



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

Award  Contract  Grant

Requested Board Meeting Date: 02/06/18

\* = Mandatory, information must be provided

or Procurement Director Award

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

CMG Drainage Engineering, Inc. (Headquarters: Tucson, Arizona)

**\*Project Title/Description:**

Santa Cruz River Management Plan: Grant Road to Trico Road

**\*Purpose:**

Award: Contract No. CT-FC-18-215. This award of contract is recommended to the highest qualified consultant in the amount of \$552,568.00 for a contract term from 02/06/18 to 12/18/20 for consulting services for the Santa Cruz River Management Plan: Grant Road to Trico Road Project. Administering Department: Regional Flood Control District.

**\*Procurement Method:**

Solicitation for Qualifications No. 272080 was conducted in accordance with A.R.S. § 34-603 and Pima County Board of Supervisors Policy D 29.1. Two (2) responsive statements of qualifications were received and evaluated by a seven (7) member committee using qualifications and experience-based selection criteria. Based upon the evaluation of the respondents' written representations of their qualifications and necessary due diligence, both respondents were invited to interviews. As a result of the combined scoring of the written statements of qualifications and interviews the highest scoring respondent is being recommended for award.

Attachments: Notice of Recommendation for Award, Consultant Services Contract, and Risk Management Approval

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

The project will provide more accurate floodplain limits and flood infrastructure capacity, and generate new floodplain maps which will be used to better determine flood risk to people and property, and identify where work needs to be done to mitigate those risks.

**\*Public Benefit:**

The plan will identify flood hazard areas as a basis for capital improvements along the Santa Cruz River that will protect people and property from flooding through solutions that will benefit the community in multiple ways including recreation, habitat enhancement and improved effluent recharge to the aquifer.

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

The performance will be measured using the consultant evaluation process as outlined in BOS Policy D29.1(E)(II).

**\*Retroactive:**

No

*To: COB 1-22-18  
1 cr. - 1  
agg. 51*

Procure Dept 01/22/18 PM 10:22

Document Type: CT Department Code: FC Contract Number (i.e.,15-123): 18-215

Effective Date: 02/06/18 Termination Date: 12/18/20 Prior Contract Number (Synergen/CMS): \_\_\_\_\_

Expense Amount: \$\* 552,568.00  Revenue Amount: \$ \_\_\_\_\_

\*Funding Source(s) required: Flood Control Tax Levy

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

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

\*Is the Contract to a vendor or subrecipient? \_\_\_\_\_

Were insurance or indemnity clauses modified?  Yes  No

If Yes, attach Risk's approval

Vendor is using a Social Security Number?  Yes  No

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

**Amendment / Revised Award Information**

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

Amendment No.: \_\_\_\_\_ AMS Version No.: \_\_\_\_\_

Effective Date: \_\_\_\_\_ New Termination Date: \_\_\_\_\_

Prior Contract No. (Synergen/CMS): \_\_\_\_\_

Expense or  Revenue  Increase  Decrease Amount This Amendment: \$ \_\_\_\_\_

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

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

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

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

Document Type: \_\_\_\_\_ Department Code: \_\_\_\_\_ Grant Number (i.e.,15-123): \_\_\_\_\_

Effective Date: \_\_\_\_\_ Termination Date: \_\_\_\_\_ Amendment Number: \_\_\_\_\_

Match Amount: \$ \_\_\_\_\_  Revenue Amount: \$ \_\_\_\_\_

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

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

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

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

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

Contact: Anthony V. Schiavone *A. Schiavone*

Department: Procurement *Procurement* Telephone: (520) 724-3245

Department Director Signature/Date: *Max J. ...* 1/16/18

Deputy County Administrator Signature/Date: *... Skuld* 1/19/18

County Administrator Signature/Date: *James ...* 1/19/2018

(Required for Board Agenda/Addendum Items)



**NOTICE OF RECOMMENDATION FOR AWARD**

Date of Issue: January 10, 2018

The Pima County Procurement Department – Design & Construction Division hereby issues formal notice to respondents to Solicitation No. 272080 Santa Cruz River Management Plan: Grant Road to Trico Road, that the following listed respondent will be recommended for award as indicated below. The award action is scheduled to be performed by the Board of Directors on or after February 6, 2018.

Award is recommended to the Most Qualified Respondent:

**AWARDEE NAME:**

CMG Drainage Engineering, Inc.

**OTHER RESPONDENT NAMES:**

Stantec Consulting Services, Inc.

***NOTE: Pursuant to A.R.S. §34-603(H), only the names of the firms on the final list may disclosed.***

Issued by: Anthony V. Schiavone, Procurement Officer

Telephone Number: (520) 724-3245

This notice is in compliance with Pima County Procurement Code §11.20.010(C).

Copy to: Pima County SBE Coordinator

<b>PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT</b>		<b>CONTRACT</b>	
<b>PROJECT:</b>	<b>SANTA CRUZ RIVER MANAGEMENT PLAN: GRANT ROAD TO TRICO ROAD</b>	<b>NO.</b>	<i>CT-FC-18-215</i>
<b>CONSULTANT:</b>	<b>CMG DRAINAGE ENGINEERING, INC. 3555 N. MOUNTAIN AVE TUCSON, AZ 85719</b>	<b>AMENDMENT NO.</b>	_____
<b>AMOUNT:</b>	<b>\$552,568.00</b>	This number must appear on all invoices, correspondence and documents pertaining to this contract.	
<b>FUNDING:</b>	<b>FLOOD CONTROL TAX LEVY</b>		

**CONSULTANT SERVICES CONTRACT**

This Contract is entered into between Pima County Regional Flood Control District, a special taxing District under A.R.S. Title 48, hereinafter called DISTRICT, and CMG Drainage Engineering, Inc., hereinafter called CONSULTANT, collectively referred to as the Parties.

WITNESSETH

**WHEREAS**, DISTRICT requires the services of a CONSULTANT registered in the State of Arizona and qualified to provide a Flood Control Management Plan for the Santa Cruz River between Grant Road and Trico Road; and

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

**WHEREAS**, based on CONSULTANT'S representations in response to Pima County Solicitation No. 272080, CONSULTANT was determined to be the most qualified for this Project; and

**WHEREAS**, CONSULTANT has proposed to perform the work at a price acceptable to DISTRICT.

**NOW, THEREFORE**, in consideration of the foregoing recitals and other valuable and good consideration, the Parties hereto agree as follows:

**ARTICLE 1 – TERM AND EXTENSION/RENEWAL/CHANGES**

This Contract, as approved by the Board of Directors, commences on February 6, 2018 and terminates on December 18, 2020, unless sooner terminated or further extended pursuant to the provisions of this Contract.

DISTRICT has the option to extend the contract termination date for purposes of project completion. Any modification or extension of the contract termination date must be by formal written amendment executed by the Parties.

**ARTICLE 2 – SCOPE OF SERVICES**

CONSULTANT agrees to provide Consultant Professional Services for the DISTRICT as described in **EXHIBIT "A" - SCOPE OF SERVICES** (8 pages), attachments to this Contract, and to complete such services within the term and value of this Contract as it may be modified in accordance with **ARTICLE 5** and **ARTICLE 6**.

Amendments and changes to the Scope must be approved by the Board of Directors or the Procurement Director, as required by the Pima County Procurement Code, before the work under the amendment commences.

### **ARTICLE 3 - DEFINITIONS**

**Other Direct Costs.** Other Direct Costs are those costs that can be specifically identified within this Contract, are required for performance of the Contract, and are actually incurred. This includes Subcontract or Subconsultant costs; reproduction, copy and printing costs; courier services; and similar costs specifically necessary for this Contract and approved by DISTRICT.

**Cost Plus Fixed Fee.** The modified Cost Plus Fixed Fee (CPFF) is a compensation method that provides compensation to the Consultant for actual costs of Direct Labor, Indirect, and Other Direct Costs incurred up to a "not-to-exceed" amount, plus a fixed Fee amount for the successful performance of the work. The Fee amount may initially be determined as a percentage of the estimated not-to-exceed costs. Once negotiated, the Fee amount becomes fixed and does not vary with actual costs. The Fee may only be in accordance with **ARTICLE 4**.

**Critical Path Method.** The Critical Path Method (CPM) is a way of depicting the sequence of activities in a project, including interdependencies, and containing all activities needed for successful completion of the Work. Delay in the completion of activities on the critical path will extend the completion date.

**Direct Labor Costs.** Direct Labor Costs are the total number of allowable hours worked on the Project by each individual multiplied by the Labor Rate, identified in EXHIBIT "B" - COMPENSATION SCHEDULE.

**Fee.** Fee is the amount, independent of actual costs, that the CONSULTANT is allowed for assuming risk and to stimulate efficient contract performance. Fee includes compensation to CONSULTANT for both profit and unallowable costs. Efficient cost control will allow CONSULTANT to earn a higher profit margin without adjustment of the fee amount. Conversely, inefficient cost control will result in a lower profit margin.

**Float.** Float is the number of days by which an activity not on the critical path in a CPM network may be delayed before it extends the completion date.

**Labor Rates.** Labor rates are the actual cost of salary paid to employees of CONSULTANT and identified in EXHIBIT "B" - COMPENSATION SCHEDULE.

**Not-to-Exceed Cost.** The Not to Exceed Cost for a task is the sum of the agreed Direct Labor costs, indirect costs, and other reimbursable costs of the task defined in the original Project Baseline. Actual Direct Labor costs may be invoiced based on hours worked, per discipline, per task, or a percent complete by task for the period. CONSULTANT assumes all risk for providing the requested task/deliverables at or below the original estimated cost, unless an equitable adjustment to the scope and/or fee are made by amendment to the Contract. Any costs incurred by CONSULTANT beyond the not-to-exceed amount identified which are not attributable to any change in the project baseline are unallowable. Unallowable costs are compensated through the CONSULTANT'S fixed Fee.

**Indirect Costs.** Indirect costs are at the overhead rate identified in EXHIBIT "B" - COMPENSATION SCHEDULE.

**Project Baseline.** The agreed Contract scope of services, total Not-to-Exceed CPFF, the allocation thereof among Contract tasks, and the accompanying schedule and expectations/assumptions upon which the scope of services and schedule are based, collectively constitute the Project Baseline.

### **ARTICLE 4 - COMPENSATION AND PAYMENT**

In consideration of the services specified in this Contract, DISTRICT agrees to pay CONSULTANT on a modified Not-to-Exceed CPFF basis, not to exceed the total amount of this Contract.

Cost is comprised of CONSULTANT'S Direct Labor Costs, Indirect Costs and Other Direct Costs. CONSULTANT'S fee will remain fixed and may be adjusted only as provided in **ARTICLE 5** and **ARTICLE 6**.

CONSULTANT'S total CPFF will 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, plus a fixed fee amount, incorporated herein as **EXHIBIT "B" - COMPENSATION SCHEDULE** (20 pages). CONSULTANT may invoice monthly for the actual costs incurred plus a pro-rata portion of the fee amount for each task. CONSULTANT will calculate actual costs based on actual hours spent, to which the agreed overhead rate may be applied, plus Other Direct Costs. Actual Costs may then be represented as percentage of the "not to exceed" cost amount associated with that task on the CONSULTANT'S invoice for billing purposes. Calculations and supporting data will be made available to DISTRICT at any time, upon request. The cumulative payment for the actual costs of any task may not be more than the "not to exceed" cost amount associated with that task. Upon completion of the Scope of Work, (including acceptance by DISTRICT of all associated deliverables), DISTRICT will pay the balance of the fixed fee to CONSULTANT.

Hourly rates and all other rates included under this Contract will remain fixed throughout the term of the Contract. DISTRICT may consider adjustments to rates in connection with any extensions of the contract term.

The total of all payments to CONSULTANT for services provided under this Contract will not exceed Five Hundred Fifty-Two Thousand Five Hundred Sixty-Eight Dollars and Zero Cents (\$552,568.00).

Unless otherwise agreed, CONSULTANT will submit invoices monthly. All invoices will 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 Services for which those costs were incurred. The time accounting information should be sufficient to show the workers and hours worked by day for the period covered by the invoice. Subconsultant charges must be supported by appropriate documentation with each separate invoice submitted.

For the period of record retention required under **ARTICLE 25**, DISTRICT reserves the right to 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.

