CONSULTANT shall develop a Submittal Log acceptable to PCRWRD and keep the log up to date at all times.

Review Responses

The CONSULTANT shall respond to the comments provided by PCRWRD, the CMAR, and the reviewing agencies and utilities. The CONSULTANT shall address the comments received from

PCRWRD, the CMAR and the reviewing agencies and utilities by modifying the reports and/or plans, or by addressing the comments in a cover letter. The reports and plans will not be considered complete and acceptable by PCRWRD until all comments and issues on the reports and plans have been satisfactorily addressed, in the opinion of PCRWRD. PCRWRD will provide a comment summary for each submittal in word format for the CONSULTANT to respond with in addition to any supporting documentation related to those comments.

Contractual Documents

The Final Design and Construction phase may require CONSULTANT to prepare final plans in a biddable format if PCRWRD and CMAR cannot agree upon a GMP. If the CMAR and PCRWRD are unable to negotiate an acceptable GMP, the CONSULTANT shall complete all final design services and shall produce biddable plans and specifications for construction (the "Biddable Documents") of the Project. PCRWRD shall pay CONSULTANT as outlined in EXHIBIT "B" for the Biddable Documents and shall provide PCRWRD with such construction phase services as are typical of a designer of a horizontal public works Project on a time and material basis consistent with the rates identified in Attachment 1 to EXHIBIT "B".

If required, PCRWRD shall supply the CONSULTANT with standard Contractual Documents. The CONSULTANT is to review these documents and modify those sections that are Project specific as well as provide PCRWRD with any comments they may have concerning these documents. The CONSULTANT shall be knowledgeable concerning these documents before proceeding with the preparation of the other specified Construction Documents.

The plans shall contain all information required for the construction of this Project. All data needed for the construction of this Project, or in future review of the Project, shall be on the plans.

Construction Plans

The Construction Plans shall be as follows:

A. The sheets shall be thirty-six (36) inches wide by twenty-four (24) inches long.
B. They shall have the standard PCRWRD Title Block along the right margin (Available from PCRWRD upon request).
C. They shall contain both plan & profile views for all phases of the design. The plans & profiles shall be at a scale of one inch equals 40 feet (1" = 40') horizontal and one inch equals four feet (1" = 4') vertical.
D. The plan view shall have a nine inch wide by thirty-two and three-quarters inches (9" x 32¾") long strip of stereo compiled and drafted contour map which includes the following planimetric (cultural features) details:
    1. Paved and unpaved roadways, curbing, and sidewalks.
    2. Drainage patterns and structures.
    3. Utilities, both underground and overhead.
    4. Fences, walls, and buildings.
    5. Buried irrigation facilities and pipelines.
    6. Easement limits and property lines.
    7. The general location of any proposed easement(s).
    8. Vegetation types and significant plants, which must be protected during construction, or replaced following construction.

9. Contours shall be shown at one foot (1') intervals.
10. Rim and invert elevations of all existing manholes pertinent to the design.

E. The notes on the plans shall clearly state that all areas disturbed during construction shall be restored in compliance with the Pima County Grading Policy, prevailing NPPO and Riparian Mitigation Guidelines, if applicable.
F. The profile view shall show all underground utilities that are affected, or may be affected by the Project.
G. The final plans shall comply with the Arizona Department of Environmental Quality (ADEQ) requirements.
H. The plans and specifications shall be prepared to meet recognized standards of the industry.
I. Plans will conform to current formatting standards as applicable to CIP projects.

Preliminary Survey and Visual Inspection

The CONSULTANT shall perform a preliminary survey and visual inspection of the proposed construction site to establish a survey control line and determine the center line of the sewer and invert elevations of all manholes. The CONSULTANT shall determine if there are any concerns affecting the design or construction processes. The CONSULTANT shall provide PCRWRD with a narrative report.

Document Acquisition

The CONSULTANT shall determine what documentation, pertinent to the CONSULTANT's work, is needed and acquire same. It is expected that the needed information would include such things as "as-builts" for roads, sanitary sewers, utilities, storm water drainage structures; rights-of-way, easements, and property lines; and significant topographical features. Acquisition of all documentation is the responsibility of the CONSULTANT.

Ground Based Photographs

The CONSULTANT shall take photographs of the proposed construction area to document conditions prior to the start of design and construction. The quantity of photograph shall be sufficient to include the complete area of construction, from ROW line to ROW line for the full length of the Project. The photographs shall be in a digital format with a minimum 4 MP rating. The photographs shall be of sufficient size to clearly identify vegetation, objects, etc., which may come into question during the design and construction of the Project. The CONSULTANT shall provide PCRWRD with licensed software, and hands on instruction, needed to view and print the pictures if using proprietary electronic format. Copies of the digital images (JPEG or MPEG) shall be stored on USB drives (3 copies) and delivered to the Project Manager. Hard copy will be printed only when needed. An aerial video can be used for this task, upon RWRD PM approval, as long as the aerial video and the still images produced from such video are found to be of equivalent quality and detail to those obtained from ground based photography as specified in this section.

Land Survey Requirements

The CONSULTANT shall perform a land survey. Requirements for the land survey may be found in ATTACHMENT "A" to EXHIBIT "A".

Utility Information and Coordination

The CONSULTANT shall use the services of a Subsurface Utility Engineering (SUE) firm, at the appropriate times in the design process, so that construction change orders caused by unidentified buried utilities are kept to a minimum. The level of the SUE product shall be a "Level A" for the purposes of this design effort.

Flow Monitoring & Flow Management Procedure

The CONSULTANT shall obtain flow data needed for inclusion in the by-pass pumping strategy to be provided as a part of the construction documents, if required. PCRWRD will provide all information they have available, but final values used for the flow management procedures will be the responsibility of the CONSULTANT.

Agencies/Utilities Coordination and Review

The CONSULTANT shall coordinate the applicable Construction Documents with the requirements and schedules of all involved agencies, such as the Union Pacific Railroad, Arizona Department of Transportation (ADOT), Federal Aviation Administration (FAA), Pima County Department of Transportation (PCDOT) and Flood Control District (PCFCD), Pima County Environmental Quality Department (PCEQD), City of Tucson, City of South Tucson and utilities that may be affected by the sewer alignment and construction and/or easements. PCRWRD shall be kept informed of the coordination activities either informally or formally at the monthly Project status meetings or in Project status reports. The CONSULTANT shall insure that all Agencies/Utilities have a reasonable opportunity to review and comment on the plans and specifications and respond to their comments and suggestions. Should an Agency or Utility raise issues to which the CONSULTANT is not sure how to respond, they shall bring these issues directly to the Project Manager immediately so as not to delay the design process. A release letter or notification from each identified utility in the construction area will be required to be on the project file prior to construction activities taking place. The letter from each utility will include either a "no impact" or "potential impact" statement along with a utility point of contact providing that information.

The CONSULTANT will coordinate a facilitated Design Kick-Off meeting, including the design team, PCRWRD team members, affected Pima County Departments, and other design stakeholders such as ADEQ, ADOT, FAA, City of Tucson, City of South Tucson, utilities, Aerospace Corridor, etc. The overall goals of the project as it relates to the community, the scope of design, extent of improvements, and planned schedule will be presented at this Kick-Off Meeting. Additionally, to the extent possible, the timeframes for receiving stakeholder input and reviews will be identified.

Easement and Right-of-Way Acquisition

The CONSULTANT shall provide all research and documentation needed by Pima County Real Property Department to acquire the easement(s) and/or right(s)-of-way needed for the successful construction of this Project. Funds to acquire easements and right-of-way shall not be a part of this contract but shall be funded separately by PCRWRD.

A. Document Preparation

The CONSULTANT shall prepare the following documents:

1. A written legal descriptions and plot plans of the easements required for the Project on eight and one-half inches by 11 inches (8½" x 11") sheets, stamped by a Land Surveyor registered in the State of Arizona. The plot plans shall show property lines and pipeline location with respect to the entrance, exit, centerline, and limits of easement all in a manner approved by Pima County Real Property (PCRP). All easements descriptions shall be tied to section or quarter section corners by distance and bearing.

2. A rights-of-way strip maps showing Docket, Book, and Page recording information, property identification (Assessor's number and parcel or lot number), stationing, and existing structures, at a scale of one inch equals one hundred feet (1" = 100'), and in a manner approved by Pima County Real Property.

3. A complete set of the documents prepared shall be submitted to the Project Manager.

B. Research

The CONSULTANT shall be responsible for doing all needed research work to acquire deeds, legal descriptions and Property Owners' Tax I.D.'s of the property through which easements or rights-of-way will be needed. The CONSULTANT is also responsible for doing all needed research work to determine the width, length and location of any existing rights-of-way or easements, whether public or private, if this information is pertinent to or required to complete any of the work necessary to the satisfactory completion of Task. The CONSULTANT shall provide an aerial overlay of the properties.

C. Coordination

PCRP will arrange and coordinate meetings with the property owners whose property will be affected by the proposed alignment of the preliminary design, to ascertain their acceptance or rejection of the proposed alignment. The CONSULTANT shall attend these meetings and provide a complete set of the preliminary "plan & profile" for the overall Project.

Biological Evaluation (BE)

The CONSULTANT shall obtain a qualified SUBCONSULTANT to perform a Biological Evaluation (BE) to identify potential impact to federally listed, threatened and endangered species, and species of special concern along the selected alignment. Additional special surveys may be required for CFPO, PPC or other species as identified. SUBCONSULTANT will prepare a Technical Assistance (TA) memo for submittal to US Fish and Wildlife (USFW) agency as needed. A copy of the report and TA memo is to be submitted to PCRWRD for review and approval.

Section 404 Permit (Nationwide & Individual)

The CONSULTANT shall obtain a qualified SUBCONSULTANT to complete a Jurisdictional Delineation (JD) for all proposed project impacts to Waters of the US (WUS). SUBCONSULTANT will provide a JD package ready for submittal to the ACOE. The package will include a description of methods, results, description of vegetative community, description of proposed drainage improvements, tables showing acres of project limits surveyed, acres of WUS identified within the surveyed project limits, crossing widths, project location map, 7.5" USGS map with the project limits outlined and the quadrangle identified, an aerial site map, numbered photos, site map with photo points and crossing widths labeled, and three delineated aerial maps with legends, call-outs, and ACOE label. SUBCONSULTANT will

provide a 404 permit application package ready for submittal to the ACOE if applicable. A copy of all reports to be submitted to PCRWRD for review and approval.

Native Plant Preservation Ordinance (NPPO)

The CONSULTANT shall obtain a qualified SUBCONSULTANT to perform an NPPO survey and report along the selected alignment. SUBCONSULTANT may use the PCDOT Environmentally Sensitive Roadway (ESR) design manual for the NPPO plan if approved by PCRWRD. A copy of the report is to be submitted to PCRWRD for review and approval. The CONSULTANT shall provide plans and specifications, as needed, to mitigate any plants identified in the report. These plans and specifications shall meet the requirements of the Pima County NPPO or ESR, and the City of Tucson, as applicable.

ADOT Right of Way and Environmental Self Certification

An Arizona Department of Transportation (ADOT) right-of-way (ROW) or encroachment permit would be required for the Project's crossing of Interstate-10. The CONSULTANT will complete an Environmental Self-Certification in accordance with ADOT guidelines for a ROW permit from ADOT's Tucson District Office. This occurs with the ADOT ROW triggering the need for an encroachment permit from ADOT's Tucson District Office. Based on previous experience and review of the ADOT checklist, the five areas that must be addressed for this project are: the Endangered Species Act, the National Historic Preservation Act, the Clean Water Act, the Arizona Native Plant Law, and the Clean Air Act. The CONSULTANT shall complete the environmental investigations as outlined under other tasks in this scope of work for the Environmental Self-Certification. The CONSULTANT does not propose to conduct any work related to Clean Air Act (CAA) compliance. PCRWRD will provide the CONSULTANT with a letter detailing compliance with the Clean Air Act (CAA) for pipeline construction activities. A completed checklist and the technical documents supporting the checklist determinations will be compiled and presented to ADOT for review and approval.

Required Training for Survey within the Union Pacific Rail Road

The CONSULTANT understands that approximately 3 miles of the Project would be constructed along the Union Pacific Rail Road right-of-way. The CONSULTANT field staff will acquire the training required by the Union Pacific Rail Road in order to conduct survey within the rail road right-of-way. This scope assumes one day of training would be required. The CONSULTANT shall coordinate for PCRWRD Project Manager and field staff to acquire this training as well.

Stormwater Pollution Prevention Plan

CONSULTANT shall provide assistance with the Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit (CGP) obligations associated with project. CONSULTANT understands that RWRD has not yet submitted a CGP Notice of Intent (NOI) for the project to the Arizona Department of Environmental Quality (ADEQ). CONSULTANT shall assist PCRWRD as necessary in completing the NOI and create a project specific Stormwater Pollution Prevention Plan (SWPPP) which will incorporate all state, local and federal requirements. Additionally, this project is

within the Arizona Department of Transportation (ADOT) right-of-way and the SWPPP created for the project will be required to meet ADOTs specific standards. CONSULTANT shall also assist PCRWRD with submitting the Notice of Termination (NOT) once the project is complete and final stabilization is achieved.

If required, CONSULTANT can submit a separate scope of work to provide the Erosion Control Coordinator (ECC) required by ADOT to conduct the required inspections and SWPPP update. This scope does not include additional site visits or SWPPP revisions.

Class III Cultural Resources Survey

The CONSULTANT will provide a cultural resources inventory survey to locate and evaluate all cultural resources within the project corridor. The cultural resources inventory survey will include the following services:

- Conduct a Class I archival research survey of the project area and a one (1) mile buffer zone. This task will include a review of the AZSITE archaeological database, historic maps, and previously conducted cultural resources survey project reports.
- Conduct a 100% pedestrian survey of the project area
- Re-record any previously recorded sites to Arizona State Museum (ASM) standards
- Record any newly discovered sites to ASM standards
- Evaluate each site for its eligibility for inclusion to the National Register of Historic Places
- Produce a draft cultural resources inventory report for review by Pima County, which meets Federal standards
- Respond to one round of agency comments on the draft report
- Produce a final cultural resources inventory report that addresses any agency comments
- Register the final cultural resources inventory report with the ASM
- Pay the ASM project registration fee

NEPA Study

PCRWRD has determined that a NEPA study is not required for this Project. Construction of this gravity sewer is a PCRWRD Capital Improvement Project (CIP).

Wash Crossing and Proximity Analysis & Report

The CONSULTANT shall provide an analysis and report on the design requirements that are applicable to the crossing or closely paralleling of washes by the alignment of the sewer to be designed and constructed. The CONSULTANT's report shall establish technical design criteria for each of the wash crossing or paralleling situations. The design criteria shall be presented in such a way that it can easily be used to design the sewer where it crosses or parallels washes. See Attachment "C" to EXHIBIT "A" for specific requirements of this task.

Pile Support

The CONSULTANT shall provide plans and specifications, to include Pile Driving Log sheets at all wash crossings, or at any other locations where support of the sewer line is required.

Jack & Bore or Micro-Tunnel

The CONSULTANT shall provide all plans and specifications needed to guide the construction contractor in the installation of underground pipe using either the jack & bore or micro-tunnel techniques of installation. For either technique, the CONSULTANT shall provide all measurements, references, directions, etc. that may be required to install the sewer as intended.

Corrosion Control

The CONSULTANT shall prepare a soils analysis and corrosion control report addressing all corrosion control issues. This shall include hydrogen sulfide release in manholes, galvanic corrosion of sleeves and piles, and any other areas where corrosion may be a concern. The CONSULTANT shall provide plans and specifications dealing with corrosion control to insure a minimum 100 year life of all components in this Project. See ATTACHMENT "B" to EXHIBIT "A" for specific requirements of this task.

Soils Analysis

The CONSULTANT shall prepare a soils analysis report. The soils analysis report shall show all boring site locations, and provide information as to the findings of the borings. The soils analysis report shall be completed before proceeding to final design. See ATTACHMENT "B" to EXHIBIT "A" for specific requirements of this task.

Environmental Investigation

The CONSULTANT provided a report prepared by Environmental Data Resources, Inc. (EDR) in the alignment study. At this time there has been no request for any Phase 1 Environmental Site Assessment investigations or environmental testing such as environmental soil borings or gas vapor analysis along the alignment. These services can be provided as an amendment to the contract if requested by PCRWRD.

CMAR Cost Model/GMP Review

The CONSULTANT shall review and evaluate the cost model and/or GMP's presented by the CMAR at the various stages of the design of the Project. The CONSULTANT shall provide PCRWRD with their independent analysis of the cost model and/or GMP and, if necessary, make suggestions as to how the design or construction may be changed, or comment on changes suggested by the Owner or CMAR as

to how the design or construction may be changed, to insure that the Project is within budget. The CONSULTANT shall compare the CMAR's cost model and/or GMP with their own independent cost estimates and note any discrepancies or concerns to PCRWRD.

