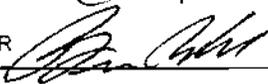


AGENDA ITEM NO.	2 B
COUNCIL MEETING	03/06/14
APPROVED BY	
DEPARTMENT DIRECTOR	
CITY MANAGER	

March 6, 2014

FROM: Department of Public Utilities

BY: MARTIN A. QUERIN, PE, Assistant Director 
Department of Public Utilities – Water Division

MICHAEL CARBAJAL, Chief Engineering Technician 
Department of Public Utilities – Water Division

SUBJECT: Actions pertaining to the Schematic Design of the Regional Transmission Mains Project (Citywide)

1. Adopt a Resolution of the Council of the City of Fresno adopting the 36th amendment to the Annual Appropriation Resolution No. 2013-98 to appropriate \$715,100 for the award of consultant services to provide for Schematic Design of the Priority 2 and Priority 3 Regional Transmission Mains
2. Approve Professional Consultant Services Agreement with AECOM Technical Services, Incorporated for \$2,354,481 for the Schematic Design of the City of Fresno's Priority 2 and Priority 3 Regional Transmission Mains

RECOMMENDATIONS

Staff recommends that City Council:

1. Adopt a Resolution of the Council of the City of Fresno adopting the 36th amendment to the Annual Appropriation Resolution No. 2013-98 to appropriate \$715,100 for the award of consultant services to provide for Schematic Design of the Priority 2 and Priority 3 Regional Transmission Mains.
2. Approve a Professional Consultant Services Agreement with AECOM Technology Services, Inc. (AECOM), a California corporation, for the amount of \$2,354,481 for the Schematic Design of the City of Fresno's Priority 2 and Priority 3 Regional Transmission Mains (RTM).

EXECUTIVE SUMMARY

The continued over-utilization of the City of Fresno's (City) groundwater aquifer together with increasing demand and ever more stringent water quality standards now warrant implementation of the design, construction, and operation of a new surface water treatment facility and Regional Transmission Mains (RTM). Approval of this consultant agreement will support the objectives and goals set forth in the City's Metropolitan Water Resources Management Plan Update and in the City's Urban Water Management Plan, to stabilize and replenish our aquifer to a balanced and sustainable condition by the year 2025. In conjunction with a new Southeast Surface Water Treatment Facility (SESWTF), the RTMs will be required to convey the treated surface water to the existing City water distribution system.

BACKGROUND

The City of Fresno (City) has a service area that covers nearly 114 square miles and serves approximately 513,000 residential customers and 35,000 commercial and industrial accounts. The City's water demands are approximately 145,000 acre-feet annually, which is met by 88% groundwater and 12% treated surface water. Groundwater production is achieved by utilization of 270 active municipal wells, while treated surface water is provided by the City's existing 30-million gallons per day (mgd) Northeast Surface Water Treatment Facility (NESWTF). The NESWTF commenced operations in 2004.

Although the City has a surface water treatment facility and an aggressive intentional groundwater recharge program, groundwater overdraft problems continue. Through this project, expansion of its use of existing surface water entitlements will aid in meeting the City's current and future goals for a balanced and sustainable water supply. The City is in the final stages of preparing a comprehensive Metropolitan Water Resources Management Plan Update (Metro Plan) which lays out a plan to attain a balanced groundwater system by the year 2025.

A key element of the Metro Plan is to construct the SESWTF to be located between North Fowler and Armstrong Avenues, and East Olive and Floradora Avenues. The proposed RTMs are required to convey treated surface water from the proposed SESWTF and the existing NESWTF to the City's Transmission Grid Mains and distribution system. The Priority 2 RTMs will convey water from the SESWTF and consists of about 25 miles of large diameter transmission pipes. The Priority 3 RTMs will be constructed after the Priority 2 RTMs and will primarily convey water from the NESWTF, especially needed after the NESWTF capacity is increased.

Through the competitive selection process and in accordance with Fresno Municipal Code Chapter 4, Article 1, and Administrative Order 6-19, the Department of Public Utilities notified twelve (12) consulting firms, and advertised in The Business Journal on September 25, 2013 requesting Consultant "Statement of Qualifications". The Water Division received seven (7) responses. A short-list was developed and three (3) firms were interviewed. Upon completion of the interview process, AECOM Technical Services, Incorporated was selected as being best to meet the City's needs for this project.

REPORT TO THE CITY COUNCIL

Approve Professional Consultant Design Services Agreement – Schematic Design of Priority 2 and 3 RTMs

February 27, 2014

Page 3

AECOM was selected to perform only the schematic design for this large project. The next phase of work will include detailed design and bidding services for as many as seven construction packages. Detailed design of these bid packages will require the services of a number of design consultants and subcontractors in 2015. There are a number of local firms that have the capability to perform this work and a formal selection process is expected to commence in late 2014 for the detailed design.

The services required by this Agreement will be completed in approximately 690 consecutive calendar days from the authorization to proceed. The contract amount is for a total fee not to exceed \$2,354,481.

A standardized consultant service agreement has been used in accordance with Administrative Order 4-4, and the consultant's Certificates of Insurance have been approved by the City's Risk Management Division. Upon approval by the City Council, the agreement will be executed by the Director of Public Utilities or his designee, who has been delegated this authority by the City Manager.

ENVIRONMENTAL FINDINGS

Approval of the consultant service agreement is not a "project" within the meaning of Public Resources Code Section 21803 (CEQA Guidelines § 15378) because the organizational and administrative activities as identified in the consultant agreement will not result in direct or indirect physical changes in the environment.

FISCAL IMPACT

The project will not impact the General Fund. Funding for the schematic design of the RTMs was included in the Water Division's FY 2014 Capital Improvement Program budget within the 2014 Water Revenue Bond Fund (40184). This appropriation was to be funded from bond proceeds but project savings within the commercial water meter installation project in the Water Division's 2010 Water Bonds A-2 (Build America Bonds) Fund (40119) will allow for the funding of the RTM schematic design utilizing previously acquired bond proceeds. In order to fully utilize these previously acquired bond proceeds to fund the RTM schematic design, staff recommends that the City Council approve a resolution to appropriate \$715,100 in the 2010 Water Bonds A-2 (Build America Bonds) Fund for the \$2,354,500 award of consultant services to provide schematic design of the Priority 2 and Priority 3 Regional Transmission Mains. This amount consists of \$715,100 from retained earnings and an appropriations transfer of \$1,639,400 from the Commercial Meter Retrofit Project. Additional funding for detailed design and the construction of this project will be requested as part of future bond issuances.

Attachments:

- Resolution
- Consultant Agreement

This page intentionally left blank.

RESOLUTION NO. _____

A Resolution of the Council of the City of Fresno adopting the 36th Amendment to the Annual Appropriation Resolution no. 2013-98 to appropriate \$715,100 for the award of consultant services to provide schematic design of the Priority 2 and Priority 3 Regional Transmission Mains

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF FRESNO:

THAT PART III of the Annual Appropriation Resolution no. 2013-98 be and is hereby amended as follows:

	<u>Increase/(Decrease)</u>
TO: PUBLIC UTILITIES DEPARTMENT	
2010 Water Bonds A-2 (BABS)	\$ 715,100

THAT account titles and numbers requiring adjustment by this Resolution are as follows:

	<u>Increase/(Decrease)</u>
<u>2010 Water Bonds A-2 (BABS)</u>	
Revenues:	
Account: 39301 Bond Sales Proceeds	\$ <u>715,100</u>
Fund: 40119	
Org Unit: 411501	
Total Revenues	\$ <u>715,100</u>
Appropriations:	
Account: 56121 Inventory	\$ (900,000)
57507 Contract Construction	(250,000)
59117 Overhead	<u>(489,400)</u>
Fund: 40119	
Org Unit: 411501	
Project: WC00081	
Total Appropriations	\$ <u>(1,639,400)</u>

Date Adopted:
Date Approved:
Effective Date:

	<u>Increase/(Decrease)</u>
Appropriations:	
Account: 57503 Engineering & Design	\$ <u>2,354,500</u>
Fund: 40119	
Org Unit: 411501	
Project: WC00065	
Total Appropriations	\$ <u>2,354,500</u>

THAT the purpose is to appropriate \$715,100 in the 2010 Water Bonds A-2 (Build America Bonds) Fund for the \$2,354,500 award of consultant services to provide schematic design of the Priority 2 and Priority 3 Regional Transmission Mains. This amount consists of \$715,100 from revenues earnings and an appropriations transfer of \$1,639,400 from the Commercial Meter Retrofit Project.

CLERK'S CERTIFICATION

STATE OF CALIFORNIA }
COUNTY OF FRESNO } ss.
CITY OF FRESNO }

I, YVONNE SPENCE, City Clerk of the City of Fresno, certify that the foregoing Resolution was adopted by the Council of the City of Fresno, California, at a regular meeting thereof, held on the _____ Day of _____, 2014

AYES: _____
NOES: _____
ABSENT: _____
ABSTAIN: _____

Mayor Approval: _____, 2014
Mayor Approval/No Return: _____, 2014
Mayor Veto: _____, 2014
Council Override Veto: _____, 2014

YVONNE SPENCE, CMC
City Clerk

**AGREEMENT
CITY OF FRESNO, CALIFORNIA
CONSULTANT SERVICES**

THIS AGREEMENT is made and entered into effective the _____ day of March, 2014, by and between the CITY OF FRESNO, a California municipal corporation (hereinafter referred to as "CITY"), and AECOM Technical Services, Incorporated (hereinafter referred to as "CONSULTANT").

RECITALS

WHEREAS, CITY desires to obtain professional design services for Schematic Design of the Priority 2 and 3 Regional Transmission Mains (RTM), , hereinafter referred to as the "Project;" and

WHEREAS, CONSULTANT is engaged in the business of furnishing services as a Engineer and hereby represents that it desires to and is professionally and legally capable of performing the services called for by this Agreement; and

WHEREAS, CONSULTANT acknowledges that this Agreement is subject to the requirements of Fresno Municipal Code Section 4-107 and Administrative Order No. 6-19; and

WHEREAS, this Agreement will be administered for CITY by its Director of Public Utilities (hereinafter referred to as "Director") or his/her designee.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing and of the covenants, conditions, and promises hereinafter contained to be kept and performed by the respective parties, it is mutually agreed as follows:

1. Scope of Services. CONSULTANT shall perform to the satisfaction of CITY the services described in **Exhibit A**, including all work incidental to, or necessary to perform, such services even though not specifically described in **Exhibit A**.

2. Term of Agreement and Time for Performance. This Agreement shall be effective from the date first set forth above and shall continue in full force and effect through the earlier of complete rendition of the services hereunder or December 31, 2015, subject to any earlier termination in accordance with this Agreement. The services of CONSULTANT as described in **Exhibit A** are to commence upon CITY'S issuance of a written "Notice to Proceed." Work shall be undertaken and completed in a sequence assuring expeditious completion, but in any event, all such services shall be completed within 690 consecutive calendar days from such authorization to proceed.