CONSULTANT will not perform work in excess of the Contract Amount without prior authorization by an amendment executed by DISTRICT. Work performed in excess of the Contract Amount without prior authorization by amendment is at CONSULTANT'S own risk. Additional Services identified in **EXHIBIT "B" - COMPENSATION SCHEDULE**, are services within the scope of this Contract but not included within the Tasks identified as of the effective date of this Contract. If ordered, CONSULTANT will invoice additional Services at the rates incorporated into this Contract as in **EXHIBIT "B" - COMPENSATION SCHEDULE**. DISTRICT may add additional services throughout the term of the Contract by providing notice in writing to CONSULTANT. Hourly billable rates shown in **EXHIBIT "B" - COMPENSATION SCHEDULE** will only be adjusted by written amendment to the Contract. The Parties may add additional required professional classifications or disciplines to **EXHIBIT "A" - SCOPE OF SERVICES** by written amendment at any time.

DISTRICT has ten (10) calendar days from the date of invoice to notify CONSULTANT of any invoicing discrepancies. DISTRICT and CONSULTANT will meet to resolve any discrepancies before the invoice is approved or rejected for payment. Subconsultant charges must be supported by appropriate documentation upon request by DISTRICT.

#### **ARTICLE 5 - PROJECT BASELINE AND ADJUSTMENTS**

A. DISTRICT and CONSULTANT have agreed upon the Project scope and the total Cost Plus Fixed Fee, and will prepare a CPM-based schedule for the performance of the work. The schedule is based on

assumptions and expectations agreed upon by the Parties. 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 DISTRICT. This Project Baseline represents a firm commitment by the Parties 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 the Parties.

- B. Although the Baseline reflects the best estimates and expectations of the Parties at the time of agreement, there is an element of uncertainty associated with the design process that makes the actual schedule and effort required to complete the work difficult or impossible to establish in advance. 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 the Parties may delay or disrupt the schedule and/or require a change in the level of resources or effort. The Project Baseline may be adjusted as follows:
1. A delay in the work attributable to a failure by DISTRICT to adhere to its estimates with respect to schedule is 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 (1) day for each day of DISTRICT-caused delay; provided, however, that if the DISTRICT-caused delay overlaps a period of delay attributable to any other cause, the extension for DISTRICT-caused delay is limited to the number of non-overlapped days of DISTRICT-caused delay.
  2. There is no adjustment for any delay in the work attributable to a failure by CONSULTANT to adhere to its commitments with respect to schedule. In the event of a significant delay attributable to a failure by CONSULTANT to adhere to its schedule expectations, CONSULTANT will provide a recovery plan to DISTRICT within five (5) days of DISTRICT'S request. For the purposes of this paragraph, a delay arising from or attributable to a necessity for CONSULTANT to make more than two (2) submissions of plans or documents for approval is a failure by CONSULTANT to adhere to its schedule commitments. CONSULTANT'S work associated with additional reviews is non-compensable.
  3. A delay in the work attributable to any other cause that differs materially from the expectations of the Parties regarding that cause is an excusable delay for which the Parties will 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 will be made first and the delay attributed to such other cause will be limited to that occurring outside of the overlap.
  4. If any of the causes of delay in Paragraphs 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 will be made from Float and the completion date will not change.
  5. If any of the causes of delay in Paragraphs 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 will negotiate an equitable adjustment to the cost for the affected task or tasks, but not to the fee.
  6. The Parties will 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 DISTRICT that materially deviates from or adds to the baseline expectations or 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 the Parties will negotiate in good faith an equitable adjustment in the cost and fee for the affected task or tasks.
- C. CONSULTANT 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 CONSULTANT to complete the work after the completion date in the schedule are not reimbursable under this Contract.

#### **ARTICLE 6 – REALLOCATION OF FUNDS**

Given the magnitude and complexity of the scope required by this Contract, the Parties understand that the actual cost to perform specific tasks may vary from the estimates reflected in EXHIBIT "A" - SCOPE OF SERVICES and EXHIBIT "B" – COMPENSATION SCHEDULE.

If the actual cost to complete a task is less than the estimated amount for that task, the cost savings realized accrues to DISTRICT. With the agreement of the Parties, DISTRICT may reallocate the cost savings to other tasks in EXHIBIT "A" - SCOPE OF SERVICES and EXHIBIT "B" – COMPENSATION SCHEDULE as follows:

- A. Reallocation between subtasks in EXHIBIT "A" - SCOPE OF SERVICES under any one of the major task categories in EXHIBIT "B" – COMPENSATION SCHEDULE may be made between the DISTRICT'S department representative and the CONSULTANT'S project manager by written agreement.
- B. County's Procurement Director may make a reallocation among the major tasks in EXHIBIT "B" – COMPENSATION SCHEDULE by a Contract amendment, provided that the transfer does not increase the total amount of the Contract.
- C. The Board of Directors may make any reallocation or adjustment in EXHIBIT "A" - SCOPE OF SERVICES or EXHIBIT "B" – COMPENSATION SCHEDULE that increases the total contract amount through a Contract Amendment.

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 the task may be completed for less than the balance of the task remaining after the transfer.

#### **ARTICLE 7 – INSURANCE**

The Insurance Requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. DISTRICT 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. DISTRICT in no way warrants that the above-required minimum insurer rating is sufficient to protect the CONSULTANT from potential insurer insolvency.

##### **7.1 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.



- 7.1.1 Commercial General Liability (CGL) – Occurrence Form with limits of \$2,000,000 Each Occurrence and \$2,000,000 General Aggregate. Policy will include bodily injury, property damage, and broad form contractual liability coverage.
- 7.1.2 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.
- 7.1.3 Workers' Compensation and Employers' Liability - Statutory requirements and benefits. Coverage is compulsory for employers of one or more employees. Employer's Liability - \$1,000,000.  
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 DISTRICT Sole Proprietor or Independent CONSULTANT waiver form.
- 7.1.4 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.

**7.2 Additional Insurance Requirements:**

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

- 7.2.1 Additional Insured Endorsement: The General Liability and Business Automobile Liability Policies will each be endorsed to include DISTRICT, its departments, districts, boards, commissions, officers, officials, agents, and employees as additional insured's with respect to liability arising out of the activities performed by or on behalf of the CONSULTANT.
- 7.2.2 Subrogation Endorsement: The General Liability, Business Automobile Liability and Workers' Compensation Policies will each contain a waiver of subrogation endorsement in favor of DISTRICT, and its departments, districts, boards, commissions, officers, officials, agents, and employees for losses arising from work performed by or on behalf of the CONSULTANT.
- 7.2.3 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 DISTRICT will be excess and not contributory insurance, as provided by A.R.S. § 41-621 (E).
- 7.2.4 Insurance provided by the CONSULTANT will not limit the CONSULTANT'S liability assumed under the indemnification provisions of this Contract.

**7.3 Notice of Cancellation:**

For each insurance policy required by the insurance provisions of this Contract, the CONSULTANT must provide to DISTRICT, 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 Pima County Procurement Department, 130 West Congress Street, Tucson AZ 85701, and Fax 520-724-4434.

**7.4 Verification of Coverage:**

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

- 7.4.1 All certificates and endorsements, as required by this Contract, are to be received and approved by DISTRICT 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.
- 7.4.2 All certificates required by this Contract will be sent directly to the Department. DISTRICT project or contract number and project description will be noted on the certificate of insurance. DISTRICT reserves the right to require complete copies of all insurance policies required by this Contract at any time.

**7.5 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 8 – INDEMNIFICATION**

To the fullest extent permitted by law, CONSULTANT will indemnify and hold harmless DISTRICT, 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 the CONSULTANT, 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 shall not extend to the negligence of DISTRICT its agents, employees or indemnities.

All warranty and indemnification obligations under this Contract shall survive expiration or termination of the contract, unless expressly provided otherwise. The Parties agree that 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, CONSULTANT may fully indemnify and hold harmless any private property owner granting a right of entry to CONSULTANT for the purpose of completing the project. The obligations under this Article do not extend to the negligence of DISTRICT, its agents, employees or indemnities.

**ARTICLE 9 – COMPLIANCE WITH LAWS**

CONSULTANT will 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 must be brought and maintained in Superior Court in Pima County. Any changes in the governing laws, rules, and regulations during the term of this Contract apply, but do not require an amendment.

**ARTICLE 10 – STATUS OF CONSULTANT**

The status of the CONSULTANT is that of an independent consultant and CONSULTANT is not considered an employee of the DISTRICT and is not entitled to receive any of the fringe benefits associated with regular employment, and will not be subject to the provisions of the merit system. CONSULTANT is responsible for payment of all Federal, State and Local taxes associated with the compensation received by CONSULTANT from DISTRICT. CONSULTANT is responsible for program development and operation without supervision by DISTRICT.

#### **ARTICLE 11 – CONSULTANT'S PERFORMANCE**

CONSULTANT will perform the work in accordance with the terms of the Contract and with the degree of care and skill required of any similarly situated Arizona registrant. CONSULTANT will employ suitably trained and skilled professional personnel to perform all required services under this Contract. Prior to changing any key personnel, especially those key personnel DISTRICT relied upon in making this Contract, CONSULTANT will obtain the approval of DISTRICT.

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

#### **ARTICLE 12 – NON-WAIVER**

The failure of DISTRICT to insist in any one or more instances upon full and complete compliance with any of the terms and provisions of this Contract or to take any action permitted as a result thereof is not 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 is not an accord and satisfaction.

#### **ARTICLE 13 – SUBCONSULTANT**

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

#### **ARTICLE 14 – NON-ASSIGNMENT**

CONSULTANT will not assign its rights to this Contract in whole or in part, without prior written approval of DISTRICT. DISTRICT may withhold approval at its sole discretion, provided that DISTRICT will not unreasonably withhold such approval.

#### **ARTICLE 15 – NON-DISCRIMINATION**

CONSULTANT agrees to 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 16 – AMERICANS WITH DISABILITIES ACT**

CONSULTANT will 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 DISTRICT, then CONSULTANT will maintain accessibility to the program to the same extent and degree that would be required of the DISTRICT under 28 CFR Sections 35.130, 35.133, 35.149 through 35.151, 35.160, 35.161 and 35.163. Failure to do so may result in the termination of this Agreement.

## **ARTICLE 17 – CANCELLATION FOR 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 consultant to any other party to the contract with respect to the subject matter of the contract."

## **ARTICLE 18 – TERMINATION OF CONTRACT FOR DEFAULT**

- A. Upon a failure by CONSULTANT to cure a default under this Contract within ten (10) days of receipt of notice from DISTRICT of the default, DISTRICT may, in its sole discretion, terminate this Contract for default by written notice to CONSULTANT. In this event, DISTRICT may take over the work and complete it by contract or otherwise. In such event, CONSULTANT will be liable for any damage to the DISTRICT resulting from CONSULTANT'S default, including any increased costs incurred by DISTRICT in completing the work.
- B. The occurrence of any of the following, without limitation to the named events, constitutes an event of default:
1. Abandonment of or failure by CONSULTANT to observe, perform or comply with any material term, covenant, agreement or condition of this Contract, or to prosecute the work or any separable part thereof with the diligence that will insure completion within the time specified in this contract, including any extension, or a failure to complete the work (or the separable part of the work) within the specified time;
  2. Persistent or repeated refusal or failure to supply adequate staff, resources or direction to perform the work on schedule or at an acceptable level of quality;
  3. Refusal or failure to remedy defective or deficient work within a reasonable time;
  4. Loss of professional registration or business or other required license or authority, or any curtailment or cessation for any reason of business or business operations that would substantially impair or preclude CONSULTANT'S performance of this Contract;
  5. Disregard of laws, ordinances, or the instructions of DISTRICT or its representatives, or any otherwise substantial violation of any provision of the contract;
  6. Performance of work hereunder by personnel that are not qualified or permitted under state law or local law to perform such services;
  7. Commission of any act of fraud, misrepresentation, willful misconduct, or intentional breach of any provision of this Contract; or
  8. If a voluntary or involuntary action for bankruptcy is commenced with respect to CONSULTANT, or CONSULTANT becomes insolvent, makes a general assignment for the benefit of creditors, or has a receiver or liquidator appointed in respect of its assets.
- C. In the event of a termination for default:
1. All finished and unfinished drawings, specifications, documents, data, studies, surveys, drawings, photographs, reports and other information in whatever form, including electronic, acquired or