Public Involvement

The CONSULTANT shall include as a part of the Construction Documents the requirement that occupant and operators of all private and public property likely to be impacted by construction of the Project be notified of the Project. This notification shall be done during the Construction of the Project and shall include written notification to each property identified. A minimum of three (3) public meetings shall be included to allow CONSULTANT and PCRWRD to explain and discuss the Project and allow the public to ask questions or express concerns about the Project. A project webpage will be developed by CONSULTANT to issue project updates to the community. In addition, the CONSULTANT shall provide public involvement support during the construction of the first two segments. CONSULTANT shall assume an additional three (3) public meetings during the construction phase. Additional design outreach will include attendance at a site visit and bi-weekly team meetings; notification of property owners during the survey phase; stakeholder outreach (businesses, neighborhoods, etc.); briefing of elected officials and media outreach.

Prior to construction, the design team, the CMAR, and PCRWRD will coordinate a Partnering Workshop. During construction, team meetings will be held weekly; three (3) construction-focused public meetings will be scheduled prior to each phase of construction; responding to construction related issues, neighborhood and business outreach; construction alerts to communicate traffic impacts; emergency services outreach; media updates, and other outreach as needed during construction.

Permits

The CONSULTANT shall determine all permits necessary to the construction of the Project and prepare the requisite applications. The identified permits will be summarized on a Permits Tracking log and the status of each permit will be reviewed, at a minimum, on a monthly basis. The CONSULTANT is required to obtain written approval for all necessary permits for construction, including, but not limited to, Union Pacific Railroad, the Arizona Pollutant Discharge Elimination System (AZPDES), the Arizona Department of Transportation (ADOT), City of Tucson (COT), City of South Tucson (CofST), Federal Aviation Administration (FAA), the Environmental Protection Agency (EPA), National Environmental Policy Act (NEPA), Arizona Department of Environmental Quality (ADEQ) (Aquifer Protection Permit), COE Section 401/404 permits, Pima County Department of Environmental Quality (PDEQ) (Air Quality Permit) and Pima County Waste Water Management (Industrial Wastewater Control Permit). CONSULTANT, in concert with the CMAR, shall prepare Stormwater Pollution Prevention Plans (SWPPP) for construction activities and on-going operational and maintenance activities. Design, construction and operation shall comply with the Pima County's Stormwater NPDES Permit as issued by the EPA. Payment for all these permits shall be by the Construction Contractor and the CONSULTANT shall insure that a note to this effect is contained on the Plans or in the Specifications.

Fees

The CONSULTANT shall be responsible for all fees associated with permits and reviews necessary during the design phase of the Project including fees associated with expedited UPRR review fees. ADEQ permit fees are specifically excluded, RWRD will procure a Count check to include with the ADEQ CA package.

Old Vail Road Utility Corridor Study

The PRIME CONSULTANT shall conduct a utility corridor study along the Old Vail Road alignment between Old Nogales Highway and Wilmot Road. The goal of the corridor study is to identify feasible general alignments for future infrastructure within the corridor, in order to give Pima County a greater level of confidence regarding the feasibility of implementing infrastructure plans in the study area. The study will not finalize geometry or layout of potential utilities, roadway, railroad or other infrastructure. Study will identify general utility and infrastructure alignments and general arrangements of permanent rights-of-way and/or easements required for utilities. Legal descriptions and/or right-of-way dedication is not anticipated.

The PRIME CONSULTANT shall, at the direction of PCRWRD, identify the following in the utility corridor study:

- Existing and proposed Old Vail Road right-of-way
- Potential utility corridors for the following utilities:
  - PCRWRD
  - Tucson Water
  - Tucson Electric Power
  - Natural Gas
  - Other private utility providers, as identified by PCRWRD
- Union Pacific Railroad alignment
- Sonoran Corridor Highway: It is noted that the roadway geometry and profile are subject to roadway corridor study and access control requirements. Roadway layout for this analysis will be generalized.

PCRWRD will be responsible for coordinating with utility providers to identify infrastructure needs, and for inviting utility providers to coordination activities and meetings as noted below.

The CONSULTANT will identify alignment for the Union Pacific Railroad from the eastern boundary of parcel 14052001D (owned by Pima County) to the Wilmot Road alignment. The UPRR alignment within parcel 14052001D west to Old Nogales Highway will be analyzed under a separate study, which will be coordinated with this Utility Corridor Study.

Meetings: PRIME CONSULTANT will host corridor coordination meetings as listed below:

- Utility Corridor Workshop: All affected parties invited for kick-off and coordination. Invitations to be coordinated with PCRWRD.
- Individual Utility Meetings: Meetings with individual utility representatives to review potential alignments. CONSULTANT anticipates five (5) individual utility meetings.

Deliverables: PRIME CONSLUTANT will prepare the following deliverables:

- Technical memorandum describing utility corridor study processes, procedures and results
- Recommendations for additional analyses
- Roll-plot identifying horizontal layouts (1" = 50' scale)
- Typical sections identifying proposed utility configuration

Owner Allowances

In an effort to provide all services associated with the design, the Owner has asked for certain tasks to be put into an "Allowances" category. For this project, the items included in this Task are as follows:

- Subsurface Utility Engineering. If the CMAR is brought online at an adequate time, they may provide these services if more practical.

- Appraisals. If required to speed up property acquisition, Consultant may be asked to provide land appraisals.
- Construction administrative services. If the final stage of construction is to follow immediately after what is planned for this contract, the Consultant will provide all construction services.

Submittal Review and Approval During Construction

During the Construction of this Project (Phase 1, Phase 2 (from 36th Street to Drexel Road) and Phase 3), the CONSULTANT shall, in a timely manner, review and approve or reject, in concert with the Project Manager, all submittals from the CMAR. As a part of this effort, the CONSULTANT shall keep records needed to properly document and record the submittal process. A review period no greater than 5 working days, submittal to disposition, will be required. Revisions or corrections to design documents during construction to further enhance the design documents, and/or responses to requests for information (RFI) needed to clarify the design documents are considered a part of the design. Therefore, the CONSULTANT will not be further compensated for this effort.

As Needed Design for Scope Changes & Construction Modifications

In cases where PCRWRD identifies the need for specific activities not presently delineated within this "Scope of Professional Services", but necessary to the completion of the Project, PCRWRD shall negotiate with the CONSULTANT to perform the necessary work and assure that appropriate compensation is available, if an agreement is reached. Such work shall be necessary to assure a complete and comprehensive Project or to respond to unforeseen problems in achieving the contractual goals. The Project Manager shall prepare a written description of the work to be performed and solicit a written proposal from the CONSULTANT, which addresses both cost and timing. A contract amendment or use of design contingency funds, executed by PCRWRD authorizing additional expenditures. The CONSULTANT shall not perform work in excess of the Contract Amount without such amendment executed by PCRWRD. Work performed in excess of the Contract Amount without prior authorization by amendment shall be at CONSULTANT'S own risk.

Project Documents in AutoCAD

At the completion of the design of this Project, the CONSULTANT shall deliver to PCRWRD three (3) copies of the Design Documents on USB drives, in AutoCAD format (Acad14 or as agreed to by PCRWRD). PCRWRD may require all electronic drawings to conform to the National CAD Standard. The USBs shall include all plans for the Project and shall include all x-references, fonts, etc., needed to load and produce a plot of the plans from the USB. At the CONSULTANT's option the CONSULTANT may use a modified title block with the CONSULTANT's logo deleted, however the title block should be an x-reference suitable for plotting and sufficient to convey all data (sheet number, scale, etc.) normally found on a Professional Engineering plan. These USBs shall not be a "dump" of the CONSULTANT's files. It should contain only files needed for the loading, viewing, and plotting of the Project Documents. The professional seals of the Engineers should not be on the AutoCAD drawings, with only the seal of the CONSULTANT affixed to the label on the USB transmittal document. Accompanying the USBs shall be a letter, on firm letterhead, from the CONSULTANT and signed by an officer of the firm, authorizing Pima County to use the documents contained on the USBs in any manner they wish.

Engineer of Record and Record Drawings (As Builts)

The CONSULTANT shall be involved in the observation of construction as the Engineer of Record for Phase 1, Phase 2 (from 36th Street to Drexel Road) and Phase 3, to the degree necessary to generate and certify a complete set of final Record Drawings, accurately identifying the as-built location, elevation, and construction of the Project, and to complete the Engineer's Certificate of Completion (ECC) as required by the State of Arizona for PCRWRD to sign.

Resident Engineer and Construction Inspection (*Optional, to be negotiated separately*)

CONSULTANT shall provide full time inspection for the Construction Contract of the Project. CONSULTANT shall provide a full time Resident Engineer and sufficient inspectors for the construction who are qualified and whose credentials are acceptable to the County. CONSULTANT shall adequately staff the Project until final completion of the contract, and the County has accepted the work.

A. Document the results of all on-site inspections and testing and, if unsatisfactory, coordinate a satisfactory resolution with the CMAR. Detailed inspection reports will be provided to the County on a weekly basis. As part of this duty, CONSULTANT shall create and maintain a "punchlist" of deficiencies, which shall be submitted to the CMAR for satisfactory resolution prior to final acceptance.

B. Log all occurrences of damage caused by the CMAR, and the CMAR's manner of rectifying the resultant situation. If CONSULTANT observes that the Contractor is not correcting the damage in an appropriate and /or timely manner, CONSULTANT shall so notify the CMAR in writing. A copy of this notification shall be provided to the County.

C. Conduct a final inspection with PCRWRD to determine completion in conformance with the construction documents prior to recommending final payment. When appropriate, CONSULTANT shall prepare a letter recommending to the County acceptance of the Project. Certify that materials utilized and the installation and construction of those materials and equipment are in conformance with the approved plans and specifications, and that any deviations from the approved plans have been noted on the record drawings.

D. Be responsible for monitoring all construction activities in such a manner as to facilitate construction of the Project, with minimal interference to existing facilities.

E. At a minimum frequency of at least each week during construction, CONSULTANT's Project manager shall visit the work site to inspect the work, attend the meetings with the CMAR and County and resolve and discuss issues, problems and upcoming costs as necessary.

F. Assist the PCRWRD Project Manager with the verification of CMAR's pay applications.

Progress Reports, Invoices, and Meetings

Commencing with the issuance of the "Notice to Proceed" under this contract through to completion of the scope, the CONSULTANT shall perform the following activities relating to the design of the Project:

A. Bi-weekly Meeting: Every 2 weeks the CONSULTANT shall schedule, prepare materials, and

provide a location for a meeting at which a Progress Report and Monthly Invoice (as applicable) will be presented to the Project Manager. The Project CONSULTANT and CMAR shall be in attendance when requested by PCRWRD. PCRWRD reserves the right to conduct discussions regarding the proposed design with either, neither or both CONSULTANT or CMAR in attendance. Both documents will be discussed and, if they are found to be satisfactory, the Project Manager may accept them. (Acceptance of the Progress Report and Monthly Invoice at this meeting is not mandatory. The Project Manager may delay approval for up to 5 work days to review the Progress Report and Monthly Invoice.) Other items for discussion can then be addressed. (This is in addition to the normal day-to-day communications intrinsic to such a client-CONSULTANT relationship.) The CONSULTANT shall take notes on all subjects discussed during the meeting, and any decisions made, and provide meeting minutes to the Project Manager within ten (10) work days. For budget purposes, the bi-weekly meetings will be assumed to be the progress meetings with the CMAR as required in Article 3, DP's Services and Responsibilities of Appendix A of the Contract General Conditions for the CMAR and DP.

B. Progress Report: Prepare a progress report for each month immediately preceding the monthly invoice. The progress report shall include a narrative, by task, of the work that was performed during the period. The report shall include the percentage of work done on each task, both cumulative and for the time period reported. The percentage completion of the entire Project shall also be included. Any remarkable incidents and/or problems that occurred during the time period reported shall also be documented. The design progress shall be compared to the scheduling as outlined in the Project & Construction Schedule

C. Invoicing: Prepare a monthly invoice (billing) which identifies the time period covered, the Project items completed, and the compensation being requested. The invoice (billing) shall cover the actual work performed during the billing time period. Monthly invoices shall be in agreement with the progress report above. The Project Manager shall be able to easily reconcile the invoice amounts with the CONSULTANT's progress to date. See "Basis of Payment" below for more information.

This task shall continue through the completion of all tasks which are authorized pursuant to this contract. The term monthly, within this task, may mean either calendar month or a four (4) week period, depending on the CONSULTANT's standard billing practice.

ATTACHMENT "A" TO EXHIBIT "A"

LAND SURVEY REQUIREMENTS

The CONSULTANT shall employ a Registered Land Surveyor (RLS) to survey and map the alignment of the sewer(s) to be evaluated, designed, and/or constructed. The RLS shall be registered in Arizona. The surveying and mapping shall be sufficient to establish all needed horizontal and vertical control monuments.

Detailed surveying and mapping requirements are described as follows:

1. Do all surveying necessary to define the alignment of the proposed sewer and to determine the location of all needed permanent sewer easements, temporary construction easements, or rights-of-way.

2. All survey monuments (property pins, section corners, witness corners, bench marks (B.M.s), etc.) shown shall be described as either found in the field or office computed. These survey monuments shall also be referenced out, included in the field notes, and shown on the Balanced Traverse Map (see paragraph 15b below). A note shall be added to the Construction Plans that they are to be replaced if destroyed or disturbed during construction.

3. A description of all monuments (steel pin, O.I.P., L.C.P., brass monument in concrete, etc.) shall be incorporated into the Technical Design Report. In addition, this information shall be included in the field notes and shown on the Balanced Traverse Map (see paragraph 15b below).

4. The basis of bearing used, along with its origin, shall be indicated in the Technical Design Report and on the Construction Plans and shown on the Balanced Traverse Map (see paragraph 15b below).

5. A copy of the original field book(s) showing all unadjusted field work, such as field angles, distances, level circuits, reference ties, etc., shall be turned over to PCRWRD upon completion of all design related survey work.

6. All monuments set by the RLS shall be tagged or stamped.

7. Submit the name and phone number of the Project field-survey supervisor. Prior to the start of the field survey, arrange a meeting with the field-survey supervisor and the PCRWRD Project Manager to discuss the field work and PCRWRD survey standards.

8. Panel Points, as required for aerial photography and for aerial photography-topography, shall be set by the RLS. The RLS shall remove the panels of such Panel Points, but not the underlying survey monument(s), as soon as possible after their purpose has been served.

9. Although no requirements will be specified in terms of repetition of field angles or distance measuring, modern-day methods and equipment normally provide for closures of better than 1:20,000. Anything less than this is not acceptable.

10. It is recommended that planimetric (cultural features) be taken jointly with cross sectioning and the station/offset method be used.

11. The centerline of the sewer shall be referenced to a survey control line by station and offset. The survey control line shall also be tied into the main horizontal control traverse. For future PCRWRD use, a coordinate listing in State Plane Coordinates, 1983 datum, shall be provided for each corner point on the Balanced Traverse Map (see paragraph 15b below), each point of intersection of the centerlines of

sewer segments, centers of manhole structures, and for section and quarter corner ties to the survey. This coordinate listing shall be developed in compliance with A.R.S. §33-131 through §33-138, inclusive.

12. Acceptance of final plans is contingent upon the approval of the original field survey data by PCRWRD.

13. Suggested Note Keeping Check List

    a. Cover Sheet
        i. Title
        ii. Work Description
        iii. Crew Personnel
        iv. Index
        v. Legend
        vi. Overall Sketch

    b. Horizontal Control
        i. Angle Sheets
        ii. Distance Sheets

    c. Vertical Control
        i. Level Runs
        ii. Starting B.M., Temporary B.M.

    d. Culture, Profile, Topography

    e. Cross-Sections

    f. Section Corner Recovery Sheets
        i. Recovered
        ii. Rehabilitated
        iii. Restored

    g. Referenced Material
        i. Maps
        ii. Photographs
        iii. References
        iv. Field Notes

14. Review Procedure:

    a. The following review procedure will be used for preliminary survey work:
        i. Office review of data provided for completeness.
        ii. Office review of data provided for accuracy.
        iii. Field inspection of control points, B.M.s, references, and registrant's tag or stamp.

    b. The following review procedure will be used for design survey work:
        i. Office review of plans and field data (culture, cross-sections, etc.) for completeness.
        ii. Office review of plans and field data for accuracy.
        iii. Field inspection of control points, B.M.s, references, and registrant's tag or stamp.