3. Compensation.

(a) CONSULTANT'S sole compensation for satisfactory performance of all services required or rendered pursuant to this Agreement shall be a total fee not to exceed \$2,354,481, paid on a time and materials basis in accordance with the schedule of fees contained in **Exhibit A**.

(b) Detailed statements shall be rendered monthly and will be payable in the normal course of CITY business. CITY shall not be obligated to reimburse any expense for which

it has not received a detailed invoice with applicable copies of representative and identifiable receipts or records substantiating such expense.

(c) The parties may modify this Agreement to increase or decrease the scope of services or provide for the rendition of services not required by this Agreement, which modification shall include an adjustment to CONSULTANT'S compensation. Any change in the scope of services must be made by written amendment to the Agreement signed by an authorized representative for each party. CONSULTANT shall not be entitled to any additional compensation if services are performed prior to a signed written amendment.

4. Termination, Remedies and Force Majeure.

(a) This Agreement shall terminate without any liability of CITY to CONSULTANT upon the earlier of: (i) CONSULTANT'S filing for protection under the federal bankruptcy laws, or any bankruptcy petition or petition for receiver commenced by a third party against CONSULTANT; (ii) 7 calendar days prior written notice with or without cause by CITY to CONSULTANT; (iii) CITY'S non-appropriation of funds sufficient to meet its obligations hereunder during any CITY fiscal year of this Agreement, or insufficient funding for the Project; or (iv) expiration of this Agreement.

(b) Immediately upon any termination or expiration of this Agreement, CONSULTANT shall (i) immediately stop all work hereunder; (ii) immediately cause any and all of its subcontractors to cease work; and (iii) return to CITY any and all unearned payments and all properties and materials in the possession of CONSULTANT that are owned by CITY. Subject to the terms of this Agreement, CONSULTANT shall be paid compensation for services satisfactorily performed prior to the effective date of termination. CONSULTANT shall not be paid for any work or services performed or costs incurred which reasonably could have been avoided.

(c) In the event of termination due to failure of CONSULTANT to satisfactorily perform in accordance with the terms of this Agreement, CITY may withhold an amount that would otherwise be payable as an offset to, but not in excess of, CITY'S damages caused by such failure. In no event shall any payment by CITY pursuant to this Agreement constitute a waiver by CITY of any breach of this Agreement which may then exist on the part of CONSULTANT, nor shall such payment impair or prejudice any remedy available to CITY with respect to the breach.

(d) Upon any breach of this Agreement by CONSULTANT, CITY may (i) exercise any right, remedy (in contract, law or equity), or privilege which may be available to it under applicable laws of the State of California or any other applicable law; (ii) proceed by appropriate court action to enforce the terms of the Agreement; and/or (iii) recover all direct, indirect, consequential, economic and incidental damages for the breach of the Agreement. If it is determined that CITY improperly terminated this Agreement for default, such termination shall be deemed a termination for convenience.

(e) CONSULTANT shall provide CITY with adequate written assurances of future performance, upon Director's request, in the event CONSULTANT fails to comply with any terms or conditions of this Agreement.

(f) CONSULTANT shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of CONSULTANT and without its fault or negligence such as, acts of God or the public enemy, acts of CITY in its contractual capacity,

fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. CONSULTANT shall notify Director in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, and shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to Director of the cessation of such occurrence.

5. Confidential Information; Ownership of Documents and Copyright License.

(a) Any reports, information, or other data prepared or assembled by CONSULTANT pursuant to this Agreement shall not be made available to any individual or organization by CONSULTANT without the prior written approval of CITY. During the term of this Agreement, and thereafter, CONSULTANT shall not, without the prior written consent of CITY, disclose to anyone any Confidential Information. The term Confidential Information for the purposes of this Agreement shall include all proprietary and confidential information of CITY, including but not limited to business plans, marketing plans, financial information, designs, drawings, specifications, materials, compilations, documents, instruments, models, source or object codes and other information disclosed or submitted, orally, in writing, or by any other medium or media. All Confidential Information shall be and remain confidential and proprietary in CITY.

(b) Any and all original sketches, pencil tracings of working drawings, plans, computations, specifications, computer disk files, writings and other documents prepared or provided by CONSULTANT pursuant to this Agreement are the property of CITY at the time of preparation and shall be turned over to CITY upon expiration or termination of the Agreement or default by CONSULTANT. CONSULTANT grants CITY a copyright license to use such drawings and writings. CONSULTANT shall not permit the reproduction or use thereof by any other person except as otherwise expressly provided herein. CITY may modify the design including any drawings or writings. Any use by CITY of the aforesaid sketches, tracings, plans, computations, specifications, computer disk files, writings and other documents in completed form as to other projects or extensions of this Project, or in uncompleted form, without specific written verification by CONSULTANT will be at CITY'S sole risk and without liability or legal exposure to CONSULTANT. CONSULTANT may keep a copy of all drawings and specifications for its sole and exclusive use.

(c) If CONSULTANT should subcontract all or any portion of the services to be performed under this Agreement, CONSULTANT shall cause each subcontractor to also comply with the requirements of this Section 5.

(d) This Section 5 shall survive expiration or termination of this Agreement.

6. Professional Skill. It is further mutually understood and agreed by and between the parties hereto that inasmuch as CONSULTANT represents to CITY that CONSULTANT and its subcontractors, if any, are skilled in the profession and shall perform in accordance with the standards of said profession necessary to perform the services agreed to be done by it under this Agreement, CITY relies upon the skill of CONSULTANT and any subcontractors to do and perform such services in a skillful manner and CONSULTANT agrees to thus perform the services and require the same of any subcontractors. Therefore, any acceptance of such services by CITY shall not operate as a release of CONSULTANT or any subcontractors from said professional standards.

7. Indemnification. To the furthest extent allowed by law, CONSULTANT shall indemnify, hold harmless and defend CITY and each of its officers, officials, employees, agents and volunteers from any and all loss, liability, fines, penalties, forfeitures, costs and damages (whether in contract, tort or strict liability, including but not limited to personal injury, death at any time and property damage), and from any and all claims, demands and actions in law or equity (including reasonable attorney's fees and litigation expenses) that arise out of, pertain to, or relate to the negligence, recklessness or willful misconduct of CONSULTANT, its principals, officers, employees, agents or volunteers in the performance of this Agreement.

If CONSULTANT should subcontract all or any portion of the services to be performed under this Agreement, CONSULTANT shall require each subcontractor to indemnify, hold harmless and defend CITY and each of its officers, officials, employees, agents and volunteers in accordance with the terms of the preceding paragraph.

This section shall survive termination or expiration of this Agreement.

8. Insurance.

(a) Throughout the life of this Agreement, CONSULTANT shall pay for and maintain in full force and effect all insurance as required in **Exhibit B** or as may be authorized in writing by CITY'S Risk Manager or his/her designee at any time and in his/her sole discretion.

(b) If at any time during the life of the Agreement or any extension, CONSULTANT or any of its subcontractors fail to maintain any required insurance in full force and effect, all services and work under this Agreement shall be discontinued immediately, and all payments due or that become due to CONSULTANT shall be withheld until notice is received by CITY that the required insurance has been restored to full force and effect and that the premiums therefore have been paid for a period satisfactory to CITY. Any failure to maintain the required insurance shall be sufficient cause for CITY to terminate this Agreement. No action taken by CITY pursuant to this section shall in any way relieve CONSULTANT of its responsibilities under this Agreement. The phrase "fail to maintain any required insurance" shall include, without limitation, notification received by CITY that an insurer has commenced proceedings, or has had proceedings commenced against it, indicating that the insurer is insolvent.

(c) The fact that insurance is obtained by CONSULTANT shall not be deemed to release or diminish the liability of CONSULTANT, including, without limitation, liability under the indemnity provisions of this Agreement. The duty to indemnify CITY shall apply to all claims and liability regardless of whether any insurance policies are applicable. The policy limits do not act as a limitation upon the amount of indemnification to be provided by CONSULTANT. Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of CONSULTANT, its principals, officers, agents, employees, persons under the supervision of CONSULTANT, vendors, suppliers, invitees, consultants, sub-consultants, subcontractors, or anyone employed directly or indirectly by any of them.

(d) Upon request of CITY, CONSULTANT shall immediately furnish CITY with a complete copy of any insurance policy required under this Agreement, including all endorsements, with said copy certified by the underwriter to be a true and correct copy of the original policy. This requirement shall survive expiration or termination of this Agreement.

(e) If CONSULTANT should subcontract all or any portion of the services to be performed under this Agreement, CONSULTANT shall require each subcontractor to provide insurance protection in favor of CITY and each of its officers, officials, employees, agents and volunteers in accordance with the terms of this section, except that any required certificates and

applicable endorsements shall be on file with CONSULTANT and CITY prior to the commencement of any services by the subcontractor.

9. Conflict of Interest and Non-Solicitation.

(a) Prior to CITY'S execution of this Agreement, CONSULTANT shall complete a City of Fresno conflict of interest disclosure statement in the form as set forth in **Exhibit C**. During the term of this Agreement, CONSULTANT shall have the obligation and duty to immediately notify CITY in writing of any change to the information provided by CONSULTANT in such statement.

(b) CONSULTANT shall comply, and require its subcontractors to comply, with all applicable (i) professional canons and requirements governing avoidance of impermissible client conflicts; and (ii) federal, state and local conflict of interest laws and regulations including, without limitation, California Government Code Section 1090 et. seq., the California Political Reform Act (California Government Code Section 87100 et. seq.), the regulations of the Fair Political Practices Commission concerning disclosure and disqualification (2 California Code of Regulations Section 18700 et. seq.) and Section 4-112 of the Fresno Municipal Code (Ineligibility to Compete). At any time, upon written request of CITY, CONSULTANT shall provide a written opinion of its legal counsel and that of any subcontractor that, after a due diligent inquiry, CONSULTANT and the respective subcontractor(s) are in full compliance with all laws and regulations. CONSULTANT shall take, and require its subcontractors to take, reasonable steps to avoid any appearance of a conflict of interest. Upon discovery of any facts giving rise to the appearance of a conflict of interest, CONSULTANT shall immediately notify CITY of these facts in writing.

(c) In performing the work or services to be provided hereunder, CONSULTANT shall not employ or retain the services of any person while such person either is employed by CITY or is a member of any CITY council, commission, board, committee, or similar CITY body. This requirement may be waived in writing by the City Manager, if no actual or potential conflict is involved.

(d) CONSULTANT represents and warrants that it has not paid or agreed to pay any compensation, contingent or otherwise, direct or indirect, to solicit or procure this Agreement or any rights/benefits hereunder.