- prepared by CONSULTANT for this project become DISTRICT'S property and will be delivered to DISTRICT not later than five (5) business days after the effective date of the termination;
2. DISTRICT may withhold payments to CONSULTANT arising under this or any other Contract for the purpose of set-off until such time as the exact amount of damage due DISTRICT from CONSULTANT is determined; and
  3. Subject to the immediately preceding subparagraph 2, DISTRICT'S liability to CONSULTANT will not exceed the Contract value of work satisfactorily performed prior to the date of termination for which DISTRICT has not previously made payment.
- D. DISTRICT will not terminate the Contract for default or charge CONSULTANT with damages under this Article, if—
1. Excepting item 8. in paragraph B above, the event of default or delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of CONSULTANT. Examples of such causes include—
    - (i) Acts of God or of the public enemy,
    - (ii) Acts of the DISTRICT in either its sovereign or contractual capacity,
    - (iii) Acts of another Contractor in the performance of a contract with the DISTRICT,
    - (iv) Fires,
    - (v) Floods,
    - (vi) Epidemics
    - (vii) Quarantine restrictions,
    - (viii) Strikes,
    - (ix) Freight embargoes,
    - (x) Unusually severe weather, or
    - (xi) Delays of subcontractors at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both CONSULTANT and the subcontractor(s); and
  2. CONSULTANT, within seven (7) days from the beginning of any event of default or delay (unless extended by DISTRICT), notifies DISTRICT in writing of the cause(s) therefor. In this circumstance, DISTRICT will ascertain the facts and the extent of the resulting delay. If, in the reasonable judgment of DISTRICT, the findings warrant such action, DISTRICT may extend the time for completing the work.
- E. For the purposes of paragraph A above, "receipt of notice" includes receipt by hand by CONSULTANT'S project manager, by facsimile transmission with notice of receipt, or under the Notices clause of this Contract.
- F. If, after termination of the Contract for default, DISTRICT determines that the CONSULTANT was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if DISTRICT had terminated the Contract for convenience.
- G. The rights and remedies of DISTRICT in this Article are cumulative and in addition to any other rights and remedies provided by law or under this contract.

#### **ARTICLE 19 – TERMINATION FOR CONVENIENCE OF DISTRICT**

DISTRICT may terminate this Contract at any time by giving written notice to CONSULTANT 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 or unfinished documents and other materials will, at the option of the DISTRICT, become its property. If DISTRICT terminates the Contract as provided herein, DISTRICT will pay CONSULTANT an amount based on the time and expenses incurred by CONSULTANT prior to the termination date, however, no payment will be allowed for anticipated profit on unperformed services.

**ARTICLE 20 – 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 Directors does not appropriate sufficient monies for the purpose of maintaining this Contract. In the event of such termination, DISTRICT will have no further obligation to CONSULTANT, other than payment for services rendered prior to termination.

**ARTICLE 21 – NOTICES**

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

**DISTRICT:**

*Suzanne Shields, Director  
Regional Flood Control District  
201 N. Stone Ave  
Tucson, AZ 85701  
Tel: (520) 724-4661*

**CONSULTANT:**

*Scott J. Altherr, P.E., Principal Engineer  
CMG Drainage Engineering, Inc.  
3555 N. Mountain Ave  
Tucson, AZ 85719  
Tel: (520) 882-4244*

**ARTICLE 22 – OTHER DOCUMENTS**

The Parties in entering into this Contract have relied upon information provided in Solicitation for Qualifications No. 272080, and on representations and information in the CONSULTANT'S response to said SFQ. 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. CONSULTANT will perform services in accordance with the terms of the Contract and at a level of care consistent with prevailing industry standards. In the event any provision of this contract is inconsistent with those of any other document, the contract provisions will prevail.

**ARTICLE 23 – REMEDIES**

Either Party may pursue any remedies provided by law for the breach of this Contract, provided, however, that the procedures in **ARTICLE 27** are first exhausted. No right or remedy is intended to be exclusive of any other right or remedy and each is cumulative and in addition to any other right or remedy existing at law or at equity or by virtue of this Contract.

**ARTICLE 24 – SEVERABILITY**

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

**ARTICLE 25 – BOOKS AND RECORDS**

CONSULTANT will keep and maintain proper and complete books, records and accounts, which will be open at all reasonable times for inspection and audit by duly authorized representatives of DISTRICT.

CONSULTANT will retain all records relating to this contract at least five (5) years after its termination or cancellation or until any related pending proceeding or litigation has been closed, if later. Alternatively, CONSULTANT may, at its option, deliver such records to DISTRICT for retention.

**ARTICLE 26 – DELAYS**

Neither Party hereto will 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.

## **ARTICLE 27 – DISPUTES**

In the event of a dispute between the Parties regarding any part of this Contract or the Parties' obligations or performance hereunder, either Party may request a special meeting between their respective representatives to resolve the dispute. If the dispute remains unresolved, then either Party may request escalation of the issue to a meeting between the Director of the Pima County Department administering this Contract and CONSULTANT'S counterpart official, such meeting to be held within one (1) week of the request, unless otherwise agreed. If the dispute is still not resolved after that meeting, then either Party may pursue such remedy or remedies as may be available to them under the laws of the State of Arizona.

The Parties will continue performance of their respective obligations under this Contract notwithstanding the existence of any dispute.

## **ARTICLE 28 – OWNERSHIP OF DOCUMENTS**

All original drawings, field data, estimates, field notes, plans, specifications, documents, reports, calculations, and other information developed by CONSULTANT under this contract vest in and become the property of DISTRICT and shall be delivered to DISTRICT upon completion or termination of the services, but CONSULTANT may retain and use copies thereof. DISTRICT 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 CONSULTANT.

## **ARTICLE 29 – PUBLIC INFORMATION**

Pursuant to A.R.S. § 39-121 et seq., and A.R.S. §§ 34-603(H), 604(H), in the case of construction or Architectural and Engineering services procured under A.R.S. Title 34, Chapter 6, all information submitted by CONSULTANT in any way related to 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 information submitted related to this Contract that CONSULTANT believes constitutes proprietary, trade secret or otherwise confidential information must be appropriately and prominently marked as CONFIDENTIAL prior to submittal to DISTRICT and be accompanied by an index specifically identifying and describing the general contents of each page so marked. The index is a Public Record and must not include any information considered confidential.

Notwithstanding the above provisions, in the event records marked CONFIDENTIAL are requested for public release pursuant to A.R.S. § 39-121 et seq., DISTRICT will release records marked CONFIDENTIAL ten (10) business days after the date of notice to the CONSULTANT of the request for release, unless CONSULTANT has, within the ten (10) 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 is not counted in the time calculation. DISTRICT will notify CONSULTANT of any request for such release on the same day of the request for public release or as soon thereafter as practicable.

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

## **ARTICLE 30 – LEGAL ARIZONA WORKERS ACT COMPLIANCE**

CONSULTANT hereby warrants that it will at all times during the term of this Contract comply with all federal immigration laws applicable to CONSULTANT'S employment of its employees, and with the requirements of A.R.S. § 23-214 (A) (together the "State and Federal Immigration Laws"). CONSULTANT will further ensure that each subconsultant who performs any work for CONSULTANT under this contract likewise complies with the State and Federal Immigration Laws.



DISTRICT has the right at any time to inspect the books and records of CONSULTANT and any subconsultant in order to verify such party's compliance with the State and Federal Immigration Laws.

Any breach of CONSULTANT'S or any subconsultant's warranty of compliance with the State and Federal Immigration Laws, or of any other provision of this section, is a material breach of this Contract subjecting CONSULTANT to penalties up to and including suspension or termination of this Contract. If the breach is by a subconsultant, and the subcontract is suspended or terminated as a result, CONSULTANT must take such steps as may be necessary to either self-perform the services that would have been provided under the subcontract or retain a replacement subconsultant, (subject to DISTRICT approval if SBE or MWBE preferences apply) as soon as possible so as not to delay project completion.

CONSULTANT will advise each sub-consultant of DISTRICT'S rights, and the sub-consultant's obligations, under this Article by including a provision in each subcontract substantially in the following form:

"SUBCONSULTANT hereby warrants that it will at all times during the term of this Contract comply with all federal immigration laws applicable to SUBCONSULTANT'S employees, and with the requirements of A.R.S. § 23-214 (A). SUBCONSULTANT further agrees that DISTRICT may inspect the SUBCONSULTANT'S books and records to insure that SUBCONSULTANT is in compliance with these requirements. Any breach of this paragraph by SUBCONSULTANT is a material breach of this Contract subjecting SUBCONSULTANT to penalties up to and including suspension or termination of this Contract."

Any additional costs attributable directly or indirectly to remedial action under this Article are the responsibility of CONSULTANT. In the event that remedial action under this Article results in delay to one or more tasks on the critical path of CONSULTANT'S approved construction or critical milestones schedule, such period of delay is excusable delay for which CONSULTANT is entitled to an extension of time, but not costs.

**ARTICLE 31-ISRAEL BOYCOTT CERTIFICATION**

CONSULTANT hereby certifies that it is not currently engaged in, and will not for the duration of this Contract engage in, a boycott of Israel as defined by A.R.S. § 35-393.01. Violation of this certification by CONSULTANT may result in action by the DISTRICT up to and including termination of this Contract.

**Remainder of this page is left intentionally blank.**



**ARTICLE 32 - ENTIRE AGREEMENT**

This document constitutes the entire agreement between the Parties pertaining to the subject matter hereof, and all prior or contemporaneous agreements and understandings, oral or written, are hereby superseded and merged herein. This Contract may be modified, amended, altered or extended only by 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:

CONSULTANT:

\_\_\_\_\_  
Chair, Board of Directors

  
\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Scott Altherr Vice-President  
Name and Title (Please Print)

ATTEST:

1/19/18  
Date

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

APPROVED AS TO FORM:

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

**TOBIN ROSEN**

\_\_\_\_\_  
Name (Please Print)

1/16/18  
Date

## **EXHIBIT "A" - SCOPE OF SERVICES (8 Pages)**

### **I. General Description**

#### **A. Background:**

The Santa Cruz River in northeastern Pima County is Arizona's longest effluent-dependent river. The condition of the Santa Cruz River is heavily influenced by effluent management practices and water resource concerns. The Pima County Regional Wastewater and Reclamation Department has completed the \$660 million Regional Optimization Master Plan (ROMP), which has upgraded the two-major regional wastewater treatment plants that discharge to the river. The significantly improved water quality of the effluent has led to a commensurate increased interest in the beneficial use of that water and/or the desire for increased water recharge credits. The Bureau of Reclamation, Tucson Water, Metro Water, Oro Valley Water and Pima County have interest in the use of this water for beneficial uses such as recharge, turf irrigation, and riparian enhancements. All of these have the potential to conflict with the channels primary purpose, flood conveyance and flood risk reduction.

#### **B. Project Purpose**

The purpose of this project is to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation and education opportunities and riparian habitat preservation for the Santa Cruz River from Grant Road to Trico Road.

#### **C. Project Description**

The lower portion of the Santa Cruz River in Pima County constitutes the County's principal wetland habitat. Continuous effluent discharge from the Regional Wastewater Reclamation facilities creates improved wetland ecosystems and floodplain aesthetics along the lower Santa Cruz River. This project, with the assistance of experts and stakeholders, will provide strategic planning and planning-level alternatives to help balance environmental, water resource, recreation, education, and flood hazard reduction needs, desires, and concerns.

The Pima County Regional Flood Control District (District) is seeking professional consulting engineering (Consultant) services necessary for developing a phased Santa Cruz River Management Plan, which in Phase 1 will: update flood hazard areas; identify drainage conveyance and maintenance deficiencies; revise FEMA digital flood insurance rate maps (DFIRMs). Phase 2 will develop a management strategy by: identifying flood control alternatives with multi-objective criteria; reaching out to stakeholders and the public; preparing concept level plans and cost estimates for selected alternatives; and preparing an implementation plan.

This Scope of Services will outline tasks in Phase 1 in detail and acknowledge that Phase 2 should be scoped to begin at the completion of Phase 1.

#### **D. Location**

The approximate limits of the Santa Cruz River Management Plan (Grant to Trico) are shown on Attachment 1. The lateral extent along this alignment is limited to locations where RFCD has operational control (ownership or maintenance responsibilities).