15. Horizontal Control

    a. All control traverses shall be geometrically closed and the error of angular and horizontal closure for the unadjusted traverse shall be shown in the field notes and on the map called for in paragraph 15b, below. All horizontal closures shall be made using unadjusted angles and

distances and shall have a precision ratio of 1:20,000 or better.

b. The balanced traverse shall be shown on the standard PCRWRD twenty-four inches by thirty-six inches (24" x 36") sheets and shall show the adjusted bearings, interior angles, and distances. This map shall be known as the Balanced Traverse Map. The adjusted angles and distances shown are to be referenced to the field book by page number. Chained distances are to be so noted.

c. All horizontal control traverse points are to be referenced outside the construction zone by distance and angle, to a minimum of two (2) durable points. These durable points are to be tagged or marked "Ref" with the L. S. Registration number. A sketch of the location of said references is to be submitted for each control point along with the survey notes. These sketches, collectively, shall be known as the Reference Point Map. Each sketch shall show horizontal dimensions accurate to the nearest one hundredth foot (.01') and angular ties sufficient to reestablish said point accurately to two hundredths foot (.02').

d. The horizontal control traverse(s) must be tied to at least two (2) section or quarter-section corners. All section and quarter-section lines intersecting the Project survey lines are to be tied by bearing, angle, and distance to the adjacent section and quarter-section corners. This information is to be shown on the Balanced Traverse Map.

e. The following requirements for section corner and quarter-section corner selection shall be met:

i. Submit data on why corner was accepted with copies of research material other than strictly Pima County Department of Transportation (PCDOT) references.

ii. Sketch of field procedure showing measurements, angles, and associated found corners if corner is established or reset.

iii. Submit a completed corner references tie sheet, similar to the standard form used by the PCDOT Survey Section, of all section and quarter-section corners involved with the Project. (NOTE: PCDOT standard forms and examples will be provided upon request.)

16. Vertical Control

a. A control listing of all the B.M.s shall be provided and shall be shown on the standard PCRWRD twenty-four inches by thirty-six inches (24" x 36") sheets. This listing shall be known as the Vertical Control Map and shall include the following information:

i. Source, location, elevation, and detailed description of B.M.s.
ii. Reference ties to the B.M. by both station and offset to the control line and to any other visible semi-permanent object.
iii. Complete level circuit, accurate to two (2) decimal places. Any adjusted elevations are to be referenced to the field book by page number. All level circuits must close within the accuracy specified by the formula:

$$.05D^{.5}$$

Where D is the level circuit distance in miles, and the constant (.05) includes appropriate units to give the answer in feet.

b. The datum which all elevations are to be referenced shall be approved by PCRWRD prior to being used. This datum shall be shown on the Vertical Control Map. Should a vertical datum other than the PCDOT Vertical Datum (presently: NAVD 88) be submitted for approval, the submittal shall state why the proposed vertical datum is superior and shall provide an equation

to an established PCDOT Vertical Datum B.M.

c. The RLS shall establish permanent B.M.s at approximately one thousand feet (1,000') intervals around the Project perimeter, if needed. These B.M.s shall be constructed in a durable manner and shall be safe from harm or disturbance during the course of construction. Wood materials and bridged nails in utility poles are not acceptable.

d. All B.M.s shall be shown in the plan view of the "plan & profile" design sheets along with their elevations and a brief description of where they are located.

ATTACHMENT "B" TO EXHIBIT "A"

SOILS ANALYSIS AND CORROSION CONTROL DESIGN SERVICES

A. Introduction

The CONSULTANT shall employ the services of an Engineer(s) knowledgeable in the areas of soils analysis and corrosion control. The Engineer shall provide those soils analyses deemed necessary to provide a proper and complete design of the facilities identified in EXHIBIT "A". Further, the Engineer shall provide the design and specifications necessary to protect the sewers from the effects of corrosive environments.

B. Soils Analyses

The Soils Engineer shall sufficiently investigate the soils into and upon which the proposed sewers are to be constructed so as to be reasonably assured that the integrity and alignment of the sewers remain as designed for the life of the facilities. Soil borings and samples shall be taken at a maximum spacing of seven hundred fifty feet (750'), or at such spacing deemed necessary to provide adequate information for design. For sanitary sewer designs, the samples shall be obtained at least five feet (5') below the design depth of the sewer.

For evaluation of boring or tunneling as a construction alternative, the Engineer shall increase the number, and depth, if warranted, of test borings and samples necessary for an appropriate evaluation of the soil conditions. This data shall be sufficient to generate the information necessary to assure that the equipment used for the proposed alternative can be supported and utilized.

At least one soil boring and an associated penetration resistance test shall be made at each wash where a pile supported sewer or grade control structure will be required. Both the boring and the penetration resistance test shall be extended to an elevation that is equal to or lower than the pile tip elevation.

The location of soil borings shall be shown on the Construction Plans and the results of the soils tests and copies of the boring logs shall be appended to the back of the Construction Specifications or drafted onto the Construction Plans. The investigations shall be sufficient to:

1. Determine through bank stability analyses, shoring and other trench protection construction requirements.

2. Identify and mitigate the effects of collapsing soils.

3. Provide other information necessary for the proper and adequate design of the sewers and supporting pile structures.

C. Corrosion Control

The Corrosion Control Engineer shall determine the need for special corrosion control measures to be incorporated into the design. The special corrosion control measures that might be applicable include passive cathodic protection of pipe and piles, protective wrapping of sewer pipe, protective coatings of pipe or pile exterior surfaces, exterior waterproof coatings of certain underground structures, and like measures. Active cathodic protection is not acceptable to PCRWRD. If it is determined that special corrosion control measures are warranted, the Corrosion Control Engineer shall design the required protective measures. The investigations shall include the following tests to substantiate any recommendations and conclusions made with respect to the design of the protective measures.

1. On-site soil resistivity tests;

2. Soil box resistivity tests;

3. pH measurements of the soil;

4. Tests to determine whether or not sulfate reducing bacteria are present in the soil; and

5. Determination of stray current potential from any cathodic protection systems which may impact the Project area.

D. Reporting Requirements

The results of the above noted tests and analyses shall be discussed and the conclusions and design recommendations shall be stated in the Technical Design Report. The laboratory results, test reports, and other supporting documentation shall be appended to the Technical Design Report. Also, as required above, the soils test results and soils boring logs shall appear in the Construction Documents, either appended to the Construction Specifications or drafted into the Construction Plans.

ATTACHMENT "C" TO EXHIBIT"A"

WASH CROSSING AND PROXIMITY REQUIREMENTS

The CONSULTANT shall provide the following design information applicable to the crossing or closely paralleling of washes by the alignment of the sewers to be designed and constructed. The CONSULTANT's design shall be sufficient to establish, as necessary, any needed technical design criteria for the wash crossings or paralleling situations and to convert those criteria to design information to be placed within the Construction Documents. All wash crossing designs shall be in compliance with RWRD design standards. The wash crossing or proximity requirements to be addressed in the Technical Design Report are as follows:

1. Preparation of a Wash Crossing and Proximity Analysis to determine the need for pipe protection or pipe supports for the sanitary sewer and to provide the CONSULTANT's recommendations regarding those needs. Wash flood flow information, lateral migration, scour, and estimated bed degradation or aggradation to be expected over the life of the sewer crossing (100 years) shall be obtained for each crossing, from Pima County Flood Control District (PCFCD), and the appropriate departments in the City of Tucson. In addition to the information available from the COT and PCFCD and the related design calculations, the CONSULTANT may be required to develop further calculations and prepare further analyses to adequately predict future storm flows, lateral migrations, scour, and bed degradations or aggradations and to identify pipe protection or support needs.

2. A clear definition of the nature of the pipe protection or pipe support for each wash crossing or situation when a paralleling sewer might be at risk. Such pipe protection or support could be in the form of soil cement bank protection, a series of pile supports, grade control structures, or one of these protective measures in conjunction with the use of ductile iron pipe, if determined to be appropriate by the CONSULTANT in agreement with PCRWRD. For major wash crossings, the noted pipe protection shall have a one hundred (100) year life expectancy.

3. Formalized sketches of the wash crossings or paralleling situations within the limits of possible lateral migrations shall be shown. The sketches shall indicate the horizontal and vertical alignment of the sewer, the height and depth of recommended support and protective structures, the hundred-year (100-year) floodwater elevations, the maximum probable lateral migration limits of the wash, and estimated wash bed degradation or aggradation elevations along the proposed alignment of the sanitary sewer.

4. A preliminary cost estimate for each sewer protection and supports recommended.

5. Presentation of a complete set of applicable design calculations for all sewer protection and support facilities within an appropriate appendix to the report.

The wash crossing or proximity requirements to be addressed in the Construction Documents are as follows:

1. Whenever the top of the wash bank, or the lateral migration limit of the wash, is within fifty feet (50') of the sewer line, measured at a right angle to the sewer, or within fifty feet (50') of a manhole, said wash bottom shall be plotted in the profile view and the wash bottom, the 100-year flood prone limit, and the maximum probable lateral migration limits shall be shown on the plan view of the drawings.

2. Whenever the proposed sewer crosses the wash, the profile and the plan views shall show the vertical and horizontal zone of scour and the effects of long-term degradation or aggradation shall be postulated.

3. Appropriate detail sheets shall be used to depict the design of the protective structures prepared by the CONSULTANT according to the design criteria presented and approved in the Technical Design Report.

4. If pile support of the sanitary sewer is to be constructed, the pile limits and spacing shall be shown on both

plan and profile views of the Construction Plans drawings. In addition, pile driving log sheets, drafted on detail sheets, bearing the PCRWRD title block, shall be included in the Construction Plans. Upon request, PCRWRD will furnish the CONSULTANT examples of such a log sheets.

ATTACHMENT "D" TO EXHIBIT "A"

GLOSSARY OF TERMS

Architects/Engineer(s) (A/E) means professional services firm(s) contractually responsible for primarily the design of Projects, as well as other tasks as defined, whose work may be contracted by PCRWRD and managed by the CONSULTANT.

Certificate of Substantial Completion means the certificate that is prepared by a Contractor or a Project Vendor and submitted to the CONSULTANT that states that the work or a portion of the work has been completed by such Contractor or Project Vendor as required by their contract.

Construction Documents – The Project specifications and Construction Drawings (plans, elevations, details, etc.) prepared and approved for construction by the Design Engineer and PCRWRD.

Construction Drawings – Completed drawings that visually represent the scope, extent and character of the Work to be furnished and performed by the CONSULTANT during the construction phase(s) and have been prepared and approved for construction by the Design Engineer and PCRWRD.

Construction-manager-at-risk (CMAR) means a Project delivery method in which: (a) There is a separate contract for design services and a separate contract for construction services; (b) The contract for construction services may be entered into at the same time as the contract for design services or at a later time; (c) Design and construction of the Project may be in sequential phases or concurrent phases; (d) Finance services, maintenance services, operations services, preconstruction services and other related services may be included.

Contractors mean any person or entity that enters into a contract to construct, demolish or alter structures, utilities or facilities with PCRWRD, or any permitted successor. This includes, but is not limited to, any form of contract such as design/bid/build, design/build, CMAR and Job Order Contract (JOC).

Critical Path Schedule - The sequence of critical, time sensitive activities from the start of the Work to the Substantial Completion of the Project, for which any delay in the completion of these activities will extend the Substantial Completion date.

Day - Work day unless otherwise specifically noted in the Solicitation or Contract Documents.

Design Engineer means the qualified, licensed person, firm or corporation who furnishes design and/or construction administration services required for the Project.

Guaranteed Maximum Price (GMP) – The sum of the maximum Cost of the Work including the CMAR's or Design Builder's Construction Fee, General Conditions Costs, all taxes, bonds, insurance and Contingency.

Project - The overall Work identified to be completed in the execution of this Contract.

Subcontractor - A person, firm or corporation having a contract with the Contractor to furnish services required as its independent professional associate or contractor with respect to the Project, or any individual or firm having a direct contract with the Contractor or any other individual or firm having a contract with the aforesaid contractors at any tier, who undertakes to perform a part of the design phase services or construction phase Work at the site for which the Contractor is

responsible.

Substantial Completion - When the Work, or an agreed upon portion of the Work, is sufficiently complete so that County can occupy and use the Project or a portion thereof for its intended purposes. This may include, but is not limited to: (i) all systems in place, functional, and displayed to PCRWRD or its representative; (ii) all materials and equipment installed; (iii) all systems reviewed and accepted by PCRWRD; (iv) landscaping and site work; and (v) final cleaning. The conditions of Substantial Completion that do not apply to a specific GMP will be listed in the Notice to Proceed Letter pursuant to the Construction Phase contract.

Value Engineering means analyzing the essential functions of structures or systems for the purpose of achieving the lowest life-cycle cost consistent with required performance, reliability, quality, and safety.

Work means the work performed by the CONSULTANT or, in the context of the Contract, any deliverables to PCRWRD.

EXHIBIT "B"

I. PROPOSED COMPENSATION SCHEDULE – NOT TO EXCEED AND FIXED PRICE PER TASK

	TASK	WESTLAND FEE	SUBCONSULTANT FEE	NOT TO EXCEED	FIXED FEE
	Task Block #1				
Construction Documents					
	UPRR Plan Review Submittal	$25,050		$25,050	$2,505
	Phase 1 30% through Final Plans		$195,100	$195,100	$0
	Phase 2 30% through Final Plans	$197,003		$197,003	$19,700
	Phase 3 30% through Final Plans	$50,800		$50,800	$5,080
	Specifications	$10,723	$10,820	$21,543	$1,072
	Preliminary Design Report	$24,971	$11,800	$36,771	$2,497
	Final Design Report	$14,560	$6,710	$21,270	$1,456
	Land Survey & Mapping & Easements	$272,127	$142,020	$414,147	$27,213
	Flow Monitoring & Flow Management Procedure	$40,305	$4,850	$45,155	$4,031
	Odor Control	$18,228	$28,430	$46,658	$1,823
	Ground Based Photographs	$10,374		$10,374	$1,037
	Public Involvement	$22,614	$124,780	$147,394	$2,261
	Subsurface Utility Engineering	$11,231	$15,490	$26,721	$1,123
	Structural Design	$3,689	$28,160	$31,849	$369
	Task Block #2				
Studies					
	Native Plant Protection Ordinance (NPPO) Survey & Mitigation Plan	$76,302		$76,302	$7,630
	Cultural Class III Resources Survey	$21,309		$21,309	$2,131
	Jurisdictional Delineation	$9,710		$9,710	$971
	Pima Pineapple Cactus	$18,672		$18,672	$1,867
	Applicability Assessment or PCN	$4,424		$4,424	$442
	ADOT Encroachment Permit	$4,564		$4,564	$456
	Biological Evaluation	$4,131		$4,131	$413
	TAA Categorical Exclusion	$3,609		$3,609	$361
	Drainage Analysis and Design		$116,380	$116,380	$0
	UPRR Training	$4,204		$4,204	$420
	Water Relocation Plans	$30,511		$30,511	$3,051
	Utility Corridor Study	$16,616	$9,970	$26,586	$1,662
	Utility Coordination	$24,185	$14,900	$39,085	$2,419
	Stormwater Pollution Prevention Plan	$4,045		$4,045	$405

	TASK	WESTLAND FEE	SUBCONSULTANT FEE	NOT TO EXCEED	FIXED FEE
	Jack/Bore or Micro Tunnel Analysis & Design	$8,351	$5,030	$13,381	$835
	Corrosion Control Analysis & Design	$3,689	$13,326	$17,015	$369
	Soils Analysis & Report	$13,353	$215,900	$229,253	$1,335
	Task Block #3				
Permits & Fees (roll-up of costs itemized by permit)					
	Application Preparation & Filing	$13,901	$40,950	$54,851	$1,390
	Payment to Agencies	$2,000	$1,910	$3,910	$200
	Task Block #4				
	Schedule and Cost Review & Analysis leading to GMP		$25,100	$25,100	$0
	Project Management	$43,248	$10,300	$53,548	$4,325
	Meetings	$76,679	$52,260	$128,939	$7,668
	QA/QC	$29,867	$43,880	$73,747	$2,987
	Scheduling	$8,191		$8,191	$819
	Liability Insurance for Subconsultants	$11,353		$11,353	$1,135
	Administrative Costs	$50,202		$50,202	$5,020
	Direct Expenses	$34,756	$5,000	$39,756	$3,476
	Post Design Submittal Review, Approval, and Record Drawings (Phases 1, 3 and portion of Phase 2)	$98,231	$99,110	$197,341	$9,823
	Biddable Documents (if required)	$19,058	$18,780	$37,838	$1,906
	UPRR Flagging costs		$2,800	$2,800	$0
	Task Block #5				
Allowances					
	Owner Allowances (SUE, Appraisals and Optional Construction Services)	$97,796	$175,400	$273,196	$9,780
	Task Block #6				
Owner Contingency for Design Modifications				$130,000	
	Subtotal	**$1,434,632**	**$1,419,156**	**$2,983,788**	**$143,463**
	Total				**$3,127,251**

EXHIBIT "B", CONTINUED

II. COMPENSATION

A. Cost Allocation and Ceilings

The compensation schedule shall contain the negotiated cost allocations for each individual task. The compensation schedule shall be used to monitor cost expenditures and sets the fixed price that can be charged for work pursuant to the specified task.

B. Cost Adjustments

If, for valid reason(s), the CONSULTANT notifies the Project Manager that the requisite work cannot be performed within the task's compensation allocation, and the Project Manager concurs, PCRWRD will consider modifying cost allocations. The total compensation may be increased only by formal amendment to this agreement.