(e) Neither CONSULTANT, nor any of CONSULTANT'S subcontractors performing any services on this Project, shall bid for, assist anyone in the preparation of a bid for, or perform any services pursuant to, any other contract in connection with this Project. CONSULTANT and any of its subcontractors shall have no interest, direct or indirect, in any other contract with a third party in connection with this Project unless such interest is in accordance with all applicable law and fully disclosed to and approved by the City Manager, in advance and in writing.

(f) If CONSULTANT should subcontract all or any portion of the work to be performed or services to be provided under this Agreement, CONSULTANT shall include the provisions of this Section 9 in each subcontract and require its subcontractors to comply therewith.

(g) This Section 9 shall survive expiration or termination of this Agreement.

10. Recycling Program. In the event CONSULTANT maintains an office or operates a facility(ies), or is required herein to maintain or operate same, within the incorporated limits of the City of Fresno, CONSULTANT at its sole cost and expense shall:

- (i) Immediately establish and maintain a viable and ongoing recycling program, approved by CITY'S Solid Waste Management Division, for each office and facility. Literature describing CITY recycling programs is available from CITY'S Solid Waste Management Division and by calling City of Fresno Recycling Hotline at (559) 621-1111.
- (ii) Immediately contact CITY'S Solid Waste Management Division at (559) 621-1452 and schedule a free waste audit, and cooperate with such Division in their conduct of the audit for each office and facility.
- (iii) Cooperate with and demonstrate to the satisfaction of CITY'S Solid Waste Management Division the establishment of the recycling program in paragraph (i) above and the ongoing maintenance thereof.

11. General Terms.

(a) Except as otherwise provided by law, all notices expressly required of CITY within the body of this Agreement, and not otherwise specifically provided for, shall be effective only if signed by the Director or his/her designee.

(b) Records of CONSULTANT'S expenses pertaining to the Project shall be kept on a generally recognized accounting basis and shall be available to CITY or its authorized representatives upon request during regular business hours throughout the life of this Agreement and for a period of three years after final payment or, if longer, for any period required by law. In addition, all books, documents, papers, and records of CONSULTANT pertaining to the Project shall be available for the purpose of making audits, examinations, excerpts, and transcriptions for the same period of time. If any litigation, claim, negotiations, audit or other action is commenced before the expiration of said time period, all records shall be retained and made available to CITY until such action is resolved, or until the end of said time period whichever shall later occur. If CONSULTANT should subcontract all or any portion of the services to be performed under this Agreement, CONSULTANT shall cause each subcontractor to also comply with the requirements of this paragraph. This Section 11(b) shall survive expiration or termination of this Agreement.

(c) Prior to execution of this Agreement by CITY, CONSULTANT shall have provided evidence to CITY that CONSULTANT is licensed to perform the services called for by this Agreement (or that no license is required). If CONSULTANT should subcontract all or any portion of the work or services to be performed under this Agreement, CONSULTANT shall require each subcontractor to provide evidence to CITY that subcontractor is licensed to perform the services called for by this Agreement (or that no license is required) before beginning work.

12. Nondiscrimination. To the extent required by controlling federal, state and local law, CONSULTANT shall not employ discriminatory practices in the provision of services, employment of personnel, or in any other respect on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, ethnicity, status as a disabled veteran or veteran of the Vietnam era. Subject to the foregoing and during the performance of this Agreement, CONSULTANT agrees as follows:

(a) CONSULTANT will comply with all applicable laws and regulations providing that no person shall, on the grounds of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, ethnicity, status as a disabled veteran or veteran of the Vietnam era be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity made possible by or resulting from this Agreement.

(b) CONSULTANT will not discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, ethnicity, status as a disabled veteran or veteran of the Vietnam era. CONSULTANT shall ensure that applicants are employed, and the employees are treated during employment, without regard to their race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, ethnicity, status as a disabled veteran or veteran of the Vietnam era. Such requirement shall apply to CONSULTANT'S employment practices including, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. CONSULTANT agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provision of this nondiscrimination clause.

(c) CONSULTANT will, in all solicitations or advertisements for employees placed by or on behalf of CONSULTANT in pursuit hereof, state that all qualified applicants will receive consideration for employment without regard to race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, sexual orientation, ethnicity, status as a disabled veteran or veteran of the Vietnam era.

(d) CONSULTANT will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice advising such labor union or workers' representatives of CONSULTANT'S commitment under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(e) If CONSULTANT should subcontract all or any portion of the services to be performed under this Agreement, CONSULTANT shall cause each subcontractor to also comply with the requirements of this Section 12.

13. Independent Contractor.

(a) In the furnishing of the services provided for herein, CONSULTANT is acting solely as an independent contractor. Neither CONSULTANT, nor any of its officers, agents or employees shall be deemed an officer, agent, employee, joint venturer, partner or associate of CITY for any purpose. CITY shall have no right to control or supervise or direct the manner or method by which CONSULTANT shall perform its work and functions. However, CITY shall retain the right to administer this Agreement so as to verify that CONSULTANT is performing its obligations in accordance with the terms and conditions thereof.

(b) This Agreement does not evidence a partnership or joint venture between CONSULTANT and CITY. CONSULTANT shall have no authority to bind CITY absent CITY'S

express written consent. Except to the extent otherwise provided in this Agreement, CONSULTANT shall bear its own costs and expenses in pursuit thereof.

(c) Because of its status as an independent contractor, CONSULTANT and its officers, agents and employees shall have absolutely no right to employment rights and benefits available to CITY employees. CONSULTANT shall be solely liable and responsible for all payroll and tax withholding and for providing to, or on behalf of, its employees all employee benefits including, without limitation, health, welfare and retirement benefits. In addition, together with its other obligations under this Agreement, CONSULTANT shall be solely responsible, indemnify, defend and save CITY harmless from all matters relating to employment and tax withholding for and payment of CONSULTANT'S employees, including, without limitation, (i) compliance with Social Security and unemployment insurance withholding, payment of workers' compensation benefits, and all other laws and regulations governing matters of employee withholding, taxes and payment; and (ii) any claim of right or interest in CITY employment benefits, entitlements, programs and/or funds offered employees of CITY whether arising by reason of any common law, de facto, leased, or co-employee rights or other theory. It is acknowledged that during the term of this Agreement, CONSULTANT may be providing services to others unrelated to CITY or to this Agreement.

14. Notices. Any notice required or intended to be given to either party under the terms of this Agreement shall be in writing and shall be deemed to be duly given if delivered personally, transmitted by facsimile followed by telephone confirmation of receipt, or sent by United States registered or certified mail, with postage prepaid, return receipt requested, addressed to the party to which notice is to be given at the party's address set forth on the signature page of this Agreement or at such other address as the parties may from time to time designate by written notice. Notices served by United States mail in the manner above described shall be deemed sufficiently served or given at the time of the mailing thereof.

15. Binding. Subject to Section 16, below, once this Agreement is signed by all parties, it shall be binding upon, and shall inure to the benefit of, all parties, and each parties' respective heirs, successors, assigns, transferees, agents, servants, employees and representatives.

16. Assignment.

(a) This Agreement is personal to CONSULTANT and there shall be no assignment by CONSULTANT of its rights or obligations under this Agreement without the prior written approval of the City Manager or his/her designee. Any attempted assignment by CONSULTANT, its successors or assigns, shall be null and void unless approved in writing by the City Manager or his/her designee.

(b) CONSULTANT hereby agrees not to assign the payment of any monies due CONSULTANT from CITY under the terms of this Agreement to any other individual(s), corporation(s) or entity(ies). CITY retains the right to pay any and all monies due CONSULTANT directly to CONSULTANT.

17. Compliance With Law. In providing the services required under this Agreement, CONSULTANT shall at all times comply with all applicable laws of the United States, the State of California and CITY, and with all applicable regulations promulgated by federal, state, regional, or local administrative and regulatory agencies, now in force and as they may be enacted, issued, or amended during the term of this Agreement.

18. Waiver. The waiver by either party of a breach by the other of any provision of this Agreement shall not constitute a continuing waiver or a waiver of any subsequent breach of either the same or a different provision of this Agreement. No provisions of this Agreement may be waived unless in writing and signed by all parties to this Agreement. Waiver of any one provision herein shall not be deemed to be a waiver of any other provision herein.

19. Governing Law and Venue. This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of California, excluding, however, any conflict of laws rule which would apply the law of another jurisdiction. Venue for purposes of the filing of any action regarding the enforcement or interpretation of this Agreement and any rights and duties hereunder shall be Fresno County, California.

20. Headings. The section headings in this Agreement are for convenience and reference only and shall not be construed or held in any way to explain, modify or add to the interpretation or meaning of the provisions of this Agreement.

21. Severability. The provisions of this Agreement are severable. The invalidity, or unenforceability of any one provision in this Agreement shall not affect the other provisions.

22. Interpretation. The parties acknowledge that this Agreement in its final form is the result of the combined efforts of the parties and that, should any provision of this Agreement be found to be ambiguous in any way, such ambiguity shall not be resolved by construing this Agreement in favor of or against either party, but rather by construing the terms in accordance with their generally accepted meaning.

23. Attorney's Fees. If either party is required to commence any proceeding or legal action to enforce or interpret any term, covenant or condition of this Agreement, the prevailing party in such proceeding or action shall be entitled to recover from the other party its reasonable attorney's fees and legal expenses.

24. Exhibits. Each exhibit and attachment referenced in this Agreement is, by the reference, incorporated into and made a part of this Agreement.

25. Precedence of Documents. In the event of any conflict between the body of this Agreement and any Exhibit or Attachment hereto, the terms and conditions of the body of this Agreement shall control and take precedence over the terms and conditions expressed within the Exhibit or Attachment. Furthermore, any terms or conditions contained within any Exhibit or Attachment hereto which purport to modify the allocation of risk between the parties, provided for within the body of this Agreement, shall be null and void.

26. Cumulative Remedies. No remedy or election hereunder shall be deemed exclusive but shall, wherever possible, be cumulative with all other remedies at law or in equity.

27. No Third Party Beneficiaries. The rights, interests, duties and obligations defined within this Agreement are intended for the specific parties hereto as identified in the preamble of this Agreement. Notwithstanding anything stated to the contrary in this Agreement, it is not intended that any rights or interests in this Agreement benefit or flow to the interest of any third parties.

28. Extent of Agreement. Each party acknowledges that they have read and fully understand the contents of this Agreement. This Agreement represents the entire and integrated agreement between the parties with respect to the subject matter hereof and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be modified only by written instrument duly authorized and executed by both CITY and CONSULTANT.

///

///

///

IN WITNESS WHEREOF, the parties have executed this Agreement at Fresno, California, the day and year first above written.

CITY OF FRESNO,
a California municipal corporation

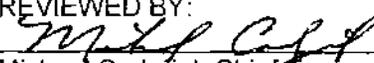
By: _____
Martin A. Querin, PE,
Assistant Director
Department of Public Utilities

ATTEST:
YVONNE SPENCE, CMC
City Clerk

By: _____
Deputy

No signature of City Attorney required.
Standard Document #DPU 8.2 has been
used without modification, as certified by
the undersigned.