#### **E. Project Elements**

##### **PHASE 1**

E1: Existing Conditions Analysis: Collect and review previous studies, collect and review ongoing development activity within project limits, identify on-going drainage complaints, survey of structures, and identify critical facilities.

E2: Floodplain Delineations: Floodplains should be re-delineated where the existing mapping is inaccurate using the existing FEMA FIS Discharge Values.

E3: Letter of Map Revision: A Letter of Map Revision (LOMR) may be required to re-delineate Base Flood Elevations, the Floodway, and the 500-yr floodplain.

E4: Evaluation of Infrastructure Deficiency and Maintenance: Floodplain conditions shall be evaluated to determine where maintenance is required to provide conveyance of the 1% annual chance flood with freeboard, or improvements are required to provide or improve reliability of the associated infrastructure (such as bank protection or levees) under flood conditions. Consultant shall identify areas of erosion hazards.

E5: Stakeholder Engagement: Stakeholders will be engaged to coordinate the multiple interests in management of the Santa Cruz River at the start of Phase 1. They will also be gathered at the completion of the floodplain mapping.

### **PHASE 2 (To be initiated at completion of Phase 1)**

The following information are anticipated to be available at the initiation of Phase 2 and will provide further uncertainty as to what alternatives and implementation are feasible.

- Sonoran Institute Conservation Priorities Mapping.
- Concepts for Marana Drainage Master Plan
- PAG Impaired Waters mitigation strategy.
- Clarity on whether managed recharge of effluent will be credited similar to recharge of Central Arizona Project water.
- Pima County will identify recreation and access points.

E6: Alternatives Analysis and Recommended Solutions: Both structural and non-structural alternatives will be evaluated.

E7: Stakeholder Engagement: Stakeholders will weigh in on the recommended alternatives and implementation plan.

E8: Public information.

E9: Implementation Plan.

### **F. Schedule**

The consultant shall complete Phase 1 elements of the study within 545 days from the issue of Notice-to-Proceed (NTP) date. Elements shall be completed during this timeframe according to the following milestones for Final Deliverables:

Existing Conditions Report	180 days
Floodplain Hydraulic Model and GIS Deliverable	365 days
Infrastructure Deficiency and Maintenance Evaluation report	545 days
Letter of Map Revision (LOMR) FEMA Submittal (if necessary)	545 days
LOMR Approval	900 days

### **G. General Assumptions**

- The level of effort for each task is limited to the amount of labor and expenses identified in the Project Budget spreadsheet. Costs are itemized to aid in project tracking purposes only. The budget may be transferred between tasks, provided the total contracted amount is not exceeded. Additional services beyond these limits will be considered Extra Work.

- The Phase 1 project duration is anticipated to be eighteen (18) months; however, FEMA approval will take longer. The Consultant is responsible for meeting deadlines for their and subconsultants' tasks only.
- Unless specified within individual tasks, deliverables will be electronic PDF format submitted to the District and native file formats.
- All direction received by Consultant regarding the accommodation of stakeholders must come from the District Project Manager in writing.
- Subconsultants' assumptions and exclusions provided in their detailed scope of services are hereby incorporated into the Consultants scope of services.

## II. Tasks (Phase 1)

### Task II-1. – Existing Conditions Evaluation

- a) The Consultant shall collect and review pertinent data from the District, City of Tucson, Town of Marana and other sources. Data to be collected will include, but is not limited to, as-built plans for existing structures, FEMA Flood Hazard Boundary Maps, Letter of Map Revisions and/or Amendments, drainage reports, future improvement plans, land use plans and development plans. The Deliverable for this task is an Existing Conditions Report. The available data on drainage conditions includes, but not limited to:
  - 1986 Santa Cruz River Management plan (Simons Li)
  - Board of Supervisors Policies associated with Management of the Santa Cruz River
  - Pima County summaries of Santa Cruz River Drainage Infrastructure Engineering Plans
  - District, Town of Marana and City of Tucson records such as: drainage complaints, floodplain use permits, elevation certificates, site review and violations  
'Drainage infrastructure maintenance reports
  - Land Development proposals in process
  - Raw Stream Gage Data from the District
  - United States Geological Survey (USGS) flood event records
  - Sunset Road LOMR
  - Effective Flood Insurance Study Models
- b) Summarizing flooding and drainage problems. The Consultant shall develop a comprehensive list of flooding and drainage problems impacting the study reach. The Consultant will research and obtain historic flood data such as observed flood depth and newspaper articles to document past flooding and provide a map indicating problem areas identified by any flood data obtained.
- c) Pima County shall provide appropriate spatial data (consultant will compile) on existing conditions including:
  - Topographic data. Consultant will use the 2015 LiDAR dataset (District will provide LiDAR QC Certification as required by FEMA Elevation Guidance (May 2016)
  - Historic channel change information
  - As-built plans for drainage infrastructure
- d) Identify data gaps: Consultant shall identify data gaps that would prevent the consultant from preparing hydrologic and hydraulic mapping consistent with *FEMA's Guidelines and Standards for Flood Risk Analysis and Mapping* (last updated November 15, 2017).
- e) Supplemental Survey: The Consultant shall survey up to 9 bridges crossing the Santa Cruz River, including one material conveyer belt supported on piers. Survey collection on bridges shall be consistent with *FEMA's Guidelines and Specifications for Flood Hazard Mapping Partners [April 2003], Appendix A*

– *Guidance for Aerial Mapping and Surveying, Section A.6.3.* Survey will be collected on NAD 83, Arizona State Plane, Central Zone, HARN, International Feet grid coordinate system. Other bridge data in the reach will be garnered from the recent Sunset Road LOMR.

- f) The Consultant shall identify all rights-of-entry needs and coordinate with the District to obtain the necessary rights-of-entry.

#### **Task II-2. –Floodplain Delineation**

- a) Consultant shall provide a brief memorandum summarizing the established hydrology for the Santa Cruz River, which includes the effective FEMA discharge values for the 0.2, 1, 2, 4, 10 and 50 percent annual chance floods. This hydrology summary shall also consider available gage data from floods of record, event hydrographs and synthetically developed hydrographs. This project shall not develop new hydrology for the Santa Cruz River or its tributaries nor is it the intention to establish new regulatory discharges. Summary shall document the method(s) of selection of an appropriate input hydrograph for the unsteady state model.
- b) Consultant will prepare the terrain for the project from the most recent LiDAR (bare earth) and establish an appropriate raster cell size for the terrain grid.
- c) Consultant will prepare a memorandum documenting the baseline Manning's roughness values selection for the entire study reach consistent with District Tech Policy 019, and values determined based on USGS gaging.
- d) It is anticipated that the hydraulic model will be a HEC-RAS 5 model that will utilize the HEC-RAS 2D component for the reach downstream of Avra Valley Rd. The Consultant shall prepare a recommendation for the modeling approach to be followed in this project. The approach shall consider which locations should be modeled with one-dimensional, two-dimensional, and a combined (1D/2D) methodology. The modeling approach should also consider bridge modeling methods, consideration of breakover into the Brawley Wash, analysis of unsteady flow approach (steady peak versus hydrograph), and an understanding of how the Floodway might be modeled. These recommendations shall be provided to the District for concurrence prior to significant development of the hydraulic model.
- e) Consultant shall prepare a hydraulic model, at an appropriate scale, of the Santa Cruz River floodplain from Grant Road to Trico Road. The model limits shall be schematically set to cover the extent of the 500-year floodplain throughout the project limits. If any portion of the limits is modeled in 1D then HEC-RAS cross sections should duplicate those in the Flood Insurance Study (FIS), to the extent practicable. The model shall employ methods described in RFCD Technical Policies including Tech Policy 019 and 033, and guidance from the USACE on the application of HEC-RAS 5. Hydraulic model shall provide results for those storm events listed in 2a). It is assumed that the reach upstream of Avra Valley Rd can be modeled as 1-Dimensional steady state.
- f) This Scope of Services is based upon current FEMA requirements, procedural memorandums, and an intent to utilize the current version of HEC-RAS 5. Changes to any of the forestated assumptions are excluded from the consultant's base scope of services.
- g) The Consultant shall provide a GIS deliverable relevant to the modeling and floodplain analysis. These GIS layer shall comply with District project standards. It is anticipated that these layers will include inundation limits, max flood depth rasters, max flood water surface elevation rasters, and flood velocity rasters.
- h) The Consultant shall compare the hydraulic modeling inundation limits to the effective Flood Insurance Rate Map's (FIRM) Special Flood Hazard Areas (SFHA). The resulting differences will predicate the strategy for revising the FIRMs.

### **Task II-3 – Evaluation of Infrastructure Deficiency and Maintenance**

The Consultant shall evaluate drainage infrastructure and determine deficiency and maintenance. Subtasks will include, but not be limited to evaluating:

- a) Levee freeboard capacity.
- b) Level of flood protection provided for Critical Facilities as defined by Pima County Code, Title 16.
- c) Levee and bank protection toe-down under flood conditions following scour analysis described in RFCD Tech Policy 017. Available sieve analysis from infrastructure projects will be collected for use as input parameters as necessary.
- d) Determining distance from edge of bank protection to active sand and gravel operations, identifying any that may pose a risk to flood control infrastructure.
- e) Reaches requiring improved conveyance to achieve 1% annual chance flows contained within the bank protection.
- f) Existing roadway bridges scour protection condition and evidence of debris loading.
- g) Reaches needing repeat maintenance.
- h) Reaches where the effluent consistently flows up against the bank protection resulting in degradation of the bank protection.
- i) Erosion Hazard Setbacks for reaches with no bank protection.

Deliverable for this Task will be an Infrastructure Deficiency and Maintenance Evaluation report and Drainage Inventory Exhibit.

### **Task II-4. – Preparation of FEMA Map Revisions (Optional)**

If deemed necessary by Pima County Regional Flood Control District, the City of Tucson, or the Town of Marana a Letter of Map Revision (LOMR) for the study reach will be prepared and submitted by the Consultant based on Task 2 above. It is assumed that the maximum length of re-mapping would be approximately 18 miles (which excludes the ongoing Sunset LOMR limits):

- a) The Consultant will prepare a FEMA LOMR submittal per FEMA's *Standards for Flood Risk Analysis and Mapping* (November 30, 2015):
- b) The Consultant shall prepare an existing conditions hydrology and hydraulics report in accordance with ADWR State Standard 1-12 Technical Data Notebook (TDN).
- c) The LOMR includes remapping the FEMA Floodway and the 1% & 0.2% annual chance floods. Since the modeling from Task 2 may be in the unsteady 2D environment, the floodway encroachment routine for steady state may not be applicable. This sub-task includes additional hydraulic modeling to establish the Floodway in either steady or unsteady state. Floodway analysis in 2D environment will be in conformance with *Guidance for Flood Risk Analysis and Mapping - Floodway Analysis and Mapping* (Nov 2016). In addition, hydraulic data for 2 and 10 percent annual chance floods will be included in the LOMR for FEMA to update the flood profiles in FIS.
- d) A hydraulic work map and annotated FIRM panel exhibit will be prepared to support the LOMR application. The work map will identify the logical transitions from the hydraulic modeling limits to the

effective flood zone limits. This task may require additional hydraulic model modifications to extend or truncate the revised area to make the tie-ins on both upstream and downstream.

- e) The Consultant shall be responsible for addressing all of FEMA review comments in a timely manner. The contract will not be considered complete until FEMA has issued a LOMR or PMR. In the event the project extends beyond the review process timeline the District will approve additional services (Task IV-4) for the Consultant to close out the FEMA process.
- f) Consultant will submit to each municipal jurisdiction and respond to their comments. Consultant will gather Community Acknowledgement signatures on the MT-2 forms.
- g) Consultant will coordinate with FEMA throughout the review process and will respond to up to two (2) additional information requests.
- h) While it is expected that the LOMR will not require a fee, the consultant shall include expense for the LOMR review, should FEMA deem it necessary.

#### **Task II-5 - Stakeholder Involvement**

- a) The District shall coordinate and the Consultant shall attend two (2) stakeholder meetings during the course of the Study, planned in conjunction with the Consultant's investigations, at the following milestones:
  - 1. At Project Initiation
  - 2. At Completion of Existing Conditions and Floodplain Delineation (approximately 12 months)

It is assumed that District PM will send the meeting invitations, secure the meeting location, and give the introduction to the meeting. Consultant will prepare materials and exhibits as necessary for the meeting and will present status of project and milestones.