C. Progress Payments

It is anticipated certain elements of the Project may take longer than one month to complete. These elements may be at considerable cost to the CONSULTANT prior to their full completion and acceptance by PCRWRD. In such cases, at the sole discretion of PCRWRD, PCRWRD may authorize interim progress payments to the CONSULTANT. The invoice from the CONSULTANT shall be proportionate to the actual percentage of work completed through the period covered by the invoice, as accepted by the PM.

III. INVOICING

A. Invoice Transmittal

Invoices shall be submitted monthly, at the Monthly Progress Meeting, to the Project Manager, with appropriate supporting data and documentation and in a format as prescribed by the Project Manager. (Acceptance of the invoice at this meeting is not mandatory. The Project Manager may delay approval for up to 5 work days to review the Progress Report and invoice.). The invoice shall tabulate the costs associated with each individual task. All Task (deliverables) and Subcontracted Service costs shall be appropriately documented. The Project Manager shall review and check the invoice to determine if it is complete and acceptable; if it is determined to be complete and acceptable, the Project Manager will approve the invoice and forward it for processing the payment.

WestLand Resources Billing Categories for Pima County Old Nogales Interceptor/Aerspace Corridor/Park Ave. Sewer Augemtation Design Project

Billing Labor Category	Grade Level
Principal Consultant	18
Program Director / Sr. PI / Sr.PM-G17	17
Sr. Proj. Eng./Senior PM-G17	17
Sr. Environmental Specialist-G16	16
Sr. Landscape Architect-G16	16
Const. Inspector-G15	15
Sr. Environmental Specialist-G15	15
Program Director / Sr. PI / Sr.PM-G14	14
Sr. Landscape Architect-G14	14
Surveyor-G13	13
Project Engineer-G13	13
Sr. GIS Specialist / Sr Cartographer-G12	12
Civil Designer-G11	11
Environmental Specialist-G11	11
Project Engineer-G11	11
Sr. GIS Specialist / Sr Cartographer-G11	11
Surveyor-G10	10
Desig-GIS Spec Cartographer-G10	10
Arch Project Manager / Lab Director-G09	9
Const. Inspector-G09	9
Environmental Specialist-G09	9
Tech Editor / Admin. Assistant-G09	9
Engineering Tech-G08	8
Lands-Ladscape Designer-G08	8
Tech Editor / Admin. Assistant-G08	8
Environmental Specialist-G08	7
Drafter-G07	7
Environmental Specialist-G07	7
Tech Editor / Admin. Assistant-G07	7
Env. Tech-G06	6
Survey Field Crew-G06	6
Env. Tech-G05	5
Assistant Crew Chief-G04	4
Arch Field Tech-T03	3

Dibble Engineering

Attachment 2 to EXHIBIT "B"

Subconsultant Cost Estimates

177 North Church Avenue
Suite 711
Tucson, Arizona 85701
P 520.495.4065
www.dibblecorp.com

October 21, 2015

Mr. Craig Cannizzaro, PE
Senior Project Manager
Westland Resources, Inc.
4001 E Paradise Falls Drive
Tucson, AZ 85712

Re: Fee Proposal Transmittal
Old Nogales Interceptor / Aerospace Corridor Sewer

Dear Craig:

Dibble Engineering is pleased to transmit herewith our fee proposal for the Old Nogales Interceptor / Aerospace Corridor sanitary sewer project. This fee proposal is prepared in reference to the approved Scope of Work, transmitted separately, for due diligence/predesign, design, and post design services. Work under this contract will be completed on a time-and-materials basis for a total fee not to exceed $799,860.00. Hourly rates will be charged in accordance with the fee proposal and the enclosed rate sheet.

We are very excited to partner with you and Pima County Regional Water Reclamation district on this critical infrastructure project. We look forward to starting work immediately upon receipt of Notice to Proceed.

Sincerely,
Dibble Engineering

Jason R. Fort, PE
Vice President

cc: Contract File

PCRWRD OLD NOGALES INTERCEPTOR

STAFF HOURS AND FEE PROPOSAL

Dibble Engineering

Billing Rate	$ 185.00	$ 165.00	$ 175.00	$ 145.00	$ 115.00	$ 95.00	$ 135.00	$ 155.00	$ 60.00		
Task	Principal Engineer	Design Manager	Senior Engineer	Project Engineer	Assistant Engineer/ Designer	CAD Technician	Land Surveyor	Survey Crew	Admin	Total Task Hours	Total Task Fee
Phase 2 - Construction Documents	**40**	**136**		**356**	**488**	**584**			**34**	**1638**	**$195,100**
30% Submittal - Plans & Specs	16	56		140	172	200			6	590	$ 71,640
60% Submittal - Plans & Specs	12	44		116	156	196			16	540	$ 63,820
99% & Final Submittal - Plans	12	36		100	160	188			12	508	$ 59,640
Specifications	**4**	**16**		**32**	**16**				**16**	**84**	**$ 10,820**
Preliminary Design Report	**4**	**16**	**4**	**32**	**16**	**8**			**8**	**88**	**$ 11,800**
Final Design Report	**2**	**12**	**2**	**12**	**16**	**2**			**4**	**50**	**$ 6,710**
ROW & Easement (Assume 10 Easements Required)		**28**	**4**	**16**		**80**	**36**			**164**	**$ 20,100**
Examination & Assessment		24	4	16						44	$ 6,980
Final Documentation to PCRP		4				80	36			120	$ 13,120
Land Survey & Mapping		**12**		**8**	**12**	**240**	**120**	**140**		**532**	**$ 65,220**
Flow Monitoring & Flow Management Procedure		**8**		**18**	**8**					**34**	**$ 4,850**
Odor Control System Design	**2**	**8**		**16**	**36**	**24**				**86**	**$ 10,430**
Ground Based Photographs											$ -
Public Involvement	**18**	**40**	**4**		**4**	**20**			**12**	**98**	**$ 13,710**
Subsurface Utility Engineering		**24**		**22**		**12**	**12**	**36**		**106**	**$ 15,490**
Structural Design(Coordination)	**2**	**2**		**8**	**8**	**4**				**24**	**$ 3,160**
Studies											$ -
UPRR Training											$ -
Water Relocation Plans											$ -
Utility Coordination		**16**		**40**	**52**				**8**	**116**	**$ 14,900**
Stormwater Pollution Prevention Plan											$ -
Drainage Analysis and Design	**32**			**560**		**308**				**900**	**$116,380**
Jack/Bore or MicroTunnel Analysis & Design	**4**	**12**		**12**		**6**				**34**	**$ 5,030**
Corrosion Control Analysis & Design											$ -
Soils Analysis Report		**8**		**12**	**4**	**4**				**28**	**$ 3,900**
Permits & Fees			**222**			**12**			**16**	**250**	**$ 42,860**
Application Preparation & Filing			222			12			16	250	$ 40,950
Payments to Agencies											$ 1,910
Schedule and Cost Review & Analysis leading to GMP	**14**	**68**		**62**	**20**					**164**	**$ 25,100**
Project Management and Coordination Activities	**56**	**194**	**6**	**132**						**388**	**$ 62,560**
Project Meetings	36	154	6	132						328	$ 52,260
Project Management	20	40								60	$ 10,300
Quality Assurance / Quality Control	**48**		**200**							**248**	**$ 43,880**
Old Vail Road Utility Corridor Study	**4**	**18**		**20**	**16**	**16**				**74**	**$ 9,970**
Scheduling											$ -
Liability Insurance for Subconsultants											$ -
Administrative Costs											$ -
Direct Expenses											$ -
Post Design Submittal Review, Approval and Record Drawings	**4**	**134**		**348**	**140**	**92**			**16**	**734**	**$ 99,110**
Biddable Documents (if Required)	**4**	**40**		**40**	**16**	**40**				**140**	**$ 18,780**
UPRR Flagging Costs											$ -
Owner Contingency for Design Modifications											$ -
TOTAL	**238**	**792**	**442**	**1746**	**852**	**1452**	**168**	**176**	**114**	**5980**	**$799,860**

Dibble Engineering

177 North Church Avenue
Suite 711
Tucson, Arizona 85701
P 520.495.4065
www.dibblecorp.com

Standard Billing Rates

Principal	$225.00
Principal Engineer	$185.00
Senior Project Manager	$175.00
Project/Design Manager	$165.00
Senior Engineer	$175.00
Project Engineer (P.E.)	$145.00
Assistant Project Engineer (E.I.T.)	$115.00
Senior Technician	$120.00
Designer	$115.00
CAD Technician	$95.00
Land Surveyor Manager (R.L.S.)	$160.00
Land Surveyor (R.L.S.)	$135.00
Assistant Land Surveyor (L.S.I.T.)	$95.00
Survey Technician	$85.00
Survey Crew (2-Man)	$155.00
Survey Crew (GPS/Robotic)	$155.00
Senior Construction Project Manager	$150.00
Construction Project Manager / Resident Engineer	$140.00
Construction Project Engineer	$130.00
Construction Inspector	$110.00
Senior Administrative Assistant	$80.00
Administrative Assistant	$60.00

Effective Date: 1/1/15

Cardno
Shaping the Future

Cardno, Inc.

4855 N. Shamrock Place
Suite 109
Tucson, AZ 85705
USA
Phone 520.770.0021
Fax 520.408.3002
Email Dan.Padilla@Cardno.com

www.Cardno.com

September 24, 2015

Mr. Craig Cannizzaro, P.E.
Sr. Project Manager
WestLand Resources, Inc.
4001 E Paradise Falls Drive
Tucson, AZ 85712

Re: Old Nogales Interceptor / Aerospace Corridor / Park Avenue
Sewer Augmentation Design Project
Pima County Regional Wastewater Reclamation Department
Revised Proposal for Subsurface Utility Engineering Services

Dear Mr. Cannizzaro:

Cardno, Inc. (formerly TBE Group, Inc. d/b/a Cardno TBE) is pleased to submit this proposal to provide professional Subsurface Utility Engineering (SUE) services for the above referenced project to WestLand Resources, Inc. (Client). The scope of work and fee structure are as follows:

SCOPE OF WORK

Project Limits

The project limits for Subsurface Utility Engineering services includes the roughly 14 mile long alignment identified on proposed plan sheets received from Client on August 11, 2015. A description of the project limits is as follows: the Old Vail Connection Road right of way beginning at Wilmot Road proceeding west approximately 5.8 miles to Old Nogales Highway. The project then proceeds north for approximately 5 miles to Drexel Rd. along the east ½ of the Old Nogales Highway right of way (between the centerline of Old Nogales Highway and the west right of way of the Union Pacific Railroad (UPRR) right of way). From Drexel Rd. the project continues north for approximately 3 miles within the west ½ of the UPRR right of way beginning at Drexel Rd. and ending at 36th St. An alternative section of the project includes diverting off of the west ½ of the UPRR right of way along Drexel, proceeding east to Park Ave., north along Park Ave to Irvington Rd., and then west back along Irvington Rd. to the west ½ of the UPRR right of way.

Subsurface Utility Engineering

Cardno will provide Quality Level 'D', 'C', 'B' and 'A' SUE services within the project limits as described above for existing "Dry" Subsurface Utilities (i.e. gas, telephone, cable television, etc.) and "Traceable" Subsurface Water Lines (metallic or nonmetallic buried with trace wire) in accordance with the Quality Level definitions provided below and requirements of the CI/ASCE 38-02 publication entitled ***"Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data"***. Cardno will provide Utility Designating (Surface Marking) and Field Sketching of the existing subsurface Dry Utilities and Traceable Water lines but Survey and CAD Mapping of the Designated Utilities shall be the responsibility of the Client, with review of CAD mapping to be conducted by Cardno. CAD mapping of all existing Overhead Utilities and Subsurface "Wet" utilities (i.e. all storm drain, all sanitary sewer, and non-traceable water lines) is to be conducted by Client.

- **Quality Level 'D' (QLD):** Cardno will provide records research existing "Dry" Subsurface Utilities and "Traceable" Subsurface Water Lines (metallic or nonmetallic buried with trace wire) within the project limits by contacting each utility owner and obtaining their available facility records. Part of this process involves contacting Blue Stake for a design ticket; Cardno will document the Blue Stake ticket number in the project files. Included in this task is a field investigation to

substantiate necessary records that will be obtained and the mapping of untraceable (nonmetallic buried without trace wire) utilities that do not meet Quality Level C or B specifications. QLD mapping is based on information obtained from record drawings and includes utility type, ownership, size and material composition. Cardno will provide one copy of each utility record obtained along with contact list of utility owners.

- **Quality Level 'C' (QLC):** Inclusive of QLD effort. Cardno will provide QLC mapping of existing "Dry" Subsurface Utilities and "Traceable" Subsurface Water Lines (metallic or nonmetallic buried with trace wire) by correlating surveyed surface evidence to the QLD utility records to obtain the utility location. QLC mapping includes utility type, ownership, size and material composition based on available record information.

- **Quality Level 'B' (QLB):** Inclusive of QLD and QLC effort. Cardno will provide QLB mapping of existing "Dry" Subsurface Utilities and "Traceable" Subsurface Water Lines (metallic or nonmetallic buried with trace wire) utilizing a variety of geophysical locating equipment to detect, verify and designate the location of subsurface utilities from above ground. Once designated, the utilities are marked using appropriate APWA colors in the field and will be hand sketched onto a CAD field sketch for use by Client in their survey and CAD mapping of Cardno designating marks. QLB utility mapping includes utility type, ownership, size and material composition of subsurface utilities and location based on available record information. Cardno will later provide a review of the Client's CAD mapping of utilities designated by Cardno during the QA QC process.

QLD, QLC and QLB utility investigation services includes major laterals and commercial service lines, but excludes landscape irrigation systems, residential services, traffic signal loop detection devices and underground storage tanks. Prior to providing service, Cardno will request to be provided with project base mapping in electronic CAD format for use in providing field sketch of designated utilities.

The estimated length of existing subsurface and overhead utilities is based on an assumed number of utilities lying in the roadway corridors defined by the project limits. Actual quantities may greatly differ from those estimated. For purposes of this proposal, Cardno estimates designating up to 60,000 linear feet of underground utilities exist within the project limits.

- **Quality Level 'A' (QLA):** Cardno will provide sixty (60) Air-Vacuum Utility Testholes (Potholes) without survey at locations yet to be determined within the project limits. For purposes of this estimate, it is anticipated that all of the potholes will be within paved sections of roadway and will require traffic control. The utility data obtained through our standard potholing procedure includes the depth, size and material composition of the utility exposed, backfill of excavated potholes using compacted native material, and pavement repair using permanent asphalt cold patch. Survey of the utility testhole locations is not part of the requested scope for this project, as discussed, Client shall survey stake, field mark, and number the location of the potholes prior to excavation by Cardno TBE. Cardno TBE will utilize these marks to ensure that excavation occurs at the Client's desired location and will be used by our crews to report the depth and horizontal location of the utilities relative to the survey markers set by Client. Prior to providing service, Cardno TBE requests one set of 11" x 17" plan sheets displaying background topography, existing utilities, and pothole locations clearly marked and annotated with the corresponding pothole number.

DELIVERABLES

For the Utility Designating effort, Cardno will provide one copy of the QLD records and a QLD, QLC and QLB utility field sketch in CAD format for Client's surveyors and drafters to use as a guide during survey and mapping of Cardno's designating marks; Cardno will also later provide a review of this mapping for QA QC purposes. Pertinent Utility Testhole Data will be presented in hard copy format on our standard field "Testhole Data Report" forms that include the depth, horizontal swing ties to Client's survey marker, size, and material composition of the utility line exposed.

SCHEDULE

Cardno will work closely with the project team to provide deliverables in a timeframe consistent with the overall project schedule. For scheduling purposes of the QLB utility mapping, please allow three weeks for Utility Records Research, ten weeks for utility designating and field work, and two weeks for QA QC review of Client's mapping of utilities designated by Cardno.

ESTIMATED FEE

Cardno proposes compensation for the Quality Level D, C, B, & A Subsurface Utility Engineering Services on a unit rate basis as follows.

Quality Level D, C, & B Subsurface Dry Utility & Tonable Water Designating	
Estimated 180,000 linear feet at $0.55 per foot	$99,000.00
Reimbursable Expenses	
Traffic Permits and Traffic Control (Estimate, Invoiced at Cost + 10%)	$3,000.00
Total Estimated Fee for QLD, QLC, & QLB Designating Services	**$102,000.00**
Quality Level A Subsurface Utility Locating (Potholing) Without Survey	
Estimated 60 Potholes without Survey @ $500.00 per Pothole	$30,000.00
Extra Depth Surcharges for Potholes Greater than 8 ft. in Depth (Estimated 50 ft. & $45 per ft.)	$2,250.00
Reimbursable Expenses	
Traffic Permits and Traffic Control for Potholing Effort (Estimate, Invoiced at Cost + 10%)	$9,000.00
Right of Way Permits Tucson & Pima County (Estimate, Invoiced at Cost)	$2,500.00
Union Pacific Railroad Right of Entry Permit and Railroad Protective Liability Insurance (Estimate, Invoiced at Cost)	$6,000.00
Asphalt Hot Patch Pavement Replacement (If Required, Estimate Only, Invoiced at Cost+10%)	$7,000.00
Traffic Permits and Traffic Control for Hot Patch Effort (Only if Hot Patch Required, Estimate, Invoiced at Cost + 10%)	$3,000.00
Total Estimated Fee for QLA Locating (Potholing) Without Survey	**$59,750.00**

TOTAL ESTIMATED FEE FOR QLB DESIGNATING SERVICES	**$102,000.00**
TOTAL ESTIMATED FEE FOR QLA LOCATING (POTHOLING) SERVICES	**$59,750.00**
TOTAL ESTIMATED FEE FOR ALL SUE SERVICES PROPOSED	**$161,750.00**

Cardno will not exceed the estimated fee without prior authorization from Client. **An invoice will be prepared upon completion for the actual work completed up to the estimated budget amount.** We appreciate this opportunity to provide Subsurface Utility Engineering services for this project. Should you have any questions or require additional information, please do not hesitate to call.