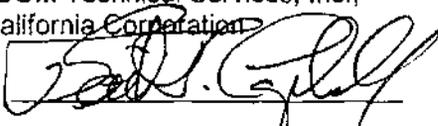
By: _____
Martin A. Querin, PE
Assistant Director
Department of Public Utilities

REVIEWED BY:

Michael Carbajal, Chief Engineering
Technician
Department of Public Utilities

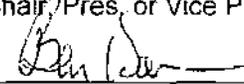
Addresses:
CITY:
City of Fresno
Attention: Jeff Smith, PE,
Senior Project Manager
1910 E. University Ave
Fresno, CA 93703
Phone: (559) 621-5300
FAX: (559) 498-1024

- Attachments:
1. Exhibit A - Scope of Services
 2. Exhibit B - Insurance Requirements
 3. Exhibit C - Conflict of Interest Disclosure Form

AECOM Technical Services, Inc.,
a California Corporation

By: 
Name: : Keith Campbell, PE

Title: Vice President
(if corporation or LLC, Board
Chair, Pres. or Vice Pres.)

By: 
Name: Ben Horn, PE

Title: Central California Area Manager
(if corporation or LLC, CFO,
Treasurer, Secretary or Assistant
Secretary)

Any Applicable Professional License:
Number: 23028
Name: Ben Horn
Date of Issuance: October 5, 1973

CONSULTANT:
AECOM Technical Services, Inc.
Attention: Mark Reitz, PE,
Managing Engineer
1360 E. Spruce Ave, Suite 101
Fresno, CA 93720
Phone: (559) 448-8222
FAX: (559) 448-8233

This page intentionally left blank.

Exhibit A

SCOPE OF SERVICES

Consultant Service Agreement between City of Fresno ("City) and AECOM Technical Services, Inc. ("Consultant")

Schematic Design of Priority 2 and 3 Regional Transmission Mains

PROJECT TITLE

Background/Overview

The City of Fresno Department of Public Utilities Water Division (City/Client) is taking the next steps towards providing the City with treated surface water and reducing overdrafting of the available groundwater supply. The Regional Transmission Mains (RTM/RTMs) will interconnect the City's existing and proposed surface water treatment facilities and storage reservoirs with the water distribution network and allow the City to move large quantities of water throughout the system without disrupting service to the residents. The Priority 2 and 3 RTMs will consist of up to 40 miles of 24- to 48-inch pipelines, and the tie-in locations to the Transmission Grid Mains (TGM) and storage reservoirs will require interconnection facilities such as control valve stations, pressure monitoring stations, chlorine boosters, and surge protection facilities. The City's goal is to have the Priority 2 RTMs ready to be fully operational before the Southeast Surface Water Treatment Facility (SES WTF) is operational, which is anticipated to be in late 2017.

The City has selected AECOM Technical Services, Inc. (AECOM/Consultant) to perform the Phase 2 – Schematic Design (preliminary design) of the Priority 2 and 3 RTMs. Following completion of the Phase 2 – Schematic Design, the City will retain other consultants to perform the Phase 3 – Detailed Design of the RTMs. As part of the schematic design, AECOM will accomplish the following major tasks:

- Support (as needed) the update of the City's hydraulic model to analyze the proposed RTMs
- Establish final alignments for the RTMs
- Obtain tentative permitting requirements and approvals
- Provide the City with a general concept on how to commission the new RTMs to convey water to the existing water system
- Develop a budgetary-level engineer's opinion of construction cost for the Priority 2 and 3 RTMs
- Develop a master implementation schedule for design and construction of the Priority 2 and 3 RTMs focusing on development of RTM segments for detailed design and construction packaging
- Develop the project technical standards, details and specifications to be used for the detailed design
- Deliver to the City a set of schematic design plans that the City can proceed with under either a design-build approach or issue to future consultants for preparing design-bid-build construction documents

The following is the detailed scope of services to provide the required engineering services for the Project.

Scope of Services

AECOM shall complete the following tasks:

Task 100 – Project Management

AECOM's project manager, deputy project manager, and support staff will provide oversight, both technical and administrative, of the project for the anticipated 21-month duration for the schematic design and supporting services during Phase 3 - Detailed Design. This task includes implementation of a communications plan, reporting protocols, project controls (budget, schedule and earned value), and monthly reporting, budget tracking and invoicing. Services to be performed under this task include:

- **Task 110 – Project Scheduling.** AECOM will prepare a task-based project critical path schedule in Microsoft Project. The schedule will be based on the tasks included in this scope of services and updated at least monthly.
- **Task 120 – Project Progress Reporting and Regular Meetings.** In addition to routine ad hoc phone calls, emails, and other correspondence between the City and AECOM, AECOM's Project Manager (PM) or Deputy Project Manager (DPM) will conduct regularly scheduled telephone conversations or in-person meetings with City staff to discuss project status and issues. For budgeting purposes, it is assumed that the project will be 21-months in duration, with regularly scheduled calls/meetings approximately 30 to 60 minutes in duration, conducted weekly during the initial 15-months of schematic design. Progress meetings are expected to be essentially non-existent during the final 9 months during the support of detailed-design. To facilitate communication and documentation, AECOM will prepare and maintain a Project Decision Log and Action Item List, which AECOM will review with City staff on a regular basis.
- **Task 130 - Kickoff Meeting.** AECOM will conduct a kickoff meeting with City staff to review the project parameters, goals, scope, schedule, budgets, milestones, lines of communication, and other City requirements. The meeting will be conducted at AECOM's office or the City's office. AECOM's project manager, deputy project manager, lead designer, and at least 2 discipline leads will attend the meeting.
- **Task 140 – Quality Control.** AECOM's qualified technical reviewers will provide on-going internal quality control reviews at each project milestone and for each deliverable.

Task 100 Assumptions and Clarifications

- 15-month duration (9 months for Priority 2 work and 6 additional months for Priority 3 work)

Task 100 Deliverables

- Monthly progress reports with updated project schedules, budgets that include earned value estimates in both hard copies (5 copies) and electronic format
- Monthly invoices in hard copy and electronic format
- Project Decision Log and Action Item List, maintained throughout the duration of the Project in electronic format.

Task 200 - Hydraulic Analysis Support

AECOM will provide up to 80 hours of engineering coordination time with City staff to provide input on the development of the hydraulic model and modeling efforts to be performed by the City and their consultant.

Task 200 Assumptions and Clarifications

- AECOM is not responsible for developing the hydraulic model or performing the analysis.

- AECOM will provide input and support the City on an as-requested basis.

Task 200 Deliverables

- None

Task 300 - Alignment Refinement

AECOM will evaluate the RTM alignments identified in the City's Metropolitan Water Resources Management Plan (Metro Plan) and alternative alignments that have potential conflicts with major utilities, traffic disruption, and constructability issues and identify fatal flaws.

AECOM will perform the following alignment refinement tasks:

- **Task 310 – Metro Plan Alignment Evaluation and Field Investigation.** AECOM will evaluate the RTMs along the alignments identified in the Metro Plan, which include the following main segments as shown on Attachment 1 – Metro Plan Figure 2-4:

Priority 2

- McKinley Ave between Palm Ave and First Ave
- First Ave between McKinley Ave and Olive Ave
- Olive Ave between First Ave and Temperance Ave
- Chestnut Ave between Olive Ave and Ashlan Ave
- Temperance Ave between Olive Ave and North Ave
- North Ave between Temperance Ave and Railroad Ave
- Railroad Ave between North Ave and Ventura Ave
- Ventura Ave between Railroad Ave and Santa Fe Ave
- Palm Ave between H St and McKinley Ave

Priority 3

- Maple Ave between Behymer Ave and Nees Ave
- Nees Ave between Maple Ave and Palm Ave
- Palm Ave between Nees Ave and McKinley Ave
- Bullard Ave between Palm Ave and West Ave
- McKinley Ave between Palm Ave and Brawley Ave
- Olive Ave between Temperance Ave and DeWolf Ave
- Nielsen Ave between Hughes Ave and Marks Ave

AECOM will visit each of the alignments, and visually evaluate the feasibility of constructing the RTM along each of the alignments. Information obtained from Task 600 will be used during the field investigations.

- **Task 320 – Evaluation of Alternative Alignments and Field Investigation.** AECOM will evaluate up to two additional viable alternative alignments for each of the segments in the Metro Plan listed above. AECOM will visit the alternative alignments, and visually evaluate the feasibility of constructing the RTM along each of the alternative alignments. Information obtained from Task 600 will be used during the field investigations.
- **Task 330 – Alternatives Analysis and Develop Evaluation Matrix.** AECOM will perform a comparison analysis of the Metro Plan alignments and the viable alternatives that are identified as part of Task 320. The analysis will be summarized with an Evaluation Matrix that will take into consideration the following evaluation criteria:
 - Hydraulic considerations (pressure/flow differences)

- Traffic diversion costs and inconvenience to the public
 - Connections to grid mains and other components within the network
 - Construction durations and schedules
 - Piping materials costs as well as depths of cover and special construction requirements
 - Major crossings of utilities, canals, railroads, etc.
 - Impacts from future improvements such as road widening, storm drainage, and undergrounding projects
 - Long-term maintenance and access to facilities
 - Right-of-way or easement purchases
 - Areas for construction staging, spoil stockpile and pipe stringing
 - Impacts to businesses or residents including noise and vibration impacts
 - Assignment of a cost and value to each of these comparison attributes
 - Construction work day timing considerations (e.g. night-time construction)
- **Task 340 – Develop Alignment Alternative Exhibits.** AECOM will develop exhibits of the alternative alignments. The exhibits will utilize aerial photograph information obtained from Google Earth or use the City's latest 2008 aerial photography. The information from the alignment evaluation will be depicted in the exhibits to illustrate to the City and the general public the decision process and the issues with each of the alternatives.
 - **Task 350 – RTM Alternative Alignment Analysis Technical Memorandum.** AECOM will prepare an Alternative Alignment Analysis Technical Memorandum (TM) that summarizes the information obtained from Tasks 310-330 and includes narrative discussions of each of the alternative alignments. The exhibits developed as part of Task 340 will be included in the TM. AECOM will submit five copies of the Draft TM to the City for review, and comments can be discussed during Workshop 1 - Alternative Alignment Analysis Workshop. The City's comments will be incorporated into the Final TM.
 - **Task 360 – Workshop 1 - Alternative Alignment Analysis Workshop (Workshop 1).** AECOM will conduct Workshop 1 (up to 8 hours in duration) with City staff to present the information and findings from Task 310-350. Input from City staff will be obtained and incorporated into the design, including selection of the final alignments. Meeting notes will be prepared and distributed in draft and final form.