- b) The stakeholder meetings will include, but not be limited to invitation of the following organizations:

Pima County Regional Wastewater Reclamation Dept	Pima Association of Governments
Pima County Office of Conservation and Sustainability	Community Water Coalition
Pima County Natural Resources Parks and Recreation	WMG
Pima County Planning	Sonoran Institute
City of Tucson Department of Transportation	Tucson Audubon
City of Tucson Parks	SAWUA
Tucson Water	Water Casa
Town of Marana	Metro Pima Alliance
Marana Water	SAHBA
Oro Valley Water	Freeport McMoran (requested to participate)
Metro Water	BKW Farms
Bureau of Reclamation	CMID
Army Corps of Engineers	TEP
University of Arizona	Western Power Administration
Kinder Morgan	ADOT
UPRR	

- c) The Consultant shall document and provide minutes and sign-in sheets to the District for all Stakeholder meetings.
- d) The Consultant shall be available to accompany the District Project Manager in providing project updates to the PAG Watershed Subcommittee.

### **III. Tasks (Phase 2)**

It is assumed that Phase 2 tasks will be scoped in a detailed fashion at the terminus of Phase 1. The following Tasks are generally assumed to be the components of future Phase 2.

#### **Task III-1 - Stakeholder Involvement (Continued)**

#### **Task III-2 – Alternatives Analysis and Recommendations**

#### **Task III-3 – Implementation Plan**

#### **Task III-4 - Public Involvement**

### **IV. Tasks (Both Phases)**

#### **Task IV-1 – Project Administration**

a) Meetings: The Consultant shall participate in the following specific meetings for the Management Study:

1. The Consultant shall attend a kick-off meeting with the District to submit the project schedule (in Microsoft project form), which will include dates of all proposed submittals and review meetings. The Consultant shall bring key project members to the meeting to introduce them to the District staff that will be working on the project.
2. The Consultant shall meet monthly with the District's Project manager and project review team to discuss the overall project status and to discuss the District's review comments that will be provided to the Consultant at the meeting. Any problems shall be identified and discussed. The Consultant shall take notes of all regularly scheduled monthly project meetings.
3. The Consultant shall make up to three site visits as necessary to become familiar with existing conditions in the study area.
4. The District will conduct one scheduled site visit to orient the Consultant with the project area and to determine any initial conflicts or opportunities.

b) Schedule

1. The project schedule outline shall be consistent with the numbering and tasks defined in this scope of work.
2. The consultant shall provide time line in a Microsoft Project format for tracking task completion.

#### **Task IV-2- Deliverables**

a) Reports and Documents: The following reports shall be prepared for this study;

1. Existing Conditions Report
2. Floodplain Hydraulics GIS Deliverable
3. Technical Data Notebook (TDN) (following ADWR State Standard 1-12) in support of Letter of Map Revision (LOMR)
4. Infrastructure Deficiency and Maintenance Evaluation Report and Drainage Inventory Exhibit



- b) The Consultant shall submit all items sealed by a registered civil engineer or surveyor in the State of Arizona, as appropriate. Upon receipt of the final submittal, the District shall review the report and preliminary plans for the accurate incorporation of all final comments. If incomplete and/or incorrect incorporation of those comments is found, the original documents shall be returned to the Consultant for corrections and resubmittal.
- c) The Consultant shall submit computer files of the information to the District delivered on digital media.
- d) The Consultant shall submit electronic copies for each draft report, and no more than 6 hard copies of the final report to the District.

#### **Task IV-3 – Owner’s Contingency**

The District shall have a contingency task to account for the unknown. Services performed under this task are at the discretion of the District and will only be authorized in writing by the District’s Project Manager. This task will be a lump-sum task that can be utilized for items like the LOMR review fee or supplementary sediment sampling not specifically outlined in the scope of services but that become required as the project progresses.

#### **Task IV-4 – Additional Services**

The Consultant shall be prepared to provide additional services as-needed in support of Tasks 1-10, including the need for more than two (2) responses to requests for additional information to FEMA. These may include but not be limited to: geotechnical and materials analysis, survey, drone mapping capability, geophysical analysis (including excavation or borings to determine as-built condition), groundwater hydrology, structural engineering, landscape architecture, cultural resources, habitat evaluation, water quality and environmental services.

#### **Out of Scope Items**

Should the Consultant feel that the District, or any partner such as a city, town or agency staff, is requiring the Consultant to provide work that is not within the scope of the contract documents, the Consultant must notify the District Project Manager immediately in writing and describe the work, which the Consultant feels is out of scope. Such notification shall be provided to the District Project Manager prior to the commencement of any such out of scope work.

It is the Consultant’s sole responsibility to assure that no additional services beyond the Scope of Work defined in the contract documents shall commence without the written authorization of the District Project Manager. Retroactive requests for additional fee shall neither be considered nor approved.

***End of Exhibit “A” – Scope of Services***



# CMG DRAINAGE ENGINEERING, INC.

3555 N. Mountain Ave. • P.O. Box 64880 (mail) • Tucson, AZ 85728 • phone: (520) 882-4244 • fax: (520) 888-1421

## FEE ESTIMATE

Project Name: Santa Cruz River Management Plan

Date: January 9, 2018

### I. CMG LABOR

#### **PHASE I**

#### **TASK II-1 - Existing Conditions Evaluation**

##### **Sub-Task II-1(a): Data Collection and Review**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	4	\$ 580.00
Project Manager	\$ 130.00	40	\$ 5,200.00
Sr Project Engineer / Hydrologist	\$ 115.00	100	\$ 11,500.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	100	\$ 8,800.00
CADD Tech	\$ 76.00	40	\$ 3,040.00
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>284</b>	<b>\$ 29,120.00</b>

##### **Sub-Task II-1(b): Summarizing documented flooding and drainage problems**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	8	\$ 1,040.00
Sr Project Engineer / Hydrologist	\$ 115.00	24	\$ 2,760.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	80	\$ 7,040.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>112</b>	<b>\$ 10,840.00</b>

##### **Sub-Task II-1(c): Spatial Data Compiling**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	4	\$ 520.00
Sr Project Engineer / Hydrologist	\$ 115.00	20	\$ 2,300.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00	40	\$ 3,040.00
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>64</b>	<b>\$ 5,860.00</b>

##### **Sub-Task II-1(d): Identify Data Gaps**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	16	\$ 2,080.00
Sr Project Engineer / Hydrologist	\$ 115.00	8	\$ 920.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>24</b>	<b>\$ 3,000.00</b>

**Sub-Tasks II-1(i): Supplemental Survey**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00		\$ -
Sr Project Engineer / Hydrologist	\$ 115.00		\$ -
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		0	<b>(SUB)</b>

**Sub-Task II-1(j): Right of Entry Identification and Coordination**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	40	\$ 5,200.00
Sr Project Engineer / Hydrologist	\$ 115.00		\$ -
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00	20	\$ 1,520.00
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		60	<b>\$ 6,720.00</b>

**Task II-1 Sub-Total ✓** 544 \$ 55,540.00

**TASK II-2 - Floodplain Delineation****Sub-Task II-2(a): Hydrology Summary and Methodology**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	2	\$ 290.00
Project Manager	\$ 130.00	8	\$ 1,040.00
Sr Project Engineer / Hydrologist	\$ 115.00	16	\$ 1,840.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		26	<b>\$ 3,170.00</b>

**Sub-Task II-2(b): Terrain Preparation**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	2	\$ 260.00
Sr Project Engineer / Hydrologist	\$ 115.00	4	\$ 460.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	4	\$ 352.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		10	<b>\$ 1,072.00</b>

**Sub-Task II-2(c): Manning's Roughness Selection Memorandum**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	4	\$ 520.00
Sr Project Engineer / Hydrologist	\$ 115.00	8	\$ 920.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		12	<b>\$ 1,440.00</b>

**Sub-Task II-2(d): Hydraulic Model Approach**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	2	\$ 260.00
Sr Project Engineer / Hydrologist	\$ 115.00	4	\$ 460.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
Sub-Total		6	\$ 720.00

**Sub-Task II-2(e): Hydraulic Model Development**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	4	\$ 580.00
Project Manager	\$ 130.00	80	\$ 10,400.00
Sr Project Engineer / Hydrologist	\$ 115.00	200	\$ 23,000.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	80	\$ 7,040.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
Sub-Total		364	\$ 41,020.00

**Sub-Task II-2(f): GIS Deliverable**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	8	\$ 1,040.00
Sr Project Engineer / Hydrologist	\$ 115.00	8	\$ 920.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	8	\$ 704.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
Sub-Total		24	\$ 2,664.00

**Sub-Task II-2(h): Inundation Mapping Comparison to Effective**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	4	\$ 520.00
Sr Project Engineer / Hydrologist	\$ 115.00	8	\$ 920.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
Sub-Total		12	\$ 1,440.00

Task II-2 Sub-Total ✓

454 \$ 51,526.00

**Task II-3 - Evaluation of Infrastructure Deficiency and Mitigation****Sub-Task II-3(a-b): Determine Freeboard and Level of Protection for Infrastructure**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	2	\$ 260.00
Sr Project Engineer / Hydrologist	\$ 115.00	20	\$ 2,300.00
Project Engineer/Hydrologist	\$ 105.00	16	\$ 1,680.00
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
Sub-Total		38	\$ 4,240.00

**Sub-Task II-3(c): Toe-down inventory on bank protection/levee comparison to design scour depth**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	2	\$ 260.00
Sr Project Engineer / Hydrologist	\$ 115.00	60	\$ 6,900.00
Project Engineer/Hydrologist	\$ 105.00	60	\$ 6,300.00
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00	16	\$ 1,216.00
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>138</b>	<b>\$ 14,676.00</b>

**Sub-Task II-3(d): Identify distances from infrastructure to sand & gravel operations**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00		\$ -
Sr Project Engineer / Hydrologist	\$ 115.00	2	\$ 230.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	8	\$ 704.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>10</b>	<b>\$ 934.00</b>

**Sub-Task II-3(e): Identify conveyance/containment deficiencies**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	2	\$ 260.00
Sr Project Engineer / Hydrologist	\$ 115.00	36	\$ 4,140.00
Project Engineer/Hydrologist	\$ 105.00	16	\$ 1,680.00
Designer	\$ 88.00	12	\$ 1,056.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>66</b>	<b>\$ 7,136.00</b>

**Sub-Task II-3(f): Bridge Scour Protection Condition and Debris loading**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	4	\$ 520.00
Sr Project Engineer / Hydrologist	\$ 115.00	24	\$ 2,760.00
Project Engineer/Hydrologist	\$ 105.00	60	\$ 6,300.00
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>88</b>	<b>\$ 9,580.00</b>

**Sub-Task II-3(g-h): Identify Reaches of repeat maintenance and effluent generated scour susceptibility.**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	8	\$ 1,040.00
Sr Project Engineer / Hydrologist	\$ 115.00	16	\$ 1,840.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	12	\$ 1,056.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		<b>36</b>	<b>\$ 3,936.00</b>

**Sub-Task II-3(i): Establish erosion hazards for unlined reaches in study limits**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	16	\$ 2,080.00
Sr Project Engineer / Hydrologist	\$ 115.00	36	\$ 4,140.00
Project Engineer/Hydrologist	\$ 105.00	84	\$ 8,820.00
Designer	\$ 88.00	36	\$ 3,168.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		172	\$ 18,208.00

Task II-3 Sub-Total 548 \$ 58,710.00

**TASK II-4 - Preparation of FEMA Map Revisions (Optional)****Sub-Task II-4(a-b): Prepare FEMA LOMR Submittal**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	60	\$ 7,800.00
Sr Project Engineer / Hydrologist	\$ 115.00	140	\$ 16,100.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	100	\$ 8,800.00
CADD Tech	\$ 76.00	80	\$ 6,080.00
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		380	\$ 38,780.00

**Sub-Task II-4(c-d): Additional Hydraulic Modeling for FEMA Submittal**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	2	\$ 260.00
Sr Project Engineer / Hydrologist	\$ 115.00	120	\$ 13,800.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	40	\$ 3,520.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		162	\$ 17,580.00