Sincerely,

Dan Padilla
Senior Project Manager

ConformaTECH

1 October 2015
CTEC Proposal No. TG 15 09 01

WestLand Resources, Inc.
4001 East Paradise Falls Drive
Tucson, Arizona 85712

Attn: Craig Cannizzaro, P.E.
Project Manager

Re: Old Nogales Interceptor Sewer
Old Vail Road/Old Nogales Highway/UPRR Alignment
Tucson, Arizona

In response to your request, our proposal for the performance of a geotechnical evaluation of the referenced project site is presented herein. The purpose of the CTEC services would be to evaluate the properties of the geotechnical profile beneath the site to provide criteria for sewer pipeline design. Our understanding of the details of the project upon which the proposal is based, the proposed scope of work, fees, contractual terms and schedule are given in the following sections.

1.0 PROJECT DESCRIPTION

The proposed sewer pipeline will be constructed at a depth of approximately 10 to 30 feet below the ground surface and will have a pipe diameter varying from 15" to 36". The pipeline runs west along Old Vail Connection Road to the Old Nogales Highway where it turns north and runs in or along side of the Union Pacific Railroad to 36th Street where it connects to an existing sewer pipeline. The pipeline length is approximately 14 miles. The pipeline alignment is shown on the client's drawings set one with pages 1 through 13 and set 2 with drawings 1 through 15, all dated April 14, 2015.

2.0 SCOPE OF WORK

2.1 FIELD WORK

2.1.1 Utility Marking

CTEC will contact the Arizona 811 call center for location of underground utilities. CTEC will use an air vacuum device at selected locations (maximum of 44) to attempt to locate below ground utilities prior to drilling test borings. CTEC will not accept liability for damages arising from any harm to or the disruption of utilities caused by the site work, which are not included in the one-call system or were not brought to CTEC's attention prior to conducting the subsurface investigation.

2.1.2 Mobilization & Demobilization

We plan to mobilize and demobilize CTEC field personnel, a backhoe, a truck-mounted, two wheel drive drill rig and an auxiliary vehicle(s) to and from the project site.

ConformaTech, Inc.
1425 East Apache Park Place
Tucson, Arizona 85714

phone 1.520.573.2045
fax 1.520.573.0528

ConformaTECH

2.1.3 Boring Locations

We have assumed all boring locations are accessible to a two wheel drive drilling rig. The client will provide a scaled site plan for our use in locating the borings. A backhoe will be used at 6 locations just east of the Old Nogales Highway and north of The Old Vail Connection Road to clear brush and vegetation to allow for drill rig access.

2.1.4 Soil Borings

We plan to drill one hundred and six (106) test borings by hollow stem auger methods to a depth of approximately 15 to 35 feet below grade unless shallower refusal is encountered. We will perform standard penetration testing or open-end drive sampling at 5 foot intervals or less in the borings. The spacing of the borings is approximately 750 feet between borings.

There are seven jack and bore locations along the alignment. Additional borings at these locations are planned:

CTEC will coordinate the boring drilling and sample collection with the corrosion consultant so that soil samples can be collected for testing by the corrosion consultant. Our cost estimate does not include corrosion analysis.

Some of the borings will be made through street pavement. We plan to patch the pavement at seven (7) locations with hot mix asphalt patches following the City of Tucson or ADOT patching guidelines.

2.2 LABORATORY ANALYSIS

Laboratory tests would be performed as considered necessary for engineering analysis. Tests which may be necessary for the project include moisture content, density, grain-size analysis, Atterberg limits, Standard Proctor (ASTM D698) and consolidation.

2.3 ENGINEERING ANALYSIS & REPORT

Engineering analysis of the data collected in the field and laboratory testing would be made. One electronic copy of a geotechnical evaluation report would be submitted, which would include the following:

A. Logs of test borings, a site plan showing their locations, and a description of procedures and equipment used in the exploratory program.

B. Results of laboratory tests.

C. A description of the geotechnical profile encountered.

D. Recommendations for design criteria for the resistance of lateral loads at the jack and bore pits, trench backfill discussion and estimated settlement of the pipe and manholes.

3.0 FEES

Charges for the scope of work outlined above are estimated to be $212,000. The final cost will be based on the actual work done using the attached rates. This fee will not be exceeded without a written approval of the client.

ConformaTECH

In preparing the above estimated fee, the following assumptions were made:

- soil removal using a vacuum device would be done at a maximum 44 locations to a maximum depth of 5 feet below the ground surface. This is done to search for buried utilities at the boring locations
- no restoration of the land or vegetation disturbed or removed to allow for drill rig access
- a maximum of 7 pavement patches
- no cost for sleeving or covering overhead power lines
- a maximum of $9,000 for all costs related to Union Pacific Railroad requirements for working on the railroad right-of-way.
- no use of private utility locators
- the maximum traffic control time will not exceed 14 days
- a maximum of 106 borings with a maximum 2,605 feet of drilling
- a maximum 835 feet of ADOT approved backfill in borings (sand, cement and water mix)

We have discussed the Union Pacific Railroad right-of-way permit with the railroad personnel. However, they would provide no information regarding the final cost of the permitting or the time to obtain the permit except that the initial review fee is $545 and the initial review time will be 45 days. Once the 45 day initial review is made, they will provide more information regarding further work on their part.

4.0 SCHEDULE

The field work should begin within 10 working days following your notice to proceed and the location of utilities. Approximately thirty working days will be required to complete the exploratory borings after the utilities have been located. The final report should be submitted about 3 months following the start date. Some delays may be experienced on finishing the portion of the report for the railroad property as it is not known when the work on the railroad right-of-way will be finished.

Should you have any questions concerning this proposal, we would appreciate the opportunity to review and clarify. We appreciate your consideration of our firm for the geotechnical engineering services required for the project.

If the purpose, scope, schedule and fee for the testing services described in this proposal are responsive to your needs on this project, please provide a written notice to proceed.

Respectfully submitted,
ConformaTech, Inc.

Clyde L. Pretti P.E.
Geotechnical Engineer

Copies: Addressee (1-electronic)
File (1)

ConformaTECH

TABLE of COSTS

Item	Cost	Per
Geotechnical Engineer	$83	hour
Senior Special Inspector	$71	hour
Special Inspector	$50	hour
Field Technician	$48	hour
Administration	$47	hour
Moisture of Soil Sample	$20	each
Soil Density	$25	each
Sieve Analysis	$85	each
Atterberg Limits	$55	each
Consolidation	$180	each
Standard Proctor	$120	each
Drill Rig and Backhoe	at cost	--
Traffic Control	at cost	--
Asphalt Patching	at cost	--
Supplies	at cost	--

KANEEN
Advertising & Public Relations Inc.

WestLand Resources
Old Nogales Interceptor (ONI) Design (Assumes 12 months for Kaneen)

Public Outreach 10/16/2015

ESTIMATE OF MANHOURS

Task	Project Principal/Manager	Designer/Artist	Public Relations Coordinator	Clerical	Total Hours	Total Labor Costs	Direct Expenses	Total Costs
	$120	$95	$80	$45				
DESIGN PHASE - Assumes 12 Months						**$ 84,920.00**	**$ 26,150.00**	**$ 111,070.00**
1. Project Planning &Team Meetings (Assumes site visit and bi-weekly team meetings = 25)	64	0	64	0	128	$12,800	$ 50.00	$ 12,850.00
2. Property Owner Outreach (Assumes 10 individual meetings)	12	0	24	4	40	$3,540	$ 250.00	$ 3,790.00
3. Stakeholder Outreach (Includes businesses, Neighborhood Associations, Emergency Services, etc - assumes 10)	36	0	24	4	64	$6,420	$ 100.00	$ 6,520.00
4. Elected Official's Outreach (Assumes initial design briefing and updates)	12	0	10	4	26	$2,420	$ 50.00	$ 2,470.00
5. Media Coordination/Respond to Inquiries	12	0	24	4	40	$3,540	$ 25.00	$ 3,565.00
6. Public Open Houses (Assumes 3 for design phase)	60	30	72	36	204	$18,000	$ 16,675.00	$ 34,675.00
7. Outreach Materials (May include letters, maps, etc)	48	24	42	18	132	$12,210	$ 1,025.00	$ 13,235.00
8. Website (Assumes design, development of new information, updates and maintenance)	36	8	60	4	108	$10,060	$ 1,700.00	$ 11,760.00
9. Contact Database/Project Information Line	24	0	48	6	78	$6,990	$ 1,200.00	$ 8,190.00
10. Partnering Workshops (Assumes 1 - coordination and attendance)	24	0	15	6	45	$4,350	$ 5,050.00	$ 9,400.00
11. Project Management	24	0	16	6	46	$4,590	$ 25.00	$ 4,615.00
Total	352	66	401	92	913	$ 84,920.00	$ 26,150.00	$ 111,070.00

LANDPRO VALUATION

September 10, 2015

Mr. Craig Cannizzaro, P.E.
Sr. Project Manager
WestLand Resources, Inc.
4001 E Paradise Falls Drive
Tucson, AZ 85712

RE: Proposal to provide appraisals of sewer line easements for properties located along Fletcher Avenue in Old Tucson and Old Vail Connection Road in Pima County

Dear Mr. Cannizzaro:

Per your request, I am pleased to submit a proposal to provide appraisals of sewer line easement over the following properties:

1. Approximately 10.71 acres of land owned by IBV, LLC and identified as APN's 119-01-038B, 020C and 025C
2. Approximately 10.5 acres of land owned by Borderland Construction Co., Inc. and B Land Properties, LLC and identified as APN's 119-01-016, 017, 018A, 018B, 015C and 006G
3. Approximately 16.65 acres of land owned by Tucson Greyhound Park, Inc. and identified as APN's 119-01-007, 008, 011, and 013; 119-02-001B, 087, 088, 089, and 090
4. Approximately 2.38 acres of land owned by the City of Tucson and identified as APN 303-09-107
5. Approximately 712.83 acres of land owned by State of Arizona and identified as Section 4, Township 16 South, Range 14 East of the Gila and Salt River Base and Meridian
6. Approximately 494.41 acres of land owned by the Arizona Department of Corrections and identified as a portion of Section 1 Township 16 South, Range 14 East of the Gila and Salt River Base and Meridian

The scope of this assignment for each appraisal will be as follows:

- Contact with the property owner
- An on-site inspection of the property

- A regional and market area analysis
- An analysis and description of the property
- A highest and best use analysis of the property
- A valuation analysis using the sales comparison approach
- Valuation of the sewer line easement as part of the larger parcel
- Calculation of the value of the remainder as part of the larger parcel
- Valuation of the remainder as a separate property
- Conclusion of damages, if applicable
- Conclusion of value for the acquisition
- Preparation of a written appraisal report
- An electronic copy of the report sent via e-mail

It is understood that no building improvements are located in the areas of the proposed easements, that the minor improvements for the Greyhound Park facility that are located within the easement area will be replaced as part of the project and that any items stored in the area of the proposed easements will be relocated as part of the project.

The purpose of each appraisal will be to provide an opinion of the market value, as is, of the fee simple interest in the property. The intended users of each appraisal is WestLand Resources and Pima County. The intended use of each appraisal is in acquisition negotiations and/or eminent domain proceedings. The client for this assignment is Westland Resources.

The appraisals will be prepared in accordance with the Uniform Standards of Professional Appraisal Practice and in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Practice of the Appraisal Institute.

Additionally, the appraisals will be subject to typical assumptions and limiting conditions for appraisal reports prepared by Landpro Valuation. A copy of these assumptions and limiting conditions is available upon your request.
The fee for this assignment will be $2,200 per appraisal ($13,200 for six appraisals). Hard copies of the appraisal reports will be provided for $75 per copy.

The appraisals will be completed within 30 days of receipt of your written authorization to proceed and any items needed for completion of the appraisals.

This assignment will not require giving testimony or participating in or attending any public or private meeting or hearing, in court or otherwise, with reference to the appraisal assignment without further compensation. Fees for these additional services will be $250 Per Hour.

It is understood that the report will be used in its entirety and no portion or valuation method shall be used out of context of the balance of the report.

Landpro Valuation reserves the right to utilize copies of the report for internal purposes as well as for use as sample work product for prospective and existing clients.

Any controversy or claim arising out of or relating to this contract, or the breach thereof, shall be settled by arbitration in accordance with the (applicable) Rules of the American Arbitration Association and judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof.

I look forward to undertaking this assignment for you. If there are any questions, or any portion of this agreement does not conform to your understanding, please contact me at 480-284-8450.

Sincerely,

J. Douglas Estes, MAI, SR/WA
Certified General Real Estate Appraiser
Certificate Number 30821, State of Arizona
Expires October 31, 2015

PEAK CORROSION CONTROL, INC.

805 N. Camino Cordon, Tucson, Arizona 85748
(520) 722-7484 • Fax (520) 722-0293

CORROSION CONTROL DESIGN PROPOSAL

PROJECT: PIMA COUNTY - OLD NOGALES INTERCEPTOR
CORROSION CONTROL DESIGN FOR STEEL CASINGS (6 E) AND DIVERSION STRUCTURES (6 EA)

DATE: 9/3/15

PREPARED BY: Shawna Depugh - Peak Corrosion Control, Inc.

PREPARED FOR: Craig Cannizzaro - WestLand Resources, Inc.

CONTRACT TYPE: Corrosion Control Study and Design

ITEM NO.	PHASE DESCRIPTION	PERFORMED BY	PER HOUR	HOURLY RATE	TOTAL COST
I	CORROSION CONTROL DESIGN	Principle Manager	1	$150.00	$150.00
	OLD NOGALES INTERCEPTOR	Project Engineer	2	$145.00	$290.00
	FOR SIX (6) STEEL CASINGS	Designer	40	$135.00	$5400.00
	CROSSINGS FOR THE 14 MILES OF	Drafting*	8	$80.00	$640.00
	30" INTERCEPTOR	Field Corrosion Tech	24	$85.00	$2040.00
	(Sewer Line is nonmetallic)	Clerical	4	$55.00	$220.00

(A) Total Labor Expenses (includes overhead & profit) $8740.00

(B) Estimated/Other Direct Expense $0.00

(C) Estimated Outside Services and Subconsultants $4586.40

(listed by Firm or Name at Estimate Cost to Prime -NO MARKUP)

Firm: Turner Laboratory (per soil samples from geotech firm) @ $325.00/sample

- total labor cost $3900.00
- overhead @ 5% x direct labor $195.00
- profit @ 12% x (DL+OM) $491.40
- estimated other direct expense $0.00
- total cost by individual subconsultant $4586.40

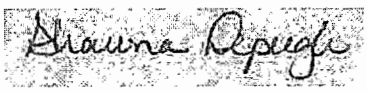
(D) Total Consultant Fee = (A) + (B) + (C) $13,326.40

* DRAFTING consists of 8-1/2"x11" computer generated drawings to be converted to CADD by others.

Includes:
1. Soil study of 12 locations: 6 casing locations and 6 possible diversion structures.
2. Soil study consists of receiving 1 gallon bag of soil at proposed pipe depth at each location from Geo
3. Lab testing (saturated soil resistivity, pH, sulfides, sulfates, chlorides and moisture)
4. On-site soil resistivities at 5-foot, 10-foot and 15-foot depths for soil corrosivity at 12 boring sites
5. Analyze soil test results and design corrosion monitoring and sacrificial cathodic protection systems
6. Design corrosion monitoring and sacrificial cathodic protection systems for steel casings
7. Review and redline plans and specs. at 60%, 90% and 100%

Excludes:
1. Autocad drawings (drawings in pdf form 8-1/2"x11" to be incorporated by Consultant)
2. Bid documents

Sincerely,
PEAK CORROSION CONTROL, INC.