Task 300 Assumptions and Clarifications

- AECOM will evaluate up to two alternative alignments along each of the Priority 2 and Priority 3 segments

Task 300 Deliverables

- Evaluation matrix in electronic format
- Exhibits with aerial photo backdrops showing alignment alternatives and associated evaluation matrix issues
- RTM Alternative Alignment Analysis Technical Memorandum (5 copies of the draft and final TM) in electronic format
- Workshop 1 agenda and meeting notes (draft and final) in electronic format

Task 400 – Traffic Analysis and Schematic Traffic Handling Plans

AECOM's subconsultant, Peters Engineering Group, Inc. (PEG), will evaluate traffic flow and operations along the considered alignments and identify mitigations to reduce traffic impacts. Our analysis will be performed for key intersections and roadway segments to determine effects that construction activities may have on traffic operations.

AECOM and PEG will perform the following Traffic Analysis Tasks:

- **Task 410 – Preliminary Alignment Evaluation.** PEG will review the Metro Plan alignments and alternative alignments (up to 2 additional alternatives for each segment) to identify the portions that will have the most significant impact on traffic flow and operations. For areas that potentially require traffic mitigation, AECOM and PEG will develop mitigations to reduce traffic impacts. AECOM and PEG will perform up to sixteen 2-hour field visits (8 for Priority 2 and 8 for Priority 3) to observe traffic characteristics and obtain traffic counts during the peak traffic hours as part of the evaluation for the Priority 2 RTMs. If available, PEG will obtain traffic count data from the City.
- **Task 420 – Traffic Operational Analysis.** PEG will prepare traffic operational analysis consistent with methodologies outlined in the latest edition of the Highway Capacity Manual. Analysis will be performed at key intersections and roadway segments (up to 12 locations for Priority 2 RTMs and 10 locations for Priority 3 RTMs) identified as part of Task 410 to determine effects of construction activities may have on traffic operations. Strategies such as lane closure durations, modified signal timing, and/or detours will be analyzed. Some of the traffic count data obtained as part of Task 410 may be applied to multiple key intersections as they are expected to have similar peak traffic characteristics.
- **Task 430 – Traffic Handling Technical Memorandum.** PEG will develop a Traffic Handling TM that summarizes the evaluations, analysis, and conclusions developed in Tasks 410-420. Five copies of the Draft Traffic Handling TM will be submitted to the City for review, and comments can be discussed during Workshop 1 - Alternative Alignment Analysis Workshop.
- **Task 440 – Schematic Traffic Handling Plans.** PEG will develop schematic traffic handling plans (for up to six standard intersection treatments and up to six standard roadway treatments for the Priority 2 and 3 RTMs) which implement strategies developed in Task 430. The schematic plans will include plan details or cross sections of typical traffic handling configurations, and will note special conditions or requirements for construction related to traffic. The schematic traffic handling plans will be included with the preliminary design plans discussed in Task 1100. PEG will also develop a traffic handling treatment summary table that will identify each of the selected RTM alignments and which standard intersection/roadway treatments are proposed. The intent of the summary table is to have the traffic control identified for the entire alignment and may be comprised of different standard intersection/roadway treatments.

Task 400 Assumptions and Clarifications

- Additional traffic operational analyses not specifically included above will be additional services
- Traffic handling plans will not be location-specific and details will be conceptual. Actual traffic control plans will be developed by the Contractor as a contract requirement.
- The selected RTM alignments will be along streets where traffic can be handled with lane closures or time restrictions and not detours
- Preparation of preliminary detour plans is not included in this scope of services

Task 400 Deliverables

- Traffic Operational Analysis Files (electronic format)
- Traffic Handling TM (5 copies of the draft and final TM and electronic files)
- Schematic Traffic Handling Plans (5 hard copies and electronic file)
- Traffic handling Summary Table (electronic format)

Task 500 – Surveying and Mapping

AECOM's subconsultant, O'Dell Engineering (O'Dell), will perform the following surveying tasks for the Priority 2 and 3 RTMs:

- **Task 510 – Project Survey Control.** O'Dell will establish survey control that can be used for the aerial photography and infill surveys described in Tasks 520 and 530. The survey control will be based on the NAD 83 horizontal datum and the NAVD 88 vertical datum. Datums will be established using the latest NGS CORS data. The coordinate reference system used will be California State Plane Coordinates – Zone 3, US Survey Feet.
- **Task 520 – Aerial Photography.** O'Dell will obtain color orthophotography within the project mapping limits following the current Metro Plan alignments shown in Attachment 1. The aerial topographic mapping will be suitable for 1" = 40' horizontal scale topographic mapping. The limits of the mapping will be approximately 100'-120' wide, which is anticipated to be sufficient to cover right-of-way limits.
- **Task 525 – Supplemental Survey Control and Aerial Photography.** Following selection of the final Priority 2 RTM alignments, O'Dell will establish additional survey control for the aerial photography and infill surveys and also obtain additional color orthophotography for the selected alignments that were not covered in the aerial photography performed as part of Task 520. This scope of services includes up to \$22,979 (Priority 2) and \$17,774 (Priority 3) of fee to perform this task on a T&M basis, as approved by the City.
- **Task 530 – Ground Infill Surveys.** O'Dell will perform ground infill surveys using RTK/RTN GNSS surveying methods or traditional optical surveying methods on a maximum of 40 sites for Priority 2 RTMs and 30 sites for Priority 3 RTMs (maximum of 20,000 square feet area per site) within the project mapping limits. The infill surveys will include mapping of surface features such as curbs, gutters, parking strips, roadway centerlines, striping, trees, curb cuts, curb ramps, surface utilities, manhole covers, valve lids, signal poles, vaults, overhead electric lines. The ground infill surveys will also include manhole measure downs on accessible utility features and measurements down to top of valve operators at water valve boxes. This scope of services assumes each site will require an 8-hour day for a 2-man crew.
- **Task 540 – Right-of-Way Validation.** O'Dell will verify the public road right-of-way shown in the County of Fresno or City of Fresno GIS files against physical occupation (fences, curbs, sidewalks, striping, edge of pavement) visible in the orthophotography prepared as part of Task 520. At sites where large differences are noted between the physical occupation and the GIS data O'Dell will perform the following research:
 - Review of tax assessor maps for evidence of public road right-of-way width.
 - Review of filed survey maps for evidence of public road right-of-way width.

If needed, GIS files will be corrected based on the right-of-way width information obtained from these research sources.

O'Dell will also obtain adopted plan line drawings from the City and County of Fresno to identify planned future road right-of-ways. O'Dell will also review the City's future Traffic Circulation Plans as developed in the City's General Plan to identify future roadway plans.

Validated right-of-way linework will be incorporated in a road right-of-way map.

- **Task 550 – Utility Pothole Surveys.** O'Dell will retain a utility locator to pothole a maximum of 100 locations (60 for Priority 2 RTMs and 40 for Priority 3 RTMs) using non-destructive excavation techniques (i.e. vacuum excavation). Each pothole is estimated to be no greater than

18" in diameter and approximately 8' deep on average (maximum of 12' deep). This scope of services assumes that half of the pothole locations will require traffic control, which will be provided by O'Dell. Potholes in paved areas will be backfilled to a method acceptable to the City (not cold patch). O'Dell will reference marks set by the utility locator and combine depth and offset measurements with the reference mark location data to identify the location of the potholed utility feature. The estimated locations of the potholed utility features will be provided in DWG format. Utility point features in the drawing will be separated on layer based on utility feature type (e.g. storm, water, power, sewer). Point descriptions will include the size and material type of the utility if provided by the utility locator.

- **Task 560 – Boundary Survey.** If needed, O'Dell will perform boundary research, boundary field surveys, land title research, or locate property corner monuments to establish survey-grade parcel boundaries or right-of-way boundaries. This scope of services includes up to \$10,600 of fee to perform this task on a T&M basis (\$5,300 each for Priority 2 and 3), as requested by the City.
- **Task 570 – Aerial Topographic Mapping and Create DTM Surface.** O'Dell will perform aerial topographic mapping of the selected Priority 2 RTM alignments. This scope of services includes up to \$96,000 of fee to perform this task on a T&M basis for Priority 2, as requested by the City. Aerial topographic mapping will be suitable for use at a 1"=40' horizontal scale and a 1 foot contour interval. The aerial topographic mapping will include: spot elevations, contours, and planimetric features. Planimetric features that will be mapped include road centerline, edge of pavement lines, lip of gutter lines, curb flowlines, top face of curb lines, back of curb lines, sidewalk edges, ramps, curb returns, overhead utility poles, traffic signal poles, utility vaults, utility access lids, manhole lids, valve boxes, tree crowns, ditch flow lines, ground grade breaks, structure footprints, and other hardscape features within the mapping limits and visible in the aerial photography. O'Dell will also develop the DTM surface model from the aerial photography. The DTM will be used as the basis for the orthophotography, contours, and spot elevations.

Task 500 Assumptions and Clarifications

- Aerial topographic mapping, including spot elevations, contours, and planimetric features for Priority 3 are not included in this scope of services.
- Additional boundary research, boundary field surveys, land title research, or location of property corner monuments to establish survey-grade parcel boundaries or right-of-way boundaries not included above unless approved by City under Task 560.
- Land title research needed to establish right-of-way ownership, or right-of-way status as a fee ownership or easement right is not included in this scope of services

Task 500 Deliverables

- Color orthophotography of the selected Priority 2 and 3 RTM alignments suitable for 1" = 40' horizontal scale mapping
- A CAD drawing in DWG format with the planimetric linework, point features, surveyed inverts/depths of accessible belowground structures from the ground infill survey sites, and surveyed pothole data from the potholing survey
- A CAD drawing in DWG format with approximate public road right-of-way limits based on existing GIS data, research and adopted plan lines for future roadways
- A CAD drawing in DWG format with spot elevations, contours, and planimetric features from the aerial topographic mapping.
- A CAD drawing in DWG format with a Civil 3D surface model prepared from the topographic mapping (DTM surface)

Task 600 - Utility Coordination

AECOM will perform the following Utility Coordination Activities:

- **Task 610 – Utility Investigation.** For the Priority 2 and 3 RTM alignments and the possible alternative alignments, AECOM will obtain available record drawings and plats/atlasses from the City's VIEWFresno website and access the USADig databases to identify additional utilities within each of the possible alignments. We will also initiate meetings with the utility companies and obtain plats, maps, and record drawings of their facilities. AECOM will contact the following agencies/companies to obtain their utility information, as well as other companies that may have utilities in the proposed project area:
 - Fresno Metropolitan Flood Control District
 - Fresno Irrigation District
 - Fresno County
 - PG&E
 - Telecommunication Companies (e.g. AT&T & Comcast)
 - Kinder Morgan
 - Private Water Companies (e.g. Bakman Water Company)
 - Malaga County Water District
 - Railroad Companies

Following receipt of the record drawings and plats/atlasses, AECOM will perform a field investigation (as part of Task 310 and possibly supplemental field visits to verify additional locations) of the alignments to verify the horizontal location of presence of the existing utilities visible on the surface that may be in conflict with future RTM alignments.