**Sub-Task II-4(e-f): FEMA coordination, Agency Coordination, Public Notification**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	52	\$ 6,760.00
Sr Project Engineer / Hydrologist	\$ 115.00	16	\$ 1,840.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00	3	\$ 165.00
<b>Sub-Total</b>		71	\$ 8,765.00

Task II-4 Sub-Total ✓ 613 \$ 65,125.00

**TASK II-5 - Stakeholder Involvement****Sub-Tasks II-5(a-b): Stakeholder Meetings (2)**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	40	\$ 5,200.00
Sr Project Engineer / Hydrologist	\$ 115.00	6	\$ 690.00
Project Engineer/Hydrologist	\$ 105.00	6	\$ 630.00
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00	12	\$ 912.00
Clerical / Administration	\$ 55.00	2	\$ 110.00
<b>Sub-Total</b>		66	\$ 7,542.00

**Sub-Tasks II-5(c): Minutes and Sign-in Sheets for Stakeholder Meetings**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	16	\$ 2,080.00
Sr Project Engineer / Hydrologist	\$ 115.00		\$ -
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	4	\$ 352.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
Sub-Total		20	\$ 2,432.00

**Sub-Tasks II-5(d-a): Coordination with External Parallel Processes**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	8	\$ 1,040.00
Sr Project Engineer / Hydrologist	\$ 115.00		\$ -
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
Sub-Total		8	\$ 1,040.00

Task II-5 Sub-Total ✓		94	\$ 11,014.00
PHASE 1 Sub-Total ✓			\$ 241,915.00

97

**PHASE 2****TASK III-1 - Stakeholder Involvement (Continued)**

Task III-1 Sub-Total

**TASK III-2 - Alternatives Analysis and Recommendations**

Task III-2 Sub-Total

**TASK III-3 - Implementation Plan**

Task III-3 Sub-Total

Task III-4 Sub-Total

**TASK IV-1 - Project Administration****Sub-Task IV-1(a): Meetings & Site Visits**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	4	\$ 580.00
Project Manager	\$ 130.00	150	\$ 19,500.00
Sr Project Engineer / Hydrologist	\$ 115.00	47	\$ 5,405.00
Project Engineer/Hydrologist	\$ 105.00	16	\$ 1,680.00
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00	16	\$ 880.00
Sub-Total		233	\$ 28,045.00

**Sub-Task IV-1(b): Schedule**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	2	\$ 290.00
Project Manager	\$ 130.00	51	\$ 6,630.00
Sr Project Engineer / Hydrologist	\$ 115.00		\$ -
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00	4	\$ 220.00
Sub-Total		57	\$ 7,140.00

Task IV-1 Sub-Total ✓		290	\$ 35,185.00
-----------------------	--	-----	--------------

**TASK IV-2 - Deliverables****Sub-Task IV-2(a-1): Existing Conditions Report**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	2	\$ 290.00
Project Manager	\$ 130.00	40	\$ 5,200.00
Sr Project Engineer / Hydrologist	\$ 115.00		\$ -
Project Engineer/Hydrologist	\$ 105.00	8	\$ 840.00
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00	100	\$ 7,600.00
Clerical / Administration	\$ 55.00	5	\$ 275.00
<b>Sub-Total</b>		155	\$ 14,205.00

**Sub-Task IV-2(a-2): Floodplain Hydraulic GIS Deliverable**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00		\$ -
Sr Project Engineer / Hydrologist	\$ 115.00	16	\$ 1,840.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	16	\$ 1,408.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		32	\$ 3,248.00

**Sub-Task IV-2(a-3): Technical Data Notebook**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00	4	\$ 580.00
Project Manager	\$ 130.00	20	\$ 2,600.00
Sr Project Engineer / Hydrologist	\$ 115.00	60	\$ 6,900.00
Project Engineer/Hydrologist	\$ 105.00		\$ -
Designer	\$ 88.00	60	\$ 5,280.00
CADD Tech	\$ 76.00		\$ -
Clerical / Administration	\$ 55.00		\$ -
<b>Sub-Total</b>		144	\$ 15,360.00

**Sub-Task IV-2(a-4): Infrastructure Deficiency and Maintenance Evaluation Report/Drainage Inventory Exhibit**

Personnel	Rate*	Hours	Fee
Project Principal	\$ 145.00		\$ -
Project Manager	\$ 130.00	24	\$ 3,120.00
Sr Project Engineer / Hydrologist	\$ 115.00	40	\$ 4,600.00
Project Engineer/Hydrologist	\$ 105.00	24	\$ 2,520.00
Designer	\$ 88.00		\$ -
CADD Tech	\$ 76.00	60	\$ 4,560.00
Clerical / Administration	\$ 55.00	5	\$ 275.00
<b>Sub-Total</b>		153	\$ 15,075.00

<b>Task IV-2 Sub-Total</b>		484	\$ 47,888.00
----------------------------	--	-----	--------------

<b>TOTAL CMG LABOR</b>		<b>3,027</b>	<b>\$ 324,988.00</b>
------------------------	--	--------------	----------------------

\* Fully Burdened Rate includes overhead at (127)% of labor and profit at (10)% of labor and overhead.



**II. Contingency**

Owner's Contingency (Task IV-3)	\$	12,000.00
Additional Services (Task IV-4)		TBD

**III. ESTIMATE OF DIRECT EXPENSES**

Deliverables (6 hard copies of each final report)	\$	5,000.00
General large format scanning & plotting	\$	1,500.00
General in-house photocopying	\$	1,200.00
<b>TOTAL DIRECT EXPENSES</b>	<b>\$</b>	<b>7,700.00</b>

**IV. OTHER SUBCONSULTANT SERVICES**

<b>Supplemental Engineering Services</b>		
JE Fuller Hydrology & Geomorphology	\$	185,315.00
Ashby Surveying & Drafting, Inc.	\$	22,565.00

<b>TOTAL OTHER SUBCONSULTANT SERVICES</b>	<b>\$</b>	<b>207,880.00</b>
---	-----------	-------------------

<b>TOTAL NOT-TO-EXCEED PROJECT COST</b>	<b>\$</b>	<b>552,568.00</b>
---	-----------	-------------------



# CMG DRAINAGE ENGINEERING, INC.

3555 N. Mountain Ave. • P.O. Box 64880 (mail) • Tucson, AZ 85728 • phone: (520) 882-4244 • fax: (520) 888-1421

## PROJECT COST SUMMARY

Project Name: Santa Cruz River Management Plan

Date: January 9, 2018

### I. ESTIMATE OF DIRECT LABOR

<b>PHASE 1</b>	
<b>TASK II-1 - Existing Conditions Evaluation</b>	
CMG Drainage Engineering	\$ 55,540.00
JE Fuller Hydrology & Geomorphology	\$ 5,100.00
Ashby Surveying & Drafting	\$ 22,565.00
	<b>\$ 83,205.00</b>
<b>TASK II-2 - Drainage Commission</b>	
CMG Drainage Engineering	\$ 51,526.00
JE Fuller Hydrology & Geomorphology	\$ 132,725.00
	<b>\$ 184,251.00</b>
<b>TASK II-3 - Evaluation of Infrastructure Deficiency and Maintenance</b>	
CMG Drainage Engineering	\$ 58,710.00
	<b>\$ 58,710.00</b>
<b>TASK II-5 - Stakeholder Involvement</b>	
CMG Drainage Engineering	\$ 11,014.00
JE Fuller Hydrology & Geomorphology	\$ 5,150.00
	<b>\$ 16,164.00</b>
<b>Phase 1 Subtotal</b>	<b>\$ 342,330.00</b>
<b>PHASE 2</b>	
<b>TASK III-1 - Stakeholder Involvement (Continued)</b>	
	\$ -
<b>TASK III-2 - Alternatives Analysis and Recommendations</b>	
	\$ -
<b>TASK III-3 - Implementation Plan</b>	
	\$ -
<b>TASK III-4 - Public Involvement</b>	
	\$ -
<b>TASK IV-1 - Project Administration</b>	
CMG Drainage Engineering	\$ 35,185.00
JE Fuller Hydrology & Geomorphology	\$ 15,830.00
	<b>\$ 51,015.00</b>
<b>TASK IV-2 - Deliverables</b>	
CMG Drainage Engineering	\$ 47,888.00
	<b>\$ 47,888.00</b>
<b>TOTAL FIXED LABOR</b>	<b>\$ 441,233.00</b>

<b>Task IV-3 - Contingency</b>	
CMG Drainage Engineering	\$ 65,125.00
JE Fuller Hydrology & Geomorphology	\$ 14,050.00
	\$ 79,175.00
<b>Task IV-4 - District Contingency</b>	
District Contingency	\$ 12,000.00
<b>Task IV-5 - Additional Services</b>	
Additional Services	\$ -
<b>TOTAL OPTIONAL LABOR</b>	<b>\$ 91,175.00</b>
<b>II. ESTIMATE OF DIRECT EXPENSES</b>	
CMG Drainage Engineering	\$ 7,700.00
JE Fuller Hydrology & Geomorphology	\$ 12,460.00
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 20,160.00</b>
<b>TOTAL NOT-TO-EXCEED PROJECT COST</b>	<b>\$ 552,568.00</b>

## **FEE ESTIMATE**

**Project Name:** Santa Cruz River Management Plan - Grant to Trico

**Date:** January 3, 2018

### Fee Estimate Summary

Task	Title	Fee
II-1	Existing Conditions Evaluation	\$ 5,100
II-2	Floodplain Delineation	\$ 132,725
II-4	FEMA Map Revisions	\$ 14,050
II-5	Stakeholder Involvement	\$ 5,150
IV-1	Project Administration	\$ 15,830
	TOTAL LABOR	\$ 172,855
Direct Expenses		
	General large format scanning & plotting	\$ 3,460
	Quality control via Dr. Jennifer Duan	\$ 9,000
	TOTAL DIRECTS	\$ 12,460
	TOTAL JE FULLER	\$ 185,315

**I. LABOR**

**Task II-1 Existing Conditions Evaluation**

**Subtask: II-1a Collection**

<b>Personnel</b>	<b>Rate*</b>	<b>Hours</b>	<b>Fee</b>
Project Manager I	\$ 135.00	10	\$ 1,350.00
Project Engineer III	\$ 125.00	30	\$ 3,750.00
Sub-Total from subtask			\$ 5,100.00
<b>Task II-1 Sub-Total</b>			<b>\$ 5,100.00</b>

**Task II-2 Floodplain Delineation****Subtask:II-2a Hydrology Memorandum**

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	20	\$ 2,700.00
Project Engineer III	\$ 125.00	100	\$ 12,500.00
Sub-Total from subtask			\$ 15,200.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	5	\$ 675.00
Project Engineer III	\$ 125.00	40	\$ 5,000.00
Sub-Total from subtask			\$ 5,675.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	10	\$ 1,350.00
Project Engineer III	\$ 125.00	60	\$ 7,500.00
Sub-Total from subtask			\$ 8,850.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	5	\$ 675.00
Project Engineer III	\$ 125.00	80	\$ 10,000.00
Sub-Total from subtask			\$ 10,675.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	30	\$ 4,050.00
Project Engineer III	\$ 125.00	600	\$ 75,000.00
Sub-Total from subtask			\$ 79,050.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	0	\$ -
Project Engineer III	\$ 125.00	0	\$ -
Sub-Total from subtask			\$ -

**Subtask:II-2g GIS Deliverable**

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	10	\$ 1,350.00
Project Engineer III	\$ 125.00	60	\$ 7,500.00
Sub-Total from subtask			\$ 8,850.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	5	\$ 675.00
Project Engineer III	\$ 125.00	30	\$ 3,750.00
Sub-Total from subtask			\$ 4,425.00

**Task II-2 Sub-Total**

			\$ 132,725.00
--	--	--	---------------

**Task:II-4 FEMA Map Revisions****Subtask:II-4a FEMA LOMR Submittal**

<b>Personnel</b>	<b>Rate*</b>	<b>Hours</b>	<b>Fee</b>
Project Manager I	\$ 135.00	30	\$ 4,050.00
Project Engineer III	\$ 125.00	80	\$ 10,000.00
Sub-Total from subtask			\$ 14,050.00
<b>Task II-4 Sub-Total</b>			<b>\$ 14,050.00</b>

**Task:II-5 Stakeholder Involvement****Subtask:II-5a Coordination**

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	5	\$ 675.00
Project Engineer III	\$ 125.00	15	\$ 1,875.00
Sub-Total from subtask			\$ 2,550.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	10	\$ 1,350.00
Project Engineer III	\$ 125.00	10	\$ 1,250.00
Sub-Total from subtask			\$ 2,600.00

**Task II-5 Sub-Total****\$ 5,150.00**



**Task:IV-1 Project Administration****Subtask:IV-1a1 Kick-Off Meeting**

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	4	\$ 540.00
Project Engineer III	\$ 125.00	8	\$ 1,000.00
Sub-Total from subtask			\$ 1,540.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	36	\$ 4,860.00
Project Engineer III	\$ 125.00	18	\$ 2,250.00
Sub-Total from subtask			\$ 7,110.00

**Subtask:IV-1a3 Up to 3 Site Visits**

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	10	\$ 1,350.00
Project Engineer III	\$ 125.00	30	\$ 3,750.00
Sub-Total from subtask			\$ 5,100.00

Personnel	Rate*	Hours	Fee
Project Manager I	\$ 135.00	8	\$ 1,080.00
Project Engineer III	\$ 125.00	8	\$ 1,000.00
Sub-Total from subtask			\$ 2,080.00

**Task VI-I Sub-Total****\$ 15,830.00**

---

<b>TOTAL LABOR</b>	<b>\$</b>	<b>172,855.00</b>
--------------------	-----------	-------------------

\* Fully Burdened Rate includes overhead at (177)% of labor and profit at (10)% of labor and overhead.