Shawna Depugh, NACE CPS #3842
President

RCE
RICHARD CANNEY
ENGINEERING

12381 E. Fort Lowell Road
Tucson, Arizona 85749
Phone: (520) 615-8006
Fax: (520) 615-6495
E-Mail: canney@att.net

October 21, 2015 Q28-14

WestLand Resources Inc.
4001 E. Paradise Falls Drive
Tucson, AZ 85712-6685

Attention: Craig Cannizzaro

Reference: Old Nogales Interceptor/Aerospace Corridor/Park Avenue
Sewer Augmentation Design No. 3ASC15
Proposal for Electrical Engineering Services

Dear Craig:

We are pleased to present this proposal to provide electrical engineering services for the subject project. We will provide an electrical design for multiple proposed odor control biofilter systems, each on separate sites, similar to the systems outlined in your August 16, 2013 email to me regarding a different project. Each facility will require a new 480 volt, 3 phase electrical service. The biofilter system will be a packaged arrangement with an irrigation system and controls as shown in the sample drawings you sent. There will also be an aeration air compressor. A 120/240 volt transformer and panel will be added if needed. There will be no standby power equipment, SCADA equipment, buildings or electrical design work required at sites other than at the biofilter facility associated with this project. We assume there is appropriate electric service available at each site from the local electric utility company.

Design period services will consist of drawings sufficient to define the technical part of a contract to perform the required construction. You will provide background drawings.

Our fee will be $6,000 for each site for design period services. This fee applies for each site regardless of how many sites are actually to be designed. For services outside the above scope, such as special studies, meetings with the owner or contractor, services during construction, or changes in design after significant work has been performed, we will charge at $130.00/hour for principal time.

We will invoice you monthly. Invoices will be due upon receipt. The carrying charge for amounts not paid within 45 days of the invoice date will be 1.5% per month.

Claims, disputes or other matters in question between the parties to this Agreement arising out of or relating to this Agreement or the breach thereof shall be subject to and decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect unless the parties mutually agree otherwise.

Demand for arbitration shall be filed in writing with the other party to this Agreement and with the American Arbitration Association. A demand for arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen. In no event shall the demand for arbitration be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statutes of limitations.

No arbitration arising out of or relating to this Agreement shall include, by consolidation, joinder or in any other manner, an additional person or entity not a party to this Agreement except by written consent containing a specific reference to this Agreement and signed the parties to this Agreement, and any other person or entity sought to be joined. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent or with a person or entity not named or described therein. The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to be the parties to this Agreement shall be specifically enforceable in accordance with applicable law in any court having jurisdiction thereof.

The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

If the foregoing is acceptable to you, please return a signed copy of this letter. If there are any questions please give me a call.

Sincerely yours,

Richard P. Canney, P.E.

Accepted by:

_____

Title:_____

Date:_____

Structural Grace, Inc

October 20, 2015

Mr.Craig Cannizzaro,PE
Sr. Project Manager
WestLand Resources
4001 E Paradise Falls Drive
Tucson, AZ85712

Re: Pima County Regional Wastewater Reclamation Department ONI/ASC Sewer Augmentation Project Miscellaneous Structural Design

Dear Craig,

This letter presents our scope and fee for the miscellaneous structural engineering design for the subject project. The project will be constructed into three phases, Phase 1, Phase 2 and Phase 3. Submittals for Phase 1 -3 will occur at the same time, with the Phase designated on the border

Design and Detailing of the following structures:

1. Diversion Structure –Hughes Access & Old Nogales Hwy (Phase 2). This structure will be a cast-in-place concrete junction structure 12 to 15 feet deep, approximately 7 ft diameter with an inlet for a 36" line and an outlet for a 18" line
2. Diversion Structure –Irvington and Park (Phase 1). This structure will be a cast-in-place concrete junction structure 12 to 15 feet deep, approximately 6 ft diameter with an inlet for a 12" line and an outlet for 2-12" lines.
3. Airport Wash- Slab on Grade (Phase 3)- provide details to reconstruct slab on grade to place new pipe underneath slab and tie into existing adjacent slab.
4. Rodeo Wash Grade Control Structure (Phase 3)- Slab on Grade -provide details to replace slab on grade in-kind
5. Veterans Wash- Concrete lined wash (Phase 3)-provide details to cut and replace section in-kind and tie into existing lining.

Meetings:

Attendance at a maximum of 6 meetings @ 2 hrs/meeting and 2 site visits @ 4hrs/visit.

Assumptions

a) Plans will be broken into 3 phases for construction purposes, however the submittals will occur at the same time for all phases.
b) Four Submittals -30%, 60%, 99% and Final PS&E
c) .A maximum of 5 plan sheets is assumed.
d) The depth of the new pipe located below the structures identified in items 3, 4 and 5 above is located sufficiently below slab on grade such that structural analysis of pipe is not required.

808 N. First Street
Phoenix, Arizona 85004
(602) 437-2551
Fax (602) 437-7244

1430 E. Ft. Lowell Rd, Suite 200
Tucson, Arizona 85719
(520) 320-0156
Fax (520) 320-0157

www.structuralgrace.com

e) No special provisions, estimates, quantities or post-design services are included in this scope and estimate

Information Supplied to Structural Grace, Inc:
The following items will be supplied by others to Structural Grace, Inc. and are needed to perform the above tasks:

1. Base files, showing location and overall dimensions of the diversion structures
2. Base files showing the existing slab on grades, grade control structures and concrete lined channels including locations, utilities, reinforcing details and thickness of existing structure
3. Electronic Border

Deliverables:
PDF of maximum of 5 plan sheets at the 30, 60, 99 and final PS&E submittals.

Proposed Fee:
We propose to perform the above scope for a lump sum fee of $25,000. This quote is valid for 6 months from date of proposal. Any additional tasks will be based on the attached schedule of fees.

Thank you for the opportunity to work with you and your project team. Please feel free to contact me if you need any additional information.

Sincerely,
Structural Grace, Inc.

Claudia P Perchinelli

Claudia Perchinelli, PE
Project Manager

enclosed: Schedule of Fees

Structural Grace, Inc.

2015 Schedule of Fees

Engineer/Architect

Principal Engineer	$190.00/hr.
Project Manager	$185.00/hr.
Senior Project Engineer	$175.00/hr.
Project Architect	$150.00/hr.
Project Engineer	$165.00/hr.
Engineer	$120.00/hr.
Project Designer	$105.00/hr.

Field Personnel

Inspector III	$95.00/hr.
Inspector II	$85.00/hr.
Inspector I	$75.00/hr.
Survey Manager	$115.00/hr.
Surveyor, RLS	$125.00/hr.
Survey Crew - 1-Man w/GPS* (Non-RLS)	$88.00/hr. - $105.00/hr.
Survey Crew - 2-Man w/GPS*	$138.00/hr. - $160.00/hr.
Survey Technician	$75.00/hr.

Administrative

Admin/Clerical	$65.00/hr.

** Rate for Survey Crews dependent on experience level of crew members*

In addition to the above-referenced hourly rates, reimbursable expenses incurred by Structural Grace, Inc. in the completion of approved tasks shall be invoiced to the client at actual cost. These expenses include costs incurred for specialized professional services, reproduction, printing, equipment rental, travel costs, etc. Mileage reimbursable at $0.565-mile.

Rates Effective September 1, 2015

1430 E. Ft. Lowell Road, Suite 200
Tucson, Arizona 85719
(520) 320-0156
Fax (520) 320-0157
www.structuralgrace.com

808 North First Street
Phoenix, Arizona 85004
(602) 437-2551
Fax (602) 437-7244

Unique Approach - Unique Solution

10/21/2015 10:56 AM

Craig Cannizzaro P.E.
Westland Resources, Inc.
4001 E. Paradise Falls Drive
Tucson, Arizona 85712

Old Nogales Interceptor Sewer Augmentation Project:

We will take out the "Handle" and apply those hours to the 900' wide additional are on the far East side of Old Vail Connection Road. The price will remain the same.

Please find a cost to provide you with COLOR photography @1:3600 and produce DTM mapping at 1"=40' with a 1' contour interval and 39 corresponding COLOR digital orthophotos of the site as outlined.

Cost: $56,700.00

Deliverables are 1 set of COLOR contact prints and a DVD with mapping data in both AutoCAD and ASCII format as well as a tiff file for the COLOR orthophoto images.

Approximately 102 horizontal and vertical field panels will be needed at the pre-selected locations. Panel diagram to follow.

Turnaround time is now 52 working days M-F, excluding holidays.

If you have any questions or need any additional information, please don't hesitate to call.

Prepared by: Jeff Ponce de Leon

Antonio Leon III

Sun Mapping, LLC
2301 N. Forbes Blvd Suite 109
Tucson, AZ 85745-1431
(520)623-7268

Project Name: ONI Sewer
Task: Cultural Resources Survey
Client: Pima County
Project Manager: Craig C
Task Manager: Fred H
Code: 2013F

Sub Task ID

1 Class I/NOI
2 Class III
3 Site recording 10 sites 2 sites per day
4 draft report
5 final report
6 ASM registration
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Cultu-Prog Dir Sr PI Sr PM-G17	$153.70	6	$922	2	1	1	1	1		
Cultu-Prog Dir Sr PI Sr PM-G14	$112.00	6	$672				4	2		
Const-Const. Inspector-G09	$67.87	160	$10,859		40	40	60	20		
Cultu-Assistant Crew Chief-G04	$41.81	80	$3,345		40	40				
Cultu-Arch Proj Mgr Lab Dir-G9	$67.87	28	$1,900	24					4	
Desig-Sr GIS Spec Sr Crtgrphr-G11	$85.28	26	$2,217	4	3	3	12	4		
Cultu-Assistant Crew Chief-G04	$41.81	2	$84		1	1				
Admin-Tech Edtr Admin Ast-G07	$58.48	18	$1,053				12	6		
Admin-Tech Edtr Admin Ast-G08	$64.14	4	$257	2	2					
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		330	$21,309	$2,406	$4,967	$4,839	$6,399	$2,427	$271	$0
With Fixed Fee			$23,439.53	$2,646.25	$5,463.51	$5,322.41	$7,038.92	$2,669.81	$298.63	
Direct Expenses										
Item	$/Unit	Unit								
ASM Blanket Permit-Digital curation	$90.00	gigabyte	$90						1	
199.99 acres or less	$150.00	lump sum	$150						1	
GPS Trimble	$125.00	day	$1,250		5	5				
Mileage	$0.75	mile	$150		200					
Printer/Copier - Colored 8.5 x 11	$0.81	copy	$8	10						
Printer/Copier - Colored 11 x 17	$1.62	copy	$16	10						
Vehicle Rental	$82.00	day	$820		5	5				
Direct Expense Subtotal			$2,484	$24	$1,185	$1,035	$0	$0	$240	$0
G & A Fee	0.15		$373	$4	$178	$155	$0	$0	$36	$0
TOTAL COST - DIRECT EXPENSES			$2,857	$28	$1,363	$1,190	$0	$0	$276	$0
Subcontract										
Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$24,166	$2,434	$6,330	$6,029	$6,399	$2,427	$547	$0

Project Name: ONI Environmental Permitting
Task: PPC Survey
Client: Pima County
Project Manager: Craig Cannizzarro
Task Manager: Amanda Best
Code: 2013F

Sub Task ID

1 survey
2 report
3 coordination
4
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$153.70	1	$154			1				
Envir-Sr. Environmtl Spclst-G16	$142.31	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	4	$271	1	3					
Design GIS Spec Cartography-G15	$77.03	16	$1,232	8	8					
Envir-Environmtl Spclst-G09	$67.87	91	$6,176	80	8	3				
Envir-Environmtl Spclst-G07	$58.48	80	$4,678	80						
Envir-Environmtl Spclst-G03	$64.14	80	$5,131	80						
Envir-Sr. Environmtl Spclst-G15	$128.53	8	$1,028		4	4				
Cultu-Arch Field Tech-T03	$36.76	0	$0							
Cultu-Arch Proj Mgr Lab Dir-G9	$67.87	0	$0							
Envir-Environmtl Spclst-G11	$85.28	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		280	$18,672	$15,923	$1,877	$871	$0	$0	$0	$0

Direct Expenses

Item	$/Unit	Unit								
Fed Ex (average)	$24.00	package	$240		10					
Mileage	$0.75	mile	$375	500						
Printer/Copier - Black & White 8.5 x 11	$0.06	copy	$6		100					
Printer/Copier - Black & White 11 x 17	$0.13	copy	$0							
Printer/Copier - Colored 8.5 x 11	$0.81	copy	$41		50					
Printer/Copier - Colored 11 x 17	$1.62	copy	$81		50					
SPOT Tracker	$10.00	day	$200	20						
Vehicle Rental	$82.00	day	$820	10						
Vehicle Rental-Premium SUV (Suburban or Expedtion XL)	$136.00	day	$1,360	10						
Direct Expense Subtotal			$3,123	$2,755	$368	$0	$0	$0	$0	$0
G & A Fee	0.15		$468	$413	$55	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$3,591	$3,168	$423	$0	$0	$0	$0	$0

Subcontract

Sub 1		$0							
Sub 2		$0							
Sub 3		$0							
Subcontract Subtotal		$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS		$22,263	$19,092	$2,300	$871	$0	$0	$0	$0

Project Name: ONI Environmental Permitting
Task: JD
Client: Pima County
Project Manager: Craig Cannizzarro
Task Manager: Amanda Best
Code: 2013F

Sub Task ID

1 field
2 mapping
3 report
4 report figures
5 submittal to Corps/Coordination
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$153.70	1	$154			1				
Envir-Sr. Envrnmntl Spclst-G16	$142.31	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	6	$407					6		
Desig-GIS Spec Cartographr-G10	$77.03	40	$3,081		24		12	4		
Envir-Envirnmntl Spclst-G09	$67.87	44	$2,986	24		16		4		
Envir-Envirnmntl Spclst-G07	$58.48	0	$0							
Envir-Envirnmntl Spclst-G08	$64.14	24	$1,539	24						
Envir-Sr. Envrnmntl Spclst-G15	$128.53	12	$1,542		3	3		6		
Cultu-Arch Field Tech-T03	$36.76	0	$0							
Cultu-Arch Proj Mgr Lab Dir-G9	$67.87	0	$0							
Envir-Envirnmntl Spclst-G11	$85.28	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		127	$9,710	$3,168	$2,234	$1,625	$924	$1,758	$0	$0

Direct Expenses

Item	$/Unit	Unit								
Mileage	$0.75	mile	$150	200						
Printer/Copier - Black & White 8.5 x 11	$0.06	copy	$6		100					
Printer/Copier - Black & White 11 x 17	$0.13	copy	$13		100					
Plotter - Full Color 24 x 36	$24.00	sheet	$480		20					
SPOT Tracker	$10.00	day	$60	6						
Vehicle Rental-Premium SUV (Suburban or Expedtion XL)	$136.00	day	$816	6						
Direct Expense Subtotal			$1,525	$1,026	$499	$0	$0	$0	$0	$0
G & A Fee	0.15		$229	$154	$75	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$1,754	$1,180	$574	$0	$0	$0	$0	$0

Subcontract

Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$11,464	$4,348	$2,808	$1,625	$924	$1,758	$0	$0

Project Name: ONI Environmental Permitting
Task: Applicability Assessment or PCN
Client: Pima County
Project Manager: Craig Cannizzarro
Task Manager: Amanda Best
Code: 2013F

Sub Task ID

1 memorandum preparation
2 coordinate and meetings
3 graphics
4
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$153.70	3	$461	1	2					
Envir-Sr. Envrnmntl Spclst-G16	$142.31	0	$0							
Admin-Tech Edit Admin Ast-G09	$67.87	0	$0							
Desig-GIS Spec Cartographr-G10	$77.03	24	$1,849			24				
Envir-Envimmntl Spclst-G09	$67.87	16	$1,086	16						
Envir-Envimmntl Spclst-G07	$58.48	0	$0							
Envir-Envimmntl Spclst-G08	$64.14	0	$0							
Envir-Sr. Envrnmntl Spclst-G15	$128.53	8	$1,028	6	2					
Cultu-Arch Field Tech-T03	$36.76	0	$0							
Cultu-Arch Proj Mgr Lab Dir-G9	$67.87	0	$0							
Envir-Envimmntl Spclst-G11	$85.28	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		51	$4,424	$2,011	$564	$1,849	$0	$0	$0	$0
Direct Expenses										
Personnel	$/Unit	Unit								
Mileage	$0.75	mile	$38		50					
Printer/Copier - Black & White 8.5 x 11	$0.06	copy	$6	100						
Printer/Copier - Black & White 11 x 17	$0.13	copy	$13	100						
Printer/Copier - Colored 8.5 x 11	$0.81	copy	$41			50				
Printer/Copier - Colored 11 x 17	$1.62	copy	$81			50				
Direct Expense Subtotal			$178	$19	$38	$122	$0	$0	$0	$0
G & A Fee	0.15		$27	$3	$6	$18	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$205	$22	$43	$140	$0	$0	$0	$0
Subcontract										
Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$4,629	$2,033	$608	$1,988	$0	$0	$0	$0

Project Name: ONI Environmental Permitting
Task: ADOT Encroachment Permit
Client: Pima County
Project Manager: Craig Cannizzarro
Task Manager: Kim Otero
Code: 2013F