- **Task 620 – Develop Composite Utility Map.** AECOM will incorporate the information obtained from Task 610 into a composite utility map that will be used as a base map sheet for the preliminary design plans. In critical areas where utilities appear to create potential conflicts, AECOM will develop CI/ASCE 38-02 Quality Level A maps. In less critical areas, we will develop Quality Levels C & D maps. At a minimum the size and type of utility will be annotated. The composite utility maps will be submitted to each of the utility companies/agencies for their review and verification of information shown about their facilities. Comments received will be incorporated. Surveyed USA markings at boring locations will also be included in the composite utility map. The layering and linework used in the composite utility map will be established in a manner to track whether the information is approximated from plats/basemaps/record drawings, surveyed, or potholed.
- **Task 630 – Develop Utility Matrix Log.** AECOM will develop a utility matrix log that documents key communications with each of the utility companies, data requested, comments received, etc. Information to be included in the log includes: Company Name, Address, Contact Person, Phone, Email, Date Contacted, Request Method, Date of Response, Response/Comments, status, and level of accuracy of utility identified (e.g. surveyed information, data pulled from plats/atlasses, record drawing information, etc.). The utility matrix log will also log the utilities that have been identified from research, maps provided by the utility companies, and the surveying.

Task 600 Assumptions and Clarifications

- Data provided by the agencies/utility companies will be provided in a timely manner and will be relatively accurate and complete. AECOM will not be performing additional survey work to confirm the accuracy of the information provided by the agencies/utility companies except for the survey work performed as part of the infill surveys and potholing. It is assumed that additional design-level surveys and utility locating of all RTM areas will be performed as part of the final design.

Task 600 Deliverables

- Composite Utility Map in .dwg format
- A DVD containing an index and scans of record drawings, maps, plats, and atlases obtained as part of Task 610
- Utility matrix log in excel and/or .pdf format

Task 700 - Permitting Coordination

AECOM will coordinate with local agencies, including the various City of Fresno divisions separate from the Water Division, County of Fresno, Caltrans, Fresno Metropolitan Flood Control District, Fresno Irrigation District, Kinder Morgan, private water companies, railroad companies, and telecommunication companies such as AT&T, Comcast and the fiber optic companies to assist with acquiring standards, understanding their requirements, help the City obtain preliminary approvals, and generally coordinate on issues which will directly affect these agencies' local infrastructure. AECOM will perform the following Permitting Coordination Tasks:

- **Task 710 – Meetings with Local Agencies.** AECOM will meet with each of the local agencies at the beginning of the Project informing them of the City's project, what types of conflicts the RTMs may have with their infrastructure, get information about their planned projects in the future, find out what types of approvals they are willing to issue to the City at this preliminary design level, and obtain their general requirements. After potential alternative alignments have been identified, AECOM will conduct another round of meetings with each of the local agencies to discuss specific relocation and protect-in-place requirements. A final series of meetings will be conducted to help the City obtain tentative approvals or execute memorandums of understanding (MOU) with each of the local agencies. With construction of the RTMs occurring in the future, most agencies will not be willing to issue encroachment permits at this time; however, AECOM will work with the City in obtaining and documenting their tentative approvals. This scope of services includes thirty 1-hour meetings for this task (based on 3 meetings with 10 agencies). For these meetings AECOM will draft the meeting agenda and meeting notes.
- **Task 720 – Develop Agency Coordination Log.** AECOM will develop an Agency Coordination Log that tracks and documents primary correspondences with each of the agencies. Information to be included in the log includes: Company Name, Address, Contact Person, Phone, Email, Date Contacted, Request Method, Date of Response, Response/Comments, and Status.
- **Task 730 – Draft MOUs or Tentative Approval Letters.** AECOM will help the City prepare draft standard Memorandums of Understanding (MOU) and/or tentative approval letters for the City to utilize in discussions with the local agencies. AECOM will coordinate with the City's Office of Risk Management to get their reviews and approvals. Once comments are received from the City, AECOM will finalize the MOU/tentative approval letters to be issued by the City.

Task 700 Assumptions and Clarifications

- Obtaining encroachment permits and other similar final approvals for construction will be the responsibility of the final design consultants and/or the Contractors, and is not included in this scope of services
- Coordination with the Regional Water Quality Control Board (RWQCB) and developing a Stormwater Pollution Prevention Plan (SWPPP) will be the responsibility of the final design consultants or the Contractors, and is not included in this scope of services

Task 700 Deliverables

- Meeting agendas in electronic format
- Meeting notes in electronic format

- Agency Coordination Log in electronic format
- Draft MOUs or Tentative Approval Letters (in electronic format)

Task 800 – Geotechnical Investigation

AECOM's subconsultant, Kleinfelder Inc. (Kleinfelder), will perform a preliminary geotechnical investigation for the Priority 2 and 3 RTM alignments. Kleinfelder will review existing geotechnical information along the identified pipeline alignments, perform a field exploration and laboratory testing program, and analyze the information. This scope of services includes borings at likely trenchless crossings, in areas of potential hardpan near the pipe invert, and other potentially problematic sites identified during the field reconnaissance. The priority of the borings at the crossings will include mainline railroad and lined or otherwise significant canal crossings. This scope of services includes fourteen (14) exploratory borings along the Priority 2 alignments and six (6) exploratory borings along the Priority 3 alignments related to known geotechnical issues. Sampling depths and frequency will be coordinated with V&A Consulting Engineers (V&A), AECOM's corrosion specialist subconsultant. This scope of services also includes 5 additional exploratory borings in areas identified during the alignment analysis process.

Selected soil samples obtained during the field exploration will be tested to evaluate physical properties that will be necessary to complete the preliminary geotechnical engineering analysis.

Results of the geotechnical review, field and laboratory testing program will be presented in a Preliminary Geotechnical Data Report (GDR), and engineering analyses will be summarized in a Preliminary Geotechnical Engineering Report (GER). The GER will contain recommendations for pipeline construction including the E'_s soil modulus for trench wall soil, the E'_s for use in initial pipe deformation analysis of the pipeline, a recommended K_u for evaluating the maximum load (W_c) on pipes, frictional resistance coefficients for various pipe types, resistance and deformation information for shallow and deep thrust blocks, lateral earth pressures for use in evaluating shoring, and construction slope permissible gradients. To aid in evaluating the trenchless crossings, such as a jack and bore or pipe ramming operations, the potential ground surface settlement due to the ground cover thickness versus the casing diameter will be estimated and capacity of reaction blocks provided.

Five copies of the draft GER will be submitted to the City for review and comments. The GDR will be incorporated into the GER. Comments will be incorporated in the Final GER, and five additional copies will be submitted to the City.

Task 800 Assumptions and Clarifications

- 20 exploratory borings (14 for Priority 2, 6 for Priority 3) for alignments with known geotechnical issues will be performed for this project
- 5 additional exploratory borings (3 for Priority 2, 2 for Priority 3) for other areas will be performed for this project, if needed and approved by City.
- Additional borings beyond the 25 included in this scope of services can be performed as additional services.
- A single Preliminary GDR and GER will be prepared for both the Priority 2 and 3 areas. The reports will be kept in a working format until the final RTM alignments are selected and the exploratory borings have been completed. A draft Preliminary GER will be submitted to the City upon completion of the field exploration work.

Task 800 Deliverables

- Preliminary Geotechnical Data Report for Priority 2 and 3 areas (5 hard copies of the draft and final and electronic files)
- Preliminary Geotechnical Engineering Report for Priority 2 and 3 areas (5 hard copies of the draft and final report and electronic files)

Task 900 – Hazardous Materials Database Research

- **Task 910 – Hazardous Materials Database Research.** AECOM's subconsultant, Kleinfelder, will provide a preliminary, generalized assessment for encountering potentially hazardous materials along the various Priority 2 and 3 alignment alternatives by reviewing the State Water Resource Control Board (GeoTracker) and the State Department of Toxic Substances Control (EnviroStor) websites. The applicable information found in the databases will be used to identify locations that may have a potential presence of potentially hazardous substances in the near surface soils. Environmental Data Resources (EDR) will also be contacted to obtain historical environmental data along the pipeline alignments for review and consideration of existing conditions. Kleinfelder will summarize findings in a Hazardous Materials Database Research Technical Memorandum, and five copies will be submitted to the City.
- **Task 920 – Follow-up Hazardous Materials Investigation.** If needed, Kleinfelder will perform a more in-depth hazardous materials evaluation to determine if an alignment needs to be avoided or will have significant delays or require special construction activities. This scope of services includes up to \$10,000 of fee to perform this task on a T&M basis, as approved by the City.

Task 900 Assumptions and Clarifications

- This database research task is not intended to be a comprehensive evaluation of sites that may have hazardous material issues or are subject to remediation activities. The purpose of this task is to identify potentially problematic areas that may need to be avoided or evaluated further. If it is identified that portions of the preferred alignments may have hazardous materials present, AECOM and Kleinfelder will inform the City. A more detailed hazardous materials investigation may be required, and can be performed as additional services.

Task 900 Deliverables

- Hazardous Materials Database Research Technical Memorandum (5 hard copies of the draft and final TM and electronic files)

Task 1000 – Corrosion Engineering

AECOM's subconsultant, V&A Consulting Engineers, Inc. (V&A), will provide corrosion engineering services to develop a general understanding of the soil conditions throughout the Priority 2 and 3 RTM alignments, so corrosion mitigation standards can be developed and used as part of the final design. V&A will perform the following tasks:

- **Task 1010 – Data Review.** V&A will review the Priority 2 and 3 alignment alternatives, geotechnical information prepared as part of Task 900, and any other relevant plans or reports prepared by the City that pertain to corrosion issues. V&A will evaluate the information and will work with the City in identifying test locations.
- **Task 1020 – Soil Resistivity Testing.** V&A will measure soil resistivity using the Wenner Four Electrode Method along the selected Priority 2 and 3 RTM alignments in non-paved areas (e.g. dirt shoulders, vacant lots). The resistivity testing will be conducted to a depth of 20 feet below grade. The specific number of tests has not been identified, but this scope of services includes seven 8-hour days of resistivity testing (4 days for Priority 2 and 3 days for Priority 3).
- **Task 1030 - Soil Analysis and Report.** V&A will review the soil sample report prepared by Kleinfelder, which will include information such as minimum electrical resistivity and chemical analysis of chlorides, sulfates, pH and bicarbonates of the soil. V&A will prepare a report with the results of the soil resistivity testing, chemical analysis and recommendations for corrosion control for both ductile iron and welded steel pipe. V&A will look at the entire Priority 2 and 3 systems

and develop a cathodic protection system philosophy and recommendation for the entire system; not just on a pipeline segment basis. The corrosion control recommendations will identify the most practical and cost effective protection methods. Five copies of the draft report will be submitted to the City for review and comments, and comments will be incorporated into a final report.