---

**II. ESTIMATE OF DIRECT EXPENSES**

---

General large format scanning & plotting	\$	3,460.00
--	----	----------

Quality control via Dr. Jennifer Duan	\$	9,000.00
---------------------------------------	----	----------

---

<b>TOTAL DIRECT EXPENSES</b>	<b>\$</b>	<b>12,460.00</b>
------------------------------	-----------	------------------

<b>TOTAL NOT-TO-EXCEED PROJECT COST</b>	<b>\$</b>	<b>185,315.00</b>
---	-----------	-------------------



Via E-mail: saltherr@cmgdrainage.com

January 2, 2018

CMG Drainage Engineering, Inc.  
Mr. Scott J. Altherr, P.E., CFM  
Principal Engineer  
3555 N. Mountain Avenue  
Tucson, AZ 85719

**RE: Santa Cruz River Management Plan: Grant Road to Trico Road  
(SCRMP SFQ 272080)**

Dear Mr. Altherr:

Pursuant to your request for proposal to provide professional land surveying services for the above referenced project, the following is the scope of work, as we understand it along with our projected fees.

Our proposal is based on the document titled "EXHIBIT "A" – SCOPE OF SERVICES" (9 pages) received via e-mail from CMG on December 7, 2017. Surveying services for this project are described within Task 1. h) of the document under the title "Supplemental Survey."

Supplemental survey tasks will be comprised of obtaining existing data for 9 bridges including a conveyor belt supported by piers. The methods of obtaining the data will be consistent with FEMA's Guidelines and Specifications for Flood Hazard Mapping Partners (April 2003), Appendix A – Guidance for Aerial Mapping and Surveying, Section A.6.3.

Survey data will be collected on NAD 83 Arizona State Plane, Central Zone International Feet grid coordinate system. Vertical data will be based on NAVD '88 datum.

Based on the above, our fees are expected to be as follows:

<u>Item</u>	<u>Description</u>	<u>Fee</u>
1.	<b>Initial Research &amp; Coordination</b> <ul style="list-style-type: none"><li>▪ Research for existing horizontal and vertical control points and documenting/printing same for survey crew personnel</li><li>▪ Coordination with CMG on structure designators and data transmission</li></ul>	<b>\$2,587.00</b>

<u>Item</u>	<u>Description</u>	<u>Fee</u>
	<ul style="list-style-type: none"> <li>▪ Coordinate right-of-way entries with the appropriate entities</li> <li>▪ Obtain construction/as-built plans for the bridge structures (8) and conveyor belt</li> <li>▪ Provide a plan of attack for the data gathering to the survey crews</li> </ul> <p>14.0 hrs. Survey Technician @ \$78.00/hr. = \$1,092.00            8.0 hrs. Survey Supervisor (RLS) @ \$115.00/hr. = \$920.00            5.0 hrs. Principal (RLS) @ \$115.00/hr. = \$575.00</p>	
<b>2.</b>	<b>Field Surveys</b>	<b>\$13,835.00</b>
	<ul style="list-style-type: none"> <li>▪ Primary Controls for each structure - locate nearest OPUS control points and initialize GPS equipment from the found points (minimum of 2)</li> <li>▪ Obtain necessary data for each structure via GPS methods and conventional survey instruments</li> <li>▪ Obtain relevant digital picture(s) of the structure</li> <li>▪ Download field obtained data and pictures</li> <li>▪ Complete the basic information on the structure data sheet form</li> </ul> <p>Bridge data will include piers, cells, underside of beams, girders, etc., cross-sections at the start and end of each structure and 50 feet upstream and downstream, bank slopes to top of bank plus 25 feet, centerline of top of bridge, and other features which would affect water flows including depth of silt at bridge entries and exits and/or erosion depth</p> <p><b>NOTE:</b> Most bridges and slopes are approximately 200 to 300 feet in length</p> <ul style="list-style-type: none"> <li>(i) Travel Time: Average 0.75 hrs. to and from sites = 1.5 hrs.</li> <li>(ii) Primary controls for each structure – 1.5 hrs. - Includes transferring datums to the subject site</li> <li>(iii) Obtain relevant data at site = 6.0 hrs.</li> <li>(iv) Obtain pictures = 0.5 hrs.</li> <li>(v) Download data and pictures and complete the data sheet form = 0.75 hrs.</li> </ul>	

<u>Item</u>	<u>Description</u>	<u>Fee</u>
	Total crew time per structure = 10.25 hrs. Total time for 9 structures = 9 x 10.25 = 92.25 hrs. Total cost = 92.25 hrs. x \$150.00/hr. = \$13,837.50 = \$13,835.00±	
3.	<b>Post Data Collection Office Work</b> <ul style="list-style-type: none"><li>Organize the data (coordinates, elevations, drawing (schematic) and pictures(s)) for each structure</li><li>Verify the general conformance of the data with the PAG/GIS topo maps</li><li>Transmit the data to CMG Drainage</li></ul> 36.0 hrs. Survey Technician @ \$78.00/hr. = \$2,808.00 9.0 hrs. Survey Supervisor (RLS) @ \$115.00/hr. = \$1,035.00 (reviews of data)	<b>\$3,843.00</b>
4.	<b>Project Coordination &amp; Supervision</b> <ul style="list-style-type: none"><li>Final reviews of data sheets and drawings and sealing of same</li><li>Project meetings (6 @ 2.0 hrs. each)</li></ul> 20.0 hrs. Principal (RLS) @ \$115.00/hr. = \$2,300.00	<b>\$2,300.00</b>
<b>TOTAL:</b>		<b>\$22,565.00</b>

Sincerely,  
**Ashby Surveying & Drafting, Inc.**



T. Wayne Ashby, R.L.S.  
President/Director of Survey

TWA:kaa

End of Exhibit "B" - Compensation Schedule



**BLANKET ADDITIONAL INSURED  
AND  
LIABILITY EXTENSION ENDORSEMENT**

This endorsement modifies insurance provided under the following:

BUSINESSOWNERS LIABILITY COVERAGE FORM  
BUSINESSOWNERS COMMON POLICY CONDITIONS

<u>TABLE OF CONTENTS</u>
<b><u>I. Blanket Additional Insured Provisions</u></b>
<b><u>A. Additional Insured – Blanket Vendors</u></b>
<b><u>B. Miscellaneous Additional Insureds</u></b>
<b><u>C. Additional Provisions Pertinent to Additional Insured Coverage</u></b>
<b><u>1. Primary – Noncontributory provision</u></b>
<b><u>2. Definition of "written contract."</u></b>
<b><u>II. Liability Extension Coverages</u></b>
<b><u>A. Bodily Injury – Expanded Definition</u></b>
<b><u>B. Broad Knowledge of Occurrence</u></b>
<b><u>C. Estates, Legal Representatives and Spouses</u></b>
<b><u>D. Legal Liability – Damage to Premises</u></b>
<b><u>E. Personal and Advertising Injury – Discrimination or Humiliation</u></b>
<b><u>F. Personal and Advertising Injury – Broadened Eviction</u></b>
<b><u>G. Waiver of Subrogation - Blanket</u></b>

**I. BLANKET ADDITIONAL INSURED PROVISIONS**

**A. ADDITIONAL INSURED – BLANKET VENDORS**

Who Is An Insured is amended to include as an additional insured any person or organization (referred to below as vendor) with whom you agreed under a "written contract" to provide insurance, but only with respect to "bodily injury" or "property damage" arising out of "your products" which are distributed or sold in the regular course of the vendor's business, subject to the following additional exclusions:

1. The insurance afforded the vendor does not apply to:
  - a. "Bodily injury" or "property damage" for which the vendor is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the vendor would have in the absence of the contract or agreement;
  - b. Any express warranty unauthorized by you;
  - c. Any physical or chemical change in the product made intentionally by the vendor;
  - d. Repackaging, except when unpacked solely for the purpose of inspection, demonstration, testing, or the substitution of parts under instructions from the manufacturer, and then repackaged in the original container;

- e. Any failure to make such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products;
  - f. Demonstration, installation, servicing or repair operations, except such operations performed at the vendor's premises in connection with the sale of the product;
  - g. Products which, after distribution or sale by you, have been labeled or relabeled or used as a container, part or ingredient of any other thing or substance by or for the vendor; or
  - h. "Bodily injury" or "property damage" arising out of the sole negligence of the vendor for its own acts or omissions or those of its employees or anyone else acting on its behalf. However, this exclusion does not apply to:
    - (1) The exceptions contained in Subparagraphs d. or f.; or
    - (2) Such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products.
- 2. This insurance does not apply to any insured person or organization, from whom you have acquired such products, or any ingredient, part or container, entering into, accompanying or containing such products.
  - 3. This provision 2. does not apply to any vendor included as an insured by an endorsement issued by us and made a part of this Policy.
  - 4. This provision 2. does not apply if "bodily injury" or "property damage" included within the "products-completed operations hazard" is excluded either by the provisions of the Policy or by endorsement.

**B. MISCELLANEOUS ADDITIONAL INSURED**

- 1. **Who Is An Insured** is amended to include as an insured any person or organization (called additional insured) described in paragraphs 3.a. through 3.j. below whom you are required to add as an additional insured on this policy under a "written contract":
- 2. However, subject always to the terms and conditions of this policy, including the limits of insurance, we will not provide the additional insured with:
  - a. A higher limit of insurance than required by such "written contract";
  - b. Coverage broader than required by such "written contract" and in no event greater than that described by the applicable paragraph a. through k. below; or
  - c. Coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard." But this paragraph c. does not apply to the extent coverage for such liability is provided by paragraph 3.j. below.

Any coverage granted by this endorsement shall apply only to the extent permitted by law.

- 3. Only the following persons or organizations can qualify as additional insureds under this endorsement:

- a. **Controlling Interest**

Any persons or organizations with a controlling interest in you but only with respect to their liability arising out of:

- (1) such person or organization's financial control of you; or
- (2) Premises such person or organization owns, maintains or controls while you lease or occupy these premises;

provided that the coverage granted to such additional insureds does not apply to structural alterations, new construction or demolition operations performed by or for such additional insured.



**b. Co-owner of Insured Premises**

A co-owner of a premises co-owned by you and covered under this insurance but only with respect to the co-owners liability for "bodily injury", "property damage" or "personal and advertising injury" as co-owner of such premises.

**c. Grantor of Franchise**

Any person or organization that has granted a franchise to you, but only with respect to such person or organization's liability for "bodily injury", "property damage", or "personal and advertising injury" as grantor of a franchise to you.

**d. Lessor of Equipment**

Any person or organization from whom you lease equipment, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused in whole or in part by your maintenance, operation or use of such equipment, provided that the "occurrence" giving rise to such "bodily injury" or "property damage" or the offense giving rise to such "personal and advertising injury" takes place prior to the termination of such lease.