Sub Task ID

1 deliverable preparation
2 graphics
3 coordination
4
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$153.70	2	$307			2				
Envir-Sr. Envrnmntl Spclst-G16	$142.31	8	$1,138	6		2				
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Desig-GIS Spec Cartographr-G10	$77.03	16	$1,232		16					
Envir-Envirnmntl Spclst-G09	$67.87	24	$1,629	24						
Envir-Envirnmntl Spclst-G07	$58.48	0	$0							
Envir-Envirnmntl Spclst-G08	$64.14	0	$0							
Envir-Sr. Envrnmntl Spclst-G15	$128.53	2	$257			2				
Cultu-Arch Field Tech-T03	$36.76	0	$0							
Cultu-Arch Proj Mgr Lab Dir-G9	$67.87	0	$0							
Envir-Envirnmntl Spclst-G11	$85.28	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		52	$4,564	$2,483	$1,232	$849	$0	$0	$0	$0

Direct Expenses

Item	$/Unit	Unit								
Mileage	$0.75	mile	$38			50				
Printer/Copier - Black & White 8.5 x 11	$0.06	copy	$6	100						
Printer/Copier - Black & White 11 x 17	$0.13	copy	$13	100						
Printer/Copier - Colored 8.5 x 11	$0.81	copy	$81		100					
Printer/Copier - Colored 11 x 17	$1.62	copy	$162		100					
Direct Expense Subtotal			$300	$19	$243	$38	$0	$0	$0	$0
G & A Fee	0.15		$45	$3	$36	$6	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$344	$22	$279	$43	$0	$0	$0	$0

Subcontract

Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$4,909	$2,505	$1,512	$892	$0	$0	$0	$0

Project Name: ONI Environmental Permitting
Task: TAA Cat Ex
Client: Pima County
Project Manager: Craig Cannizzarro
Task Manager: Kim Otero
Code: 2013F

Sub Task ID

1 checklist preparation
2 coordination
3 graphics
4
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$153.70	5	$769	1	4					
Envir-Sr. Envrnmntl Spclst-G16	$142.31	8	$1,138	4	4					
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Desig-GIS Spec Cartographr-G10	$77.03	8	$616			8				
Envir-Envirnmntl Spclst-G09	$67.87	16	$1,086	12	4					
Envir-Envirnmntl Spclst-G07	$58.48	0	$0							
Envir-Envirnmntl Spclst-G08	$64.14	0	$0							
Envir-Sr. Envrnmntl Spclst-G15	$128.53	0	$0							
Cultu-Arch Field Tech-T03	$36.76	0	$0							
Cultu-Arch Proj Mgr Lab Dir-G9	$67.87	0	$0							
Envir-Envirnmntl Spclst-G11	$85.28	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		37	$3,609	$1,537	$1,456	$616	$0	$0	$0	$0

Direct Expenses

Item	$/Unit	Unit								
Direct Expense Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$0	$0	$0	$0	$0	$0	$0	$0

Subcontract

Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$3,609	$1,537	$1,456	$616	$0	$0	$0	$0

Project Name: ONI Environmental Permitting
Task: UPRR Training
Client: Pima County
Project Manager: Craig Cannizzarro
Task Manager:
Code: 2013F

Sub Task ID

1 coordination for training
2 training
3
4
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$153.70	0	$0							
Envir-Sr. Envrmmntl Spclst-G16	$142.31	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	4	$271	4						
Desig-GIS Spec Cartographr-G10	$77.03	0	$0							
Envir-Envimmntl Spclst-G09	$67.87	10	$679		10					
Envir-Envimmntl Spclst-G07	$58.48	10	$585		10					
Envir-Envimmntl Spclst-G08	$64.14	10	$641		10					
Envir-Sr. Envrmmntl Spclst-G15	$128.53	1	$129	1						
Cultu-Arch Field Tech-T03	$36.76	10	$368		10					
Cultu-Arch Proj Mgr Lab Dir-G9	$67.87	10	$679		10					
Envir-Envimmntl Spclst-G11	$85.28	10	$853		10					
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		65	$4,204	$400	$3,804	$0	$0	$0	$0	$0

Direct Expenses

Item	$/Unit	Unit								
Mileage	$0.75	mile	$150		200					
Vehicle Rental-Premium SUV (Suburban or Expedition XL)	$136.00	day	$272		2					
Direct Expense Subtotal			$422	$0	$422	$0	$0	$0	$0	$0
G & A Fee	0.15		$63	$0	$63	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$485	$0	$485	$0	$0	$0	$0	$0

Subcontract

Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$4,689	$400	$4,289	$0	$0	$0	$0	$0

Project Name: ONI Environmental Permitting
Task: Biological Evaluation
Client: Pima County
Project Manager: Craig Cannizzarro
Task Manager:
Code: 2013F

Sub Task ID

1 report preparation
2 graphics
3
4
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$153.70	1	$154	1						
Envir-Sr. Envrnmntl Spclst-G16	$142.31	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	4	$271	4						
Desig-GIS Spec Cartographr-G10	$77.03	24	$1,849		24					
Envir-Envirnmntl Spclst-G09	$67.87	16	$1,086	16						
Envir-Envirnmntl Spclst-G07	$58.48	0	$0							
Envir-Envirnmntl Spclst-G08	$64.14	0	$0							
Envir-Sr. Envrnmntl Spclst-G15	$128.53	6	$771	6						
Cultu-Arch Field Tech-T03	$36.76	0	$0							
Cultu-Arch Proj Mgr Lab Dir-G9	$67.87	0	$0							
Envir-Envirnmntl Spclst-G11	$85.28	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		51	$4,131	$2,282	$1,849	$0	$0	$0	$0	$0
With Fixed Fee			$4,544.1	$2,510.5	$2,033.6	$0.0	$0.0	$0.0	$0.0	$0.0
Direct Expenses										
Item	$/Unit	Unit								
Printer/Copier - Black & White 8.5 x 11	$0.06	copy	$12	200						
Printer/Copier - Black & White 11 x 17	$0.13	copy	$26	200						
Printer/Copier - Colored 8.5 x 11	$0.81	copy	$81	100						
Printer/Copier - Colored 11 x 17	$1.62	copy	$162	100						
Direct Expense Subtotal			$281	$281	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$42	$42	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$323	$323	$0	$0	$0	$0	$0	$0
Subcontract										
Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$4,454	$2,605	$1,849	$0	$0	$0	$0	$0

Project Name: Old Nogales Interceptor
Task: NPPP Pima County
Client: Pima County
Project Manager: CXC
Task Manager: RWS
Code: 2013F

8/25/2015

Sub Task ID

1 Base prep
2 Field Inventory
3 Meetings with Pima County
4 Plan and Calculations
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Lands-Sr L Scape Architect-G16	$142.31	24	$3,415	2	4	8	10			
Lands-Sr L Scape Architect-G14	$112.00	0	$0							
Lands-Landscape Designer-G08	$64.14	95	$6,093	16		4	75			
Envir-Env. Tech-G06	$53.82	40	$2,153		40					
Envir-Env. Tech-G05	$47.83	40	$1,913		40					
Desig-Sr GIS Spec Sr Crtgrphr-G12	$92.18	3	$277		3					
Desig-Drafter-G07	$58.48	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		202	$13,851	$1,311	$4,912	$1,395	$6,234	$0	$0	$0
With Fixed Fee			$15,236.41	$1,441.95	$5,402.96	$1,534.54	$6,856.96	$0.00	$0.00	$0.00

Direct Expenses

Item	$/Unit	Unit								
GPS Trimble	$125.00	day	$625		5					
Mileage	$0.75	mile	$146		175	20				
Printer/Copier - Colored 11 x 17	$1.62	copy	$91	16			40			
Plotter - Black & White 24 x 36	$0.60	sheet	$12				20			
Plotter - Line Color 24 x 36	$12.00	sheet	$432		8	8	20			
SPOT Tracker	$10.00	day	$50		5					
Vehicle Rental	$82.00	day	$410		5					
Direct Expense Subtotal			$1,766	$26	$1,312	$111	$317	$0	$0	$0
G & A Fee	0.15		$265	$4	$197	$17	$48	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$2,031	$30	$1,509	$128	$364	$0	$0	$0

Subcontract

Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$15,882	$1,341	$6,421	$1,523	$6,598	$0	$0	$0

Project Name: ONI/ASC Sewer Augmentation
Task: PM/Admin
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Project Management
2 Scheduling
3 Administrative Costs
4 Meetings
5 Internal QA/QC
6 Permitting (UPRR, COT, COST, ADOT, PC,NOI, etc)
7 Schedule and Cost Review for GMP

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$208.46	160	$33,354	60			60	40		
Engin-Sr Proj Eng Sr PM-G17	$153.70	624	$95,909	200	20		260	120	24	
Engin-Project Engineer-G11	$85.28	392	$33,430		60		260		72	
Desig-Civil Designer-G13	$105.49	0	$0							
Desig-Civil Designer-G11	$85.28	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	90	$6,108				30		60	
Const-Const Inspector-G15	$128.53	24	$3,085					24		
Engin-Engineering Tech-G08	$64.14	0	$0							
Engin-Project Engineer-G13	$105.49	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	530	$35,971			530				
Admin-Tech Editr Admin Ast-G15	$142.31	100	$14,231			100				
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		1920	$222,087	$43,248	$8,191	$50,202	$76,679	$29,867	$13,901	$0

Direct Expenses

Item	$/Unit	Unit								
Fees										
Fees	$2,000.00	gigabyte	$2,000						1	
Direct Expense Subtotal			$2,000	$0	$0	$0	$0	$0	$2,000	$0
G & A Fee			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$2,000	$0	$0	$0	$0	$0	$2,000	$0

Subcontract

Dibble		$174,400	$10,300			$52,260	$43,880	$42,860	$25,100
UPRR Flaggers		$2,800						$2,800	
Sub 3		$0							
Subcontract Subtotal		$177,200	$10,300	$0	$0	$52,260	$43,880	$45,660	$25,100
G & A Fee	0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT		$177,200	$10,300	$0	$0	$52,260	$43,880	$45,660	$25,100
TOTAL COSTS		$401,287	$53,548	$8,191	$50,202	$128,939	$73,747	$61,561	$25,100

Project Name: ONI/ASC Sewer Augmentation
Task: Design Report and Specifications
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Preliminary
2 Final
3 Specifications
4 Utility Corridor Study
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$208.46	44	$9,172	20	8		16			
Engin-Sr Proj Eng Sr PM-G17	$153.70	116	$17,829	40	24	20	32			
Engin-Project Engineer-G11	$85.28	300	$25,584	120	80	60	40			
Desig-Civil Designer-G13	$105.49	0	$0							
Desig-Civil Designer-G11	$85.28	72	$6,140	20	12		40			
Admin-Tech Editr Admin Ast-G09	$67.87	60	$4,072	40	20					
Const-Const. Inspector-G15	$128.53	0	$0							
Engin-Engineering Tech-G08	$64.14	24	$1,539				24			
Engin-Project Engineer-G13	$105.49	24	$2,532			24				
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Admin-Tech Editr Admin Ast-G15	$145.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		640	$66,869	$24,971	$14,560	$10,723	$16,616	$0	$0	$0

Direct Expenses

Item	$/Unit	Unit								
Printer/Copier - Black & White 8.5 x 11	$0.06	copy	$29	200	200	80				
Direct Expense Subtotal			$29	$12	$12	$5	$0	$0	$0	$0
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$29	$12	$12	$5	$0	$0	$0	$0

Subcontract

Dibble		$39,300	$11,800	$6,710	$10,820	$9,970			
Sub 2		$0							
Sub 3		$0							
Subcontract Subtotal		$39,300	$11,800	$6,710	$10,820	$9,970	$0	$0	$0
G & A Fee	0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT		$39,300	$11,800	$6,710	$10,820	$9,970	$0	$0	$0
TOTAL COSTS		$106,198	$36,783	$21,282	$21,547	$26,586	$0	$0	$0

Project Name: ONI/ASC Sewer Augmentation
Task: Design Plans
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Phase 3 30%
2 Phase 3 60%
3 Phase 3 99% and Final
4 Phase 2 30%
5 Phase 2 60%
6 Phase 2 99% and Final
7 Phase 1 All Plans

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$208.46	80	$16,677	8	8	8	20	20	16	
Engin-Sr Proj Eng Sr PM-G17	$153.70	324	$49,799	24	24	16	80	120	60	
Engin-Project Engineer-G11	$85.28	564	$48,098	60	60	24	140	200	80	
Desig-Civil Designer-G13	$105.49	232	$24,474	12	12	8	80	80	40	
Desig-Civil Designer-G11	$85.28	1080	$92,102	80	100	40	300	400	160	
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Const-Const. Inspector-G15	$128.53	64	$8,226	4	4	4	20	20	12	
Engin-Engineering Tech-G08	$64.14	36	$2,309				12	12	12	
Engin-Project Engineer-G13	$105.49	58	$6,118				24	24	10	
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Admin-Tech Editr Admin Ast-G15	$145.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		2438	$247,803	$19,076	$20,781	$10,943	$68,300	$88,092	$40,611	$0
Direct Expenses										
Personnel	$/Unit	Unit								
Plotter - Line Color 24 x 36	$12.00	sheet	$10,800	60	60	60	240	240	240	
Direct Expense Subtotal			$10,800	$720	$720	$720	$2,880	$2,880	$2,880	$0
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$10,800	$720	$720	$720	$2,880	$2,880	$2,880	$0
Subcontract										
Dibble			$195,100							$195,100
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$195,100	$0	$0	$0	$0	$0	$0	$195,100
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$195,100	$0	$0	$0	$0	$0	$0	$195,100
TOTAL COSTS			$453,703	$19,796	$21,501	$11,663	$71,180	$90,972	$43,491	$195,100

Project Name: ONI/ASC Sewer Augmentation
Task: Other Design
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 FMP design
2 Odor Control Design
3 Jack & Bore Analysis
4 Water Relocation Plans
5 Utility Coord.
6 UPRR plan review submittal
7 Dibble Direct Costs

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$208.46	30	$6,254	12	4	6	4		4	
Engin-Sr Proj Eng Sr PM-G17	$153.70	212	$32,584	80	30	24	24	24	30	
Engin-Project Engineer-G11	$85.28	460	$39,229	160	60	40	80	60	60	
Desig-Civil Designer-G13	$105.49	36	$3,798		8		20		8	
Desig-Civil Designer-G11	$85.28	620	$52,874	120	80		200	60	160	
Admin-Tech Editr Admin Ast-G09	$67.87	24	$1,629	24						
Const-Const. Inspector-G15	$128.53	0	$0							
Engin-Engineering Tech-G08	$64.14	160	$10,262					160		
Engin-Project Engineer-G13	$105.49	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Admin-Tech Editr Admin Ast-G15	$145.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		1542	$146,630	$40,305	$18,228	$8,351	$30,511	$24,185	$25,050	$0
Direct Expenses										
Item	$/Unit	Unit								
Plotter - Line Color 24 x 36	$12.00	sheet	$3,648	60	24		100		120	
Direct Expense Subtotal			$3,648	$720	$288	$0	$1,200	$0	$1,440	$0
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$3,648	$720	$288	$0	$1,200	$0	$1,440	$0
Subcontract										
RCE			$18,000		$18,000					
Dibble			$40,210	$4,850	$10,430	$5,030		$14,900		$5,000
Sub 3			$0							
Subcontract Subtotal			$58,210	$4,850	$28,430	$5,030	$0	$14,900	$0	$5,000
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$58,210	$4,850	$28,430	$5,030	$0	$14,900	$0	$5,000
TOTAL COSTS			$208,488	$45,875	$46,946	$13,381	$31,711	$39,085	$26,490	$5,000

Project Name: ONI/ASC Sewer Augmentation
Task: Construction Administration
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Submittal Review and response
2 RFI Review and response
3 Site Visits
4 Record Drawings
5 ECC preparation
6 Ground base Photographs
7 Biddable Documents (if required)

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$208.46	48	$10,006	12	12	16				8
Engin-Sr Proj Eng Sr PM-G17	$153.70	320	$49,184	60	48	100	20	12	40	40
Engin-Project Engineer-G11	$85.28	484	$41,276	120	80	100	20	24	40	100
Desig-Civil Designer-G13	$105.49	24	$2,532				24			
Desig-Civil Designer-G11	$85.28	80	$6,822				80			
Admin-Tech Editr Admin Ast-G09	$67.87	172	$11,674	40	40			40	12	40
Const-Const. Inspector-G15	$128.53	48	$6,169	24	24					
Engin-Engineering Tech-G08	$64.14	0	$0							
Engin-Project Engineer-G13	$105.49	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Admin-Tech Editr Admin Ast-G15	$145.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		1176	$127,663	$27,757	$22,501	$27,233	$14,134	$6,606	$10,374	$19,058
Direct Expenses										
Item	$/Unit	Unit								
Direct Expense Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$0	$0	$0	$0	$0	$0	$0	$0
Subcontract										
Dibble			$18,780							$18,780
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$18,780	$0	$0	$0	$0	$0	$0	$18,780
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$18,780	$0	$0	$0	$0	$0	$0	$18,780
TOTAL COSTS			$146,443	$27,757	$22,501	$27,233	$14,134	$6,606	$10,374	$37,838