- **Task 1040 – Develop Standard Details and Specifications.** V&A and AECOM will prepare up to two sheets of standard details for a typical impressed current cathodic protection system, test stations, insulating joints, and anodes. AECOM and V&A will also jointly develop a cathodic protection standard technical specification for the cathodic protection system to be used by the consultants for the final design.

Task 1000 Assumptions and Clarifications

- Soil resistivity testing to a depth of 20 feet
- Seven 8-hour days of resistivity testing in field will be provided. Additional testing can be performed as additional services if needed

Task 1000 Deliverables

- Soil Analysis Letter Report (five hard copies of the draft and final report and electronic files)
- Standard details and technical specifications for impressed current cathodic protection system, test stations, insulating joints, and anodes (in .dwg or .pdf format)

Task 1100 – Preliminary Design Plan and Profiles

Following the alignment selection tasks, public presentations, and approvals by the City, AECOM will prepare the preliminary design plans. AECOM will perform the following tasks:

- **Task 1110 – Prepare Plan Sheets and Utility Relocation Plans.** AECOM will prepare plan sheets (up to 110 for Priority 2 and up to 80 for Priority 3, based on single plan sheets) for the RTMs with the aerial photography as backgrounds at 1"=40' scale with line work showing the following detail:
 - Street centerline with survey control
 - Existing approximate right-of-ways (from County GIS) and approximate easements (from utility companies)
 - Future planned right-of-ways per the Fresno Circulation Plan and adopted plan lines
 - Existing utilities dimensioned from street centerline or other reference lines (e.g. right-of-way)
 - Future utilities obtained from contacts with agencies, utilities, districts, the City, and those anticipated based on standard City utility locations
 - Locations of major infrastructure components paralleling or crossing the roadways including canals, creeks, railroad, etc., with easements and right-of-ways shown
 - General location of areas suitable for locating ancillary components for the RTMs including air-release valves, blowoffs, pressure reducing valve (PRV) stations, metering (if required), valving, access vaults, connections to grid mains, sampling stations, SCADA controls/monitoring stations, etc.

In the rural areas where additional right-of-way or construction easements may be needed, AECOM will identify these areas on the plans with appropriate APNs and the approximate additional acreage required.

AECOM will also prepare up to 30 preliminary utility relocation plans (up to 20 relocations for Priority 2 and 10 relocations for Priority 3) showing relocation concepts for the utilities identified as part of Task 600 to be relocated. The preliminary utility relocation plans will be submitted to the

City for review and comment, and then submitted to the impacted utility companies for their review and approval of the relocation concept. Comments from the City and utility companies will be incorporated into the final plans.

- **Task 1120 – Prepare Enlarged Plan and Profile Sheets.** Where critical crossings require more detail of the preliminary plan design such as railroads, canals, freeways, major arterials, major sewers/ storm drains, duct banks, gas mains, etc., AECOM will develop up to 35 separate enlarged plan and profile (P&P) sheets (20 for Priority 2 and 15 for Priority 3). These P&P sheets will be prepared at approximately 1"=20' scale to show greater detail, verify clearances, define special construction needs, detail critical alignment changes, and identify bore and jacking requirements (e.g. jacking and receiving pit limits) and confirm method of trenchless construction that will likely be implemented.
- **Task 1130 – Prepare Preliminary RTM Design and Packaging Technical Memorandum.** AECOM will develop the Preliminary RTM Design and Packaging Technical Memorandum that will accompany the plans. The TM will summarize the content of the preliminary design, and provide additional detail about the critical areas where enlarged plan and profile sheets will be developed as part of Task 1120. The TM will also address each of the relevant packaging issues such as:
 - City's water system improvement needs
 - Constructability
 - Staging areas
 - Traffic impacts and recommended mitigation strategies
 - Right-of-way and easements
 - Impacts to existing utilities and relocation concepts
 - Coordination with other projects
 - Cost and City's Budget
 - Schedule and Timing of Budget Availability (cash flow)
 - Permits
 - City-furnished items
 - Hazardous Material considerations
 - Corrosion mitigation measures

AECOM will make recommendations on packaging the Priority 2 and 3 projects into suitable segments for detailed design and construction. Five copies of the Draft Preliminary RTM Design and Packaging TM will be submitted to the City for review and comment, and comments can be discussed during Workshop 2 - Preliminary Plans Review Workshop. Five copies of the final Preliminary RTM Design and Packaging TM will be submitted to the City.

- **Task 1140 – Develop Packages.** The plan sheets and enlarged P&P sheets developed in Tasks 1110-1120 will be organized into packages with appropriate schedules based on input from the City and utilized to estimate construction cost with appropriate escalators to the year of planned construction.
- **Task 1150 – Workshop 2 – Preliminary Plan Review Workshop (Workshop 2).** AECOM will conduct Workshop 2 (up to 4 hours in duration) with City staff to present the information and findings from Task 1110-1140. Input from City staff will be obtained and incorporated into the design. Meeting notes will be prepared and distributed in draft and final form.

Task 1100 Assumptions and Clarifications

- AECOM will develop up to 110 schematic design single plan sheets at 1"=40' scale for Priority 2 RTMs

- AECOM will develop up to 80 schematic design single plan sheets at 1"=40' scale for Priority 3 RTMs
- AECOM will develop up to 20 enlarged plan and profile sheets at 1"=20' scale for Priority 2 RTMs
- AECOM will develop up to 15 enlarged plan and profile sheets at 1"=20' scale for Priority 3 RTMs
- AECOM will develop up to 20 preliminary utility relocation plans at 1"=50' scale for Priority 2 RTMs
- AECOM will develop up to 10 preliminary utility relocation plans at 1"=50' scale for Priority 3 RTMs

Task 1100 Deliverables

- Typical plan sheets and enlarged plan and profile sheets (5 hard copies and electronic files)
- Utility relocation sheets (5 hard copies and electronic files)
- Preliminary RTM Design and Packaging TM (5 hard copies of the draft and final TM and electronic files).

Task 1200 - Standard Details and Specifications

AECOM will prepare standard details and technical specifications tailored for the RTMs, and include the viable possibilities of materials and construction techniques that are consistent with the latest ASTM, AWWA, ANSI, and ACI standards. AECOM will prepare standards for:

- Pipe bedding and backfill
- Pipe joints and bonding
- Pipe connections for various materials
- Valving
- Thrust restraints
- Air-release and vacuum valves
- Cathodic protection
- Jacking and boring
- Vaults and manholes
- Surface restoration
- Typical traffic detour plans (generic)
- Connections to other pipelines (e.g. connections to the TGMs)

AECOM will perform the following tasks:

- **Task 1210 – Develop Standard Details.** AECOM will prepare standard details for the RTM elements listed above on 8.5 x 11 sheets that the City can adopt and issue to the design teams performing the final design. The standard details will include pipeline details for each of the pipeline materials being considered: ductile iron, welded steel, and concrete cylinder. A set of draft details will be submitted to the City for review and comment, and comments will be incorporated into the final standard details. Appropriate tables and notes will be provided to accommodate the anticipated pipe sizes and situations anticipated. AECOM will work with the City in development of the Standard Details, and will conduct Workshop 3 - Design Standards Workshop to finalize the standard details with the City.

Task 1220 – Develop Standard Technical Specifications. AECOM will prepare standard technical specifications for the project elements, using AECOM's standard specifications as the basis. AECOM will also provide to the City a checklist of specifications that should be inserted into future construction documents as Special Conditions. AECOM will work with the City in developing the standard technical specifications, and will work with the City in identifying the

required sections and discussing content during Workshop 3 - Design Standards Workshop. Currently, AECOM anticipates developing standard specifications for the following sections, but this list of sections is subject to change as the project develops:

- o 020120 PROTECTING EXISTING UNDERGROUND UTILITIES
 - o 020130 CONNECTIONS TO EXISTING BURIED PIPELINES
 - o 024100 EQUIPMENT, PIPING, AND MATERIALS DEMOLITION
 - o 030500 GENERAL CONCRETE CONSTRUCTION
 - o 033000 CONCRETE
 - o 034220 PRECAST CONCRETE VAULTS
 - o 050520 BOLTS, WASHERS, ANCHORS, AND EYEBOLTS
 - o 051210 MISCELLANEOUS STRUCTURAL STEEL AND ALUMINUM
 - o 055300 GRATING, COVER PLATES, AND ACCESS HATCHES
 - o 099000 PAINTING AND COATING
 - o 099752 COLD-APPLIED WAX TAPE COATING
 - o 099754 POLYETHYLENE SHEET ENCASMENT (AWWA C105)
 - o 099757 POLYETHYLENE TAPE PIPE COATING (AWWA C214)
 - o 099761 FUSION-BONDED EPOXY LININGS AND COATINGS
 - o 311100 CLEARING, STRIPPING, AND GRUBBING
 - o 312300 EARTHWORK
 - o 312316 TRENCHING, BACKFILLING, AND COMPACTING
 - o 312323 GRAVEL AND CRUSHED ROCK BASE
 - o 317216 JACKED STEEL CASING
 - o 331130 CEMENT MORTAR LINING OF PIPELINES IN PLACE
 - o 331300 DISINFECTION OF PIPING AND STRUCTURES
 - o 400500 PIPING SCHEDULE AND GENERAL PIPING REQUIREMENTS
 - o 400515 PRESSURE TESTING OF PIPING
 - o 400520 MANUAL, CHECK, AND PROCESS VALVES
 - o 400532 BUTTERFLY VALVES
 - o 400560 AIR-RELEASE AND VACUUM-RELIEF VALVES
 - o 400570 GLOBE PATTERN CONTROL VALVES (AWWA C530)
 - o 400722 FLEXIBLE PIPE COUPLINGS AND EXPANSION JOINTS
 - o 400764 PIPE HANGERS AND SUPPORTS
 - o 400775 EQUIPMENT, PIPING, DUCT, AND VALVE IDENTIFICATION
 - o 402001 GENERAL REQUIREMENTS FOR STEEL PIPING
 - o 402040 DUCTILE-IRON PIPE
 - o 402050 FABRICATED STEEL SPECIALS
 - o 402051 INSTALLATION OF BURIED STEEL OR CONCRETE PIPE
 - o 402063 STEEL TRANSMISSION PIPE (6 TO 120 INCHES)
 - o 402080 GENERAL REQUIREMENTS FOR CONCRETE PRESSURE PIPE
 - o 402087 BAR-WRAPPED CONCRETE PRESSURE PIPE (AWWA C303)
- **Task 1230 – Workshop 3 – Design Standards and Pipeline Materials Workshop (Workshop 3).** AECOM will conduct Workshop 3 (up to 8 hours in duration) with City staff to present the information and findings from Task 1210-1220 and Task 1300. Input from City staff will be obtained and incorporated into the design. Meeting notes will be prepared and distributed in draft and final form.