**e. Lessor of Land**

Any person or organization from whom you lease land, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" arising out of the ownership, maintenance or use of that specific part of the land leased to you, provided that the "occurrence" giving rise to such "bodily injury" or "property damage" or the offense giving rise to such "personal and advertising injury", takes place prior to the termination of such lease. The insurance hereby afforded to the additional insured does not apply to structural alterations, new construction or demolition operations performed by, on behalf of or for such additional insured.

**f. Lessor of Premises**

An owner or lessor of premises leased to you, or such owner or lessor's real estate manager, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" arising out of the ownership, maintenance or use of such part of the premises leased to you, and provided that the "occurrence" giving rise to such "bodily injury" or "property damage" or the offense giving rise to such "personal and advertising injury", takes place prior to the termination of such lease. The insurance hereby afforded to the additional insured does not apply to structural alterations, new construction or demolition operations performed by, on behalf of or for such additional insured.

**g. Mortgagee, Assignee or Receiver**

A mortgagee, assignee or receiver of premises but only with respect to such mortgagee, assignee, or receiver's liability for "bodily injury", "property damage" or "personal and advertising injury" arising out of the ownership, maintenance, or use of a premises by you.

This insurance does not apply to structural alterations, new construction or demolition operations performed by, on behalf of or for such additional insured.

**h. State or Political Subdivisions**

A state or government agency or subdivision or political subdivision that has issued a permit or authorization, but only with respect to such government agency or subdivision or political subdivision's liability for "bodily injury", "property damage" or "personal and advertising injury" arising out of:

- (1) The following hazards in connection with premises you own, rent, or control and to which this insurance applies:
  - (a) The existence, maintenance, repair, construction, erection, or removal of advertising signs, awnings, canopies, cellar entrances, coal holes, driveways, manholes, marquees, hoistaway openings, sidewalk vaults, street banners, or decorations and similar exposures; or
  - (b) The construction, erection, or removal of elevators; or
  - (c) The ownership, maintenance or use of any elevators covered by this insurance; or

(2) The permitted or authorized operations performed by you or on your behalf. But the coverage granted by this paragraph does not apply to:

- (a) "Bodily injury", "property damage" or "personal and advertising injury" arising out of operations performed for the state or government agency or subdivision or political subdivision; or
- (b) "Bodily injury" or "property damage" included within the "products-completed operations hazard."

With respect to this provision's requirement that additional insured status must be requested under a "written contract", we will treat as a "written contract" any governmental permit that requires you to add the governmental entity as an additional insured.

**i. Trade Show Event Lessor**

With respect to your participation in a trade show event as an exhibitor, presenter or displayer, any person or organization whom you are required to include as an additional insured, but only with respect to such person or organization's liability for "bodily injury", "property damage", or "personal and advertising injury" cause by:

- a. Your acts or omissions; or
- b. Acts or omissions of those acting on your behalf;

in the performance of your ongoing operations at the trade show premises during the trade show event.

**j. Other Person or Organization**

Any person or organization who is not an additional insured under paragraphs a. through i. above. Such additional insured is an insured solely for "bodily injury", "property damage" or "personal and advertising injury" for which such additional insured is liable because of your acts or omissions.

The coverage granted by this paragraph does not apply to any person or organization:

- (1) For "bodily injury," "property damage," or "personal and advertising injury" arising out of the rendering or failure to render any professional services;
- (2) For "bodily injury" or "property damage" included in the "products-completed operations hazard." But this provision (2) does not apply to such "bodily injury" or "property damage" if:
  - (a) It is entirely due to your negligence and specifically results from your work for the additional insured which is the subject to the "written contract"; and
  - (b) The "written contract" requires you to make the person or organization an additional insured for such "bodily injury" or "property damage"; or
- (3) Who is afforded additional insured coverage under another endorsement attached to this policy.

**C. ADDITIONAL PROVISIONS PERTINENT TO ADDITIONAL INSURED COVERAGE**

With respect only to additional insured coverage provided under paragraphs A. and B. above:

- 1. The **BUSINESSOWNERS COMMON POLICY CONDITIONS** are amended to add the following to the Condition entitled **Other Insurance**:

This insurance is excess of all other insurance available to an additional insured whether primary, excess, contingent or on any other basis. However, if a "written contract" requires that this insurance be either primary or primary and noncontributing, then this insurance will be primary and non-contributory relative solely to insurance on which the additional insured is a named insured.

- 2. Under **Liability and Medical Expense Definitions**, the following definition is added:

"Written contract" means a written contract or agreement that requires you to make a person or organization an additional insured on this policy, provided the contract or agreement:

- a. Is currently in effect or becomes effective during the term of this policy; and
- b. Was executed prior to:

30020003160199872316535

- (1) The "bodily injury" or "property damage"; or
  - (2) The offense that caused the "personal and advertising injury";
- for which the additional insured seeks coverage.

## **II. LIABILITY EXTENSION COVERAGES**

It is understood and agreed that this endorsement amends the **Businessowners Liability Coverage Form**. If any other endorsement attached to this policy amends any provision also amended by this endorsement, then that other endorsement controls with respect to such provision, and the changes made by this endorsement to such provision do not apply.

### **A. Bodily Injury – Expanded Definition**

Under **Liability and Medical Expenses Definitions**, the definition of "Bodily injury" is deleted and replaced by the following:

"Bodily injury" means physical injury, sickness or disease sustained by a person, including death, humiliation, shock, mental anguish or mental injury by that person at any time which results as a consequence of the physical injury, sickness or disease.

### **B. Broad Knowledge of Occurrence**

Under **Businessowners Liability Conditions**, the Condition entitled **Duties In The Event of Occurrence, Offense, Claim or Suit** is amended to add the following:

Paragraphs a. and b. above apply to you or to any additional insured only when such "occurrence," offense, claim or "suit" is known to:

- (1) You or any additional insured that is an individual;
- (2) Any partner, if you or an additional insured is a partnership;
- (3) Any manager, if you or an additional insured is a limited liability company;
- (4) Any "executive officer" or insurance manager, if you or an additional insured is a corporation;
- (5) Any trustee, if you or an additional insured is a trust; or
- (6) Any elected or appointed official, if you or an additional insured is a political subdivision or public entity.

This paragraph applies separately to you and any additional insured.

### **C. Estates, Legal Representatives and Spouses**

The estates, heirs, legal representatives and spouses of any natural person insured shall also be insured under this policy; provided, however, coverage is afforded to such estates, heirs, legal representatives and spouses only for claims arising solely out of their capacity as such and, in the case of a spouse, where such claim seeks damages from marital common property, jointly held property, or property transferred from such natural person insured to such spouse. No coverage is provided for any act, error or omission of an estate, heir, legal representative or spouse outside the scope of such person's capacity as such, provided however that the spouse of a natural person Named Insured and the spouses of members or partners of joint venture or partnership Named Insureds are insureds with respect to such spouses' acts, errors or omissions in the conduct of the Named Insured's business.

### **D. Legal Liability – Damage To Premises**

1. Under **B. Exclusions, 1. Applicable to Business Liability Coverage**, Exclusion **k. Damage To Property**, is replaced by the following:

#### **k. Damage To Property**

"Property damage" to:

1. Property you own, rent or occupy, including any costs or expenses incurred by you, or any other person, organization or entity, for repair, replacement, enhancement, restoration or maintenance of

such property for any reason, including prevention of injury to a person or damage to another's property;

2. Premises you sell, give away or abandon, if the "property damage" arises out of any part of those premises;
3. Property loaned to you;
4. Personal property in the care, custody or control of the insured;
5. That particular part of any real property on which you or any contractors or subcontractors working directly or indirectly in your behalf are performing operations, if the "property damage" arises out of those operations; or
6. That particular part of any property that must be restored, repaired or replaced because "your work" was incorrectly performed on it.

Paragraph 2 of this exclusion does not apply if the premises are "your work" and were never occupied, rented or held for rental by you.

Paragraphs 1, 3, and 4, of this exclusion do not apply to "property damage" (other than damage by fire or explosion) to premises:

- (1) rented to you;
- (2) temporarily occupied by you with the permission of the owner, or
- (3) to the contents of premises rented to you for a period of 7 or fewer consecutive days.

A separate limit of insurance applies to Damage To Premises Rented To You as described in Section D – Liability and Medical Expenses Limits of Insurance.

Paragraphs 3, 4, 5, and 6 of this exclusion do not apply to liability assumed under a sidetrack agreement.

Paragraph 6 of this exclusion does not apply to "property damage" included in the "products-completed operations hazard."

2. Under **B. Exclusions, 1. Applicable to Business Liability Coverage**, the following paragraph is added, and replaces the similar paragraph, if any, beneath paragraph (14) of the exclusion entitled **Personal and Advertising injury**:

Exclusions **c, d, e, f, g, h, i, k, l, m, n, and o**, do not apply to damage by fire to premises while rented to you or temporarily occupied by you with permission of the owner or to the contents of premises rented to you for a period of 7 or fewer consecutive days. A separate limit of insurance applies to this coverage as described in **Section D. Liability And Medical Expenses Limits Of Insurance**.

3. The first Paragraph under item 5. **Damage To Premises Rented To You** Limit of the section entitled **Liability And Medical Expenses Limits Of Insurance** is replaced by the following:

The most we will pay under Business Liability for damages because of "property damage" to any one premises, while rented to you or temporarily occupied by you with the permission of the owner, including contents of such premises rented to you for a period of 7 or fewer consecutive days, is the Damage to Premises Rented to You limit shown in the Declaration.

**E. Personal and Advertising Injury – Discrimination or Humiliation**

1. Under **Liability and Medical Expenses Definitions**, the definition of "personal and advertising injury" is amended to add the following:
  - h. Discrimination or humiliation that results in injury to the feelings or reputation of a natural person, but only if such discrimination or humiliation is:
    - (1) Not done intentionally by or at the direction of:
      - (a) The insured; or

30020003160199852318538

- (b) Any "executive officer," director, stockholder, partner, member or manager (if you are a limited liability company) of the insured; and
  - (2) Not directly or indirectly related to the employment, prospective employment, past employment or termination of employment of any person or person by any insured.
2. Under **B. Exclusions, 1. Applicable to Business Liability Coverage**, the exclusion entitled **Personal and Advertising injury** is amended to add the following additional exclusions:
- (15) **Discrimination Relating to Room, Dwelling or Premises**  
Caused by discrimination directly or indirectly related to the sale, rental, lease or sub-lease or prospective sale, rental, lease or sub-lease of any room, dwelling or premises by or at the direction of any insured.
  - (16) **Employment Related Discrimination**  
Discrimination or humiliation directly or indirectly related to the employment, prospective employment, past employment or termination of employment of any person by any insured.
  - (17) **Fines or Penalties**  
Fines or penalties levied or imposed by a governmental entity because of discrimination.
3. This provision (**Personal and Advertising Injury – Discrimination or Humiliation**) does not apply if **Personal and Advertising Injury Liability** is excluded either by the provisions of the Policy or by endorsement.

**F. Personal and Advertising Injury - Broadened Eviction**

Under **Liability and Medical Expenses Definitions**, the definition of "Personal and advertising injury" is amended to delete Paragraph c. and replace it with the following:

- c. The wrongful eviction from, wrongful entry into, or invasion of the right of private occupancy of a room dwelling or premises that a person or organization occupies committed by or on behalf of its owner, landlord or lessor.

**G. Waiver of Subrogation – Blanket**

We waive any right of recovery we may have against:

- a. Any person or organization with whom you have a written contract that requires such a waiver.

All other terms and conditions of the Policy remain unchanged.



**THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.**

**WAIVER OF OUR RIGHT TO RECOVER  
FROM OTHERS ENDORSEMENT**

**Policy Number:** 59 WEC KZ6992

**Endorsement Number:**

**Effective Date:** 08/02/17      Effective hour is the same as stated on the Information Page of the policy.

**Named Insured and Address:** CMG DRAINAGE ENGINEERING INC

3555 N. MOUNTAIN AVE  
TUCSON, AZ 85719

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule.

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

**SCHEDULE**

ANY PERSON OR ORGANIZATION  
FROM WHOM YOU ARE REQUIRED  
BY WRITTEN CONTRACT OR  
AGREEMENT TO OBTAIN THIS  
WAIVER OF RIGHTS FROM US.

Countersigned by \_\_\_\_\_  
Authorized Representative