Project Name: ONI/ASC Sewer Augmentation
Task: Survey
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Coordination
2 Dibble Survey
3 Appraisals
4
5
6
7 aerial mapping

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$208.46	0	$0							
Engin-Sr Proj Eng Sr PM-G17	$153.70	60	$9,222	60						
Engin-Project Engineer-G11	$85.28	0	$0							
Desig-Civil Designer-G13	$105.49	0	$0							
Desig-Civil Designer-G11	$85.28	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Const-Const. Inspector-G15	$128.53	0	$0							
Engin-Engineering Tech-G08	$64.14	0	$0							
Engin-Project Engineer-G13	$105.49	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Admin-Tech Editr Admin Ast-G15	$145.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		60	$9,222	$9,222	$0	$0	$0	$0	$0	$0
Direct Expenses										
Item	$/Unit	Unit								
Direct Expense Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$0	$0	$0	$0	$0	$0	$0	$0
Subcontract										
Sun Mapping			$56,700							$56,700
Dibble			$85,320		$85,320					
Landpro Valuation			$13,650			$13,650				
Subcontract Subtotal			$155,670	$0	$85,320	$13,650	$0	$0	$0	$56,700
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$155,670	$0	$85,320	$13,650	$0	$0	$0	$56,700
TOTAL COSTS			$164,892	$9,222	$85,320	$13,650	$0	$0	$0	$56,700

Project Name: ONI/ASC Sewer Augmentation
Task: Other Tasks
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Soils
2 S.U.E.
3 Structural
4 Corrosion
5 Public Relations
6 Dibble Construction Admin
7 Hydrology analysis

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$208.46	44	$9,172	10	10			24		
Engin-Sr Proj Eng Sr PM-G17	$153.70	180	$27,666	60	24	24	24	48		
Engin-Project Engineer-G11	$85.28	88	$7,505	24	24			40		
Desig-Civil Designer-G13	$105.49	0	$0							
Desig-Civil Designer-G11	$85.28	120	$10,234		40			80		
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Const-Const. Inspector-G15	$128.53	0	$0							
Engin-Engineering Tech-G08	$64.14	0	$0							
Engin-Project Engineer-G13	$105.49	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Admin-Tech Editr Admin Ast-G15	$145.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		432	$54,576	$13,353	$11,231	$3,689	$3,689	$22,614	$0	$0
With Fixed Fee			$60,034	$14,689	$12,354	$4,058	$4,058	$24,876	$0	
Direct Expenses										
Item	$/Unit	Unit								
Direct Expense Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$0	$0	$0	$0	$0	$0	$0	$0
Subcontract										
ConformaTech			$212,000	$212,000						
Cardno			$161,750		$161,750					
Peak Corrosion			$13,326				$13,326			
Kaneen			$111,070					$111,070		
Dibble			$251,750	$3,900	$15,490	$3,160		$13,710	$99,110	$116,380
Structural Grace			$25,000			$25,000				
Subcontract Subtotal			$774,896	$215,900	$177,240	$28,160	$13,326	$124,780	$99,110	$116,380
G & A Fee	0		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$774,896	$215,900	$177,240	$28,160	$13,326	$124,780	$99,110	$116,380
TOTAL COSTS			$829,473	$229,253	$188,471	$31,849	$17,015	$147,394	$99,110	$116,380

Project Name: ONI/ASC Sewer Augmentation
Task: Phase 2 Construction Services from Drexel to Hughes Access Road
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Submittal Review and response
2 RFI Review and response
3 Site Visits
4 Record Drawings
5 ECC preparation
6 Ground base Photographs
7 Public Relations

				Hours and Costs By Task						
Staff Type	Hourly Rate	Total Hours	Total Billings	1	2	3	4	5	6	7
Principal Consultant-G17	$208.46	36	$7,505	6	6	8				16
Engin-Sr Proj Eng Sr PM-G17	$153.70	212	$32,584	20	24	60	20	12	40	36
Engin-Project Engineer-G11	$85.28	303	$25,840	60	60	75	20	24	40	24
Desig-Civil Designer-G13	$105.49	24	$2,532				24			
Desig-Civil Designer-G11	$85.28	140	$11,939				80			60
Admin-Tech Editr Admin Ast-G09	$67.87	164	$11,131	40	40			40	12	32
Const-Const. Inspector-G15	$128.53	48	$6,169	24	24					
Engin-Engineering Tech-G08	$64.14	0	$0							
Engin-Project Engineer-G13	$105.49	0	$0							
Admin-Tech Editr Admin Ast-G09	$67.87	0	$0							
Admin-Tech Editr Admin Ast-G15	$145.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		927	$97,700	$15,241	$15,856	$17,286	$14,134	$6,606	$10,374	$18,204

Direct Expenses

Item	$/Unit	Unit								
Printer/Copier - Black & White 8.5 x 11	$0.06	copy	$12	100	100					
Printer/Copier - Black & White 11 x 17	$0.13	copy	$0							
Printer/Copier - Colored 8.5 x 11	$0.81	copy	$0							
Printer/Copier - Colored 11 x 17	$1.62	copy	$0							
Printer/Copier - Photo Quality (photo paper) 8.5 x 11	$3.90	copy	$0							
Printer/Copier - Photo Quality (photo paper) 11 x 17	$7.79	copy	$0							
Plotter - Black & White 24 x 36	$0.60	sheet	$72				120			
Direct Expense Subtotal			$84	$6	$6	$0	$72	$0	$0	$0
G & A Fee	0.15		$13	$1	$1	$0	$11	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$97	$7	$7	$0	$83	$0	$0	$0

Subcontract

Kaneen		$0							
Sub 2		$0							
Sub 3		$0							
Subcontract Subtotal		$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS		$97,796	$15,248	$15,863	$17,286	$14,217	$6,606	$10,374	$18,204

Project Name: ONI
Task: Survey field work
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Primary control
2 Supplemental control
3 Level circuits
4 Photogrammetric control
5 Culture survey
6 Bluestake, utility and pothole location
7 Property and Right of way

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Surveyor-G10	$77.03	1090	$83,963	16	132	96	48	172	434	192
Survey Field Crew-G06	$53.82	1090	$58,664	16	132	96	48	172	434	192
Survey Field Crew-G06	$53.82	100	$5,382						100	
Surveyor-G13	$105.49	0	$0							
	$0.00	0	$0							
Design-Sr GIS Spec Sr Cartgphr-G13	$105.49	0	$0							
Admin-Tech Editr Admin Ast-G11	$85.28	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		2280	$148,009	$2,094	$17,272	$12,562	$6,281	$22,506	$62,171	$25,123

Direct Expenses

Item	$/Unit	Unit								
Rebar for control	$25.00	bundle	$75		1	1	1			
Control tags	$25.00	each	$75		1	1	1			
Direct Expense Subtotal			$150	$0	$50	$50	$50	$0	$0	$0
G & A Fee	0.15		$23	$0	$8	$8	$8	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$173	$0	$58	$58	$58	$0	$0	$0

Subcontract

Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$148,181	$2,094	$17,330	$12,619	$6,338	$22,506	$62,171	$25,123

Project Name: ONI
Task: Survey RLS and CAD
Client:
Project Manager:
Task Manager:
Code: 2013F

Sub Task ID

1 Meetings and coordination
2 Property and right of way research
3 Office calculations
4 Initial CAD, supplimental topo and utilities
5 Control sheets
6 GIS data management
7 10 Legal descriptions

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Surveyor-G10	$77.03	0	$0							
Survey Field Crew-G06	$53.82	0	$0							
Survey Field Crew-G06	$53.82	0	$0							
Surveyor-G13	$105.49	1069	$112,769	80	282	284	343	40		40
	$0.00	0	$0							
Desig-Sr GIS Spec Sr Crtgrphr-G13	$105.49	4	$422						4	
Admin-Tech Editr Admin Ast-G11	$85.28	20	$1,706							20
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		1093	$114,896	$8,439	$29,748	$29,959	$36,183	$4,220	$422	$5,925

Direct Expenses

Item	$/Unit	Unit								
Direct Expense Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$0	$0	$0	$0	$0	$0	$0	$0

Subcontract

Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$114,896	$8,439	$29,748	$29,959	$36,183	$4,220	$422	$5,925

Project Name: ONI Environmental Permitting
Task: PPC Survey
Client: Pima County
Project Manager: Craig Cannizzarro
Task Manager: Amanda Best
Code: 2013F

Sub Task ID

1 survey
2 report
3 coordination
4
5
6
7

Staff Type	Hourly Rate	Total Hours	Total Billings	Hours and Costs By Task 1	2	3	4	5	6	7
Principal Consultant-G17	$153.70	3	$461	3						
Envir Sc, Environmtl Spclst-G13	$142.31	0	$0							
Admin-Tech Edit Admin Asst-G09	$67.87	4	$271	4						
Desig-GIS Spec Cartographr-G10	$77.03	0	$0							
Envir-Environmtl Spclst-G09	$67.87	0	$0							
Envir-Environmtl Spclst-G07	$58.48	0	$0							
Envir-Environmtl Spclst-G08	$64.14	0	$0							
Envir Sc, Environmtl Spclst-G15	$128.53	0	$0							
Cultu-Archi Field Tech-T03	$36.76	0	$0							
Cultu-Archi Proj Mgr Lab Ofr-G9	$67.87	0	$0							
Envir-Environmtl Spclst-G11	$85.28	28	$2,388	28						
	$77.03	12	$924	12						
	$64.14	0	$0							
	$0.00	0	$0							
	$0.00	0	$0							
TOTAL COST - LABOR		47	$4,045	$4,045	$0	$0	$0	$0	$0	$0

Direct Expenses

Item	$/Unit	Unit								
Mileage	$0.75	mile	$41	55						
Printer/Copier - Black & White 8.5 x 11	$0.06	copy	$55	912						
Plotter - Full Color 24 x 36	$24.00	sheet	$432	18						
Direct Expense Subtotal			$528	$528	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$79	$79	$0	$0	$0	$0	$0	$0
TOTAL COST - DIRECT EXPENSES			$607	$607	$0	$0	$0	$0	$0	$0

Subcontract

Sub 1			$0							
Sub 2			$0							
Sub 3			$0							
Subcontract Subtotal			$0	$0	$0	$0	$0	$0	$0	$0
G & A Fee	0.15		$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COST - SUBCONTRACT			$0	$0	$0	$0	$0	$0	$0	$0
TOTAL COSTS			$4,652	$4,652	$0	$0	$0	$0	$0	$0

Organization Chart

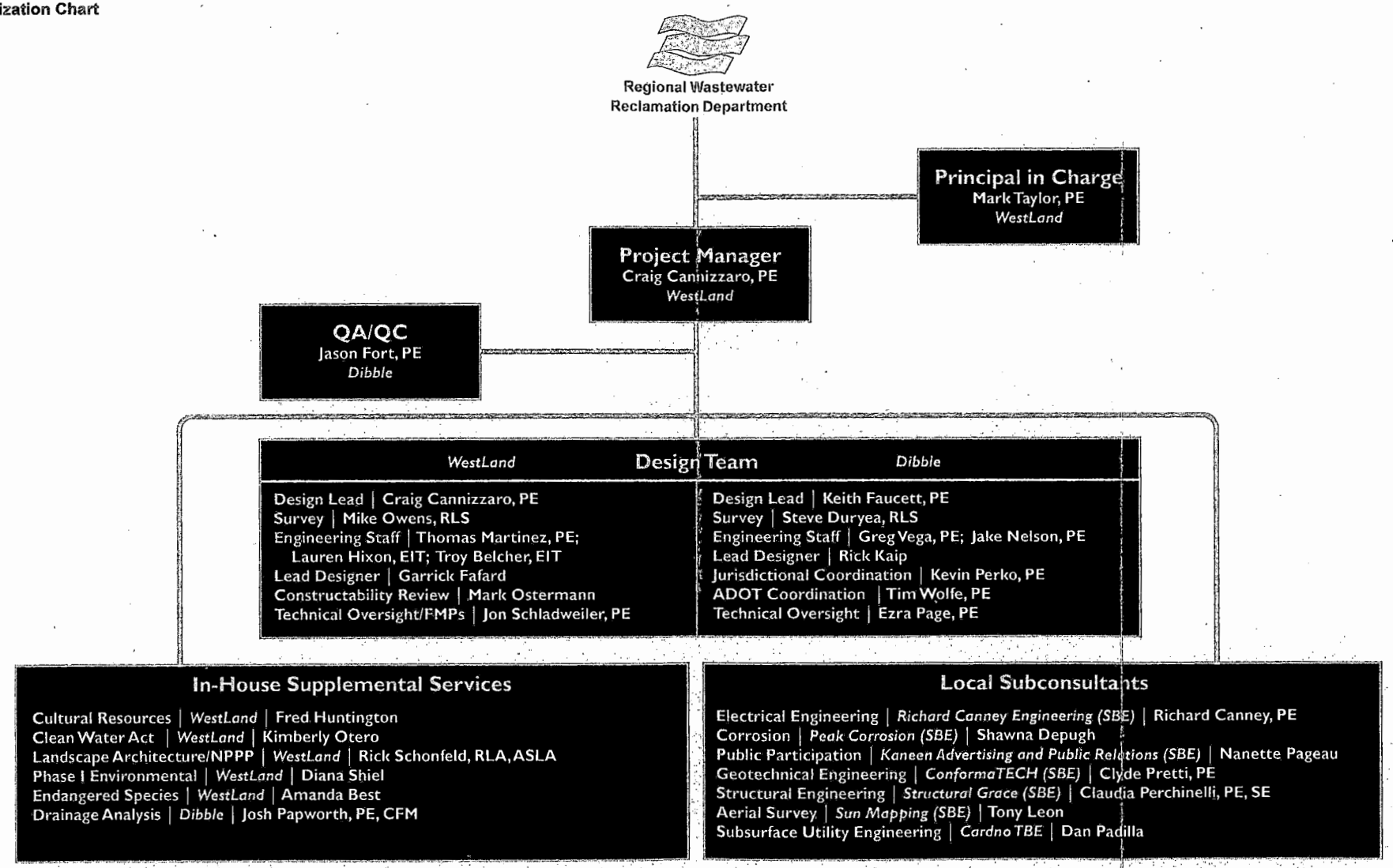


EXHIBIT "C" - DESIGN PROFESSIONAL ORGANIZATIONAL CHART, 1 PAGE

EXHIBIT "D" - COST PLUS FIXED FEE BILLING STANDARDS (2 PAGES)

Rev. 01/25/08

Based upon discussions and negotiations with consultants on recent assignments PCRWRD has arrived at the following Cost Plus Fixed Fee (CPFF) billing standards to be used on consultant engineering assignments:

A. COST ITEMS

1. Hourly Billing

a. Hourly Billing Rates
- Actual Payroll Rates within published industry standards
- Actual payroll rates for each person anticipated to be performing services on the assignment will be provided in advance of execution of the contract. Said listing shall be updated on an annual basis during the term of the contract
- Hourly fee schedules for various position titles are not allowed

b. Annual Salaried Professionals
- Annual Salary individuals working a normal 40 hour week will be divided by 2080 hours to arrive at hourly billing rates
- Annual Salary individuals working a normal 37.5 hour week will be divided by 1950 to arrive at hourly billing rates

c. Allowable Annual Increases
- Reasonable annual salary increases within published industry standards will be allowed and approved in advance
- Unusually high proposed increases and increases above published industry standards will be agreed to on a case by case basis.

d. Sub consultants
Specific billing arrangements will be negotiated with specialty sub-consultants such as the following:
- Attorneys
- Financial Advisors
- Surveyors
- Subsurface Consultants
- Specialty Consultants

e. Vacation/Holidays
- Included in firm's audited multiplier

f. Sick Time
- Included in firm's audited multiplier

g. Billing for non productive idle time
- No billing for vehicle driving time (commuting time)
- Allow billing during air travel to Pima County for actual time worked on Pima County projects
- Short-term assignments are negotiable

2. Multipliers

a. Only audited multipliers following Generally Accepted Accounting Principles (GAAP) or Federal Single Audit principles are allowed

b. Corporate, Regional or Local Audited Multipliers of firms will be negotiated for each contract

b. Entertainment Costs

c. Marketing Costs
   - Except as allowed in audited multipliers

d. Non-identifiable Costs

e. Donations
   - Except as allowed in audited multipliers

f. Mark-up on sub-consultants

g. Travel time from Phoenix Metro Area to Pima County (both ways)

h. Air travel for commuting purposes

B. FIXED FEE (PROFIT)

The Fixed Fee for each assignment will be negotiated on a case-by-case basis. The fee will be a percent of the consultant or co-consultants level of effort cost estimate agreed to by the County excluding sub-consultants and other direct cost estimates. The fee will be fixed for the scope of work detailed in the contract. The fixed fee percentage will be based upon historical departmental percentages for similar assignments, published industry guidelines and magnitude and duration of the assignment. Fixed Fee for engineering sub-consultants will generally follow the same guidelines established for the prime consultants but can also be negotiated on a case-by-case basis as appropriate.