Task 1200 Assumptions and Clarifications

- Additional standard technical specifications not specifically listed above may also be needed and can be developed as part of this scope of services (up to 10 additional sections). The list above is not intended to be an all-encompassing list

Task 1200 Deliverables

- Standard Details (5 hard copies of the draft and final plans and electronic files)
- Standard Technical Specifications (5 hard copies of the draft and final specifications and electronic files)

- Checklist of Special Condition Items

Task 1300 - Pipeline Materials Evaluation

AECOM's will perform an evaluation of viable pipeline materials that could be used for construction of the RTMs. Pressure classes and wall thickness designs will be selected for the various pipe sizes and depths of cover anticipated for each pipe material and will be incorporated in the Standard Details and Technical Specifications to be used for the final designs. Calculations where appropriate, will be provided together with material selection tables in a matrix format to allow competitive bidding in the final design bid packages. AECOM will evaluate the materials as the project progresses and address the monetary and non-monetary considerations that affect total construction cost. AECOM will provide recommendations for each size of pipeline and installation for the various operating conditions including surge pressures. Other material for the design such as large isolation valves, air and vacuum valves, couplings, outlets, etc. will also be evaluated and incorporated in the materials selection matrix. AECOM will discuss our findings and recommendations during Workshop 3 - Design Standards and Pipeline Materials Workshop.

AECOM will prepare a Pipeline Materials Evaluation Technical Memorandum that summarizes the evaluation and results. Five copies of the Draft Pipeline Materials Evaluation TM will be submitted to the City for review and comment, and comments will be incorporated into the Final TM. The City's comments can be discussed during Workshop 3.

Task 1300 Assumptions and Clarifications

- AECOM will evaluate welded steel pipe, ductile iron pipe, and concrete cylinder pipe for the possible materials

Task 1300 Deliverables

- Pipeline Materials Evaluation Technical Memorandum (5 hard copies of the draft and final TM and electronic files)
- CD or DVD containing a pdf copy of the TM

Task 1400 – Preliminary Engineer's Estimate of Probable Construction Cost

- **Task 1410 – Cost Estimating.** AECOM will provide cost estimating throughout the preliminary design effort as well as the completion of the preliminary design packages. The cost estimate will include costs for construction of the RTMs, related facilities, and utility relocation costs. AECOM will establish a Work Breakdown Structure for each construction package utilizing the Construction Specifications Institute (CSI) format that matches to our standard technical specifications for the projects. AECOM will generate cost estimates utilizing Sage Timberline Estimating software, and we will utilize an AECOM-developed and maintained database to assist in providing current pricing and area cost factors. We will also utilize, to the extent available, the cost databases maintained by the City of Fresno Construction Management Department. Estimates will be developed consistent with the standard AACEI cost classifications to a Class 3 accuracy. The overall cost estimate will be in present value dollars, but escalation factors can be applied as appropriate for each package to coincide with the Master Schedule as developed with the City.
- **Task 1420 – Cost Estimates by Package.** AECOM's cost estimator will work closely with the design team and the City to determine logical divisions of design packages during Task 1130 – Develop Packages. The cost estimates developed in Task 1410 will be separated into the individual packages identified, and the time escalation factors will be applied based on when each package is anticipated to be constructed. AECOM will develop up to 10 separate cost estimates, which matches the number of separate packages to be developed.

Task 1400 Assumptions and Clarifications

- AECOM will develop up to ten separate cost estimates to match the selected bid packages
- AECOM will assume percentages for Contractors overhead and profit, future engineering costs, land acquisition, and contingencies, based on standard industry practices
- Utility relocation costs will be included in the cost estimate, but since the utility relocation plan will be schematic the cost estimate will not be Class 3 accuracy.

Task 1400 Deliverables

- Preliminary engineer's estimate of probable construction cost including a summary of the assumptions of basis of the cost estimates (Electronic file)
- Cost estimates by package (Electronic files)

Task 1500 – Develop RTM Implementation Master Schedule and Schedules by Packages

AECOM will prepare a master schedule of all the RTMs and individual schedules (up to 10 for both Priority 2 & 3 projects) by packages of the RTM projects, which will incorporate the issues identified in the evaluations performed in the other work tasks. AECOM will perform the following tasks:

- **Task 1510 – Develop Critical Path Master Schedule.** AECOM will develop the master schedule for all of the Priority 2 and 3 RTMs, which will roll up each of the individual construction packages' schedules that are developed cooperatively with the City. Construction durations, budget, weather, permitting, time-of-year limitations on construction crossings, traffic peaks, and school schedules, will be considered in developing the schedules. Owner-furnished materials (valves, SCADA equipment, PRVs, etc.) will be incorporated into the schedules with critical paths identified. AECOM will submit drafts of the schedules to the City for review and comments can be discussed during Workshop 4 - Master Schedule and Packaging Workshop.
- **Task 1520 – Develop Schedules by Package.** AECOM will develop individual schedules for each package identified (up to 10 separate schedules). The schedules by package will contain the same level of detail as the Master Schedule. AECOM will submit drafts of the individual schedules to the City for review and comments can be discussed during Workshop 4 - Master Schedule and Packaging Workshop.
- **Task 1530 – Identify Long Lead-Time Items and Possible Owner Furnished Materials/Equipment.** AECOM will develop a list of RTM materials and equipment that have longer lead times and may be items that the City will want to consider pre-purchasing. AECOM will also identify items that they City may want to consider pre-purchasing to save on materials costs. AECOM will discuss the items identified during Workshop 4 - Master Schedule and Packaging Workshop.
- **Task 1540 – Workshop 4 – Master Schedule and Packaging Workshop (Workshop 4).** AECOM will conduct Workshop 4 (up to 4 hours in duration) with City staff to present the information and findings from Task 1510-1530. Input from City staff will be obtained and incorporated into the design. Meeting notes will be prepared and distributed in draft and final form.

Task 1500 Assumptions and Clarifications

- Maintaining the schedules following the Project is not included in this scope of services

Task 1500 Deliverables

- Master schedule and individual schedules by package in Microsoft Project format or similar software

Task 1600 - Meetings and Presentations

AECOM will make up to five (5) presentations to City staff (e.g. City Council, City Planning Department, Traffic) and up to five (5) presentations at public hearings or to other agencies such as Fresno County. The presentations will be attended by a maximum of two members of our design team.

Task 1600 Assumptions and Clarifications

- Additional meetings can be provided as additional services
- Meetings to City Staff and public meetings are assumed to be no more than 2-hours each
- Meetings related to the environmental permitting and documentation can be attended as additional services

Task 1600 Deliverables

- Meeting agendas, meeting notes, and presentation materials in electronic format

Task 1700 – Prepare Priority 2 and 3 RTM Preliminary Design Reports (PDR)

AECOM will prepare separate Priority 2 and Priority 3 RTM Preliminary Design Reports (PDR) that summarizes the work performed in Tasks 200 – 1500 and identifies the RTM alignments selected. The report will contain a summary of each TM and include as references the Final TMs developed as part of the Project. The report will also include the final preliminary design plans and standard details developed in Tasks 1100 and 1200 referenced as attachments in the report. Five copies will be submitted to the City for review and comment, and comments will be incorporated into the final report.

Task 1700 Assumptions and Clarifications

- The PDR is intended to be a compilation of the various work products developed throughout the Project so that all of the key project information is contained in a single document. The PDR is not intended to be an update of findings or decisions made throughout the other Project tasks.

Task 1700 Deliverables

- Priority 2 RTM PDR (five copies of the draft and final PDR)
- Priority 3 RTM PDR (five copies of the draft and final PDR)
- CD or DVD containing a pdf copy of the PDR and referenced files

Task 1800 – Support Services During Design Development (Detailed Design) Phase – Priority 2 Only

The next phase of work for this project following this Schematic Design will include Phase 3 – Design Development. The City will be soliciting Consultants to perform the detailed design activities which may include as many as seven separate design contracts. The number of contracts will be determined as part of this schematic design. AECOM will provide on-going support services on an as needed basis during the detailed design phase. This scope of services includes up to \$50,000 of fee to perform this task on a T&M basis, as approved by the City.

Task 1800 Assumptions and Clarifications

- AECOM shall not begin this activity until authorized by the City.

Task 1800 Deliverables:

- None

Task 1900 – Optional Supplemental Services

Throughout the project, AECOM will provide as needed services upon approval by the City. This scope of services includes up to \$133,851 (Priority 2) and \$80,193 (Priority 3) of fee (10% of the overall project budget) to perform this task on a T&M basis, as approved by the City.

Task 1900 Assumptions and Clarifications

- AECOM shall not begin this activity until authorized by the City.

Task 1900 Deliverables:

- None

Project Schedule

AECOM shall promptly commence work tasks upon receipt of the signed Agreement and Notice to Proceed from the City. AECOM shall complete the tasks above for Priority 2 by December 27, 2014 and Priority 3 by June 30, 2015. Additional support during Phase 3 (detailed design) will be completed by December 31, 2015

City Responsibilities

The following shall be the responsibility of the City:

- Provide all hydraulic modeling as needed.
- Apply for and pay for all environmental clearances and permits.
- Provide public outreach.
- Provide previous reports and studies related to the Project.
- Provide all environmental studies and approvals, CEQA approvals, and Phase I and Phase II investigations and compliance.
- Provide drawings and other data relating to layout and design of the RTMs, road right-of-ways (not of survey quality), etc. that may relate to the Project.
- Timely reviews of all deliverables (maximum 2 weeks).
- Participate in workshops and meetings.

This page intentionally left blank.

SCHEDULE OF FEES

Team Member	Project Role	Project Billing Rate
Keith Campbell	Principal-in-Charge	\$320
Mark Reitz	Project Manager	\$246
Henry Liang	Deputy Project Manager	\$175
Andrew Romer	Lead Designer	\$237
Ben Horn	Quality Control	\$275
Teddy Hioe	Utility Coordination, Pipe Alignment	\$192
Eric Garibay	Pipe Alignment	\$144
Jesus Lopez	Pipe Alignment, Design Standards	\$160
Simon Hernandez	Design Standards	\$237
Andrea Shephard	Environmental Planning	\$140
Dan Schotflander	Cost Estimating	\$191
Steve Doe	Hydraulic Modeling	\$160
Josh Nord	Hydraulic Modeling, Pipe Alignment	\$186
Geoffrey Rubendall	Traffic Control	\$155
Maris Janson	System Controls	\$223
Jason Chen	System Controls	\$173
Shinsuke Kaneko	Scheduling	\$195
Monique Roberts	Project Engineer	\$173
Stephen Spencer	Project Engineer	\$145
Brandon Stipe	Project Engineer	\$130
Tyler Hunt	Project Engineer	\$130
Dan Cronquist	Project Engineer	\$130
JJ Reichmuth	Project Engineer	\$125
Brian Nelson	Project Engineer	\$125
Jorge Anaya	Project Engineer	\$88
Nicholas Jacobson	Project Engineer	\$87
Aaron Gress	Project Engineer	\$81
Adam Nielsen	Project Engineer	\$81

Vene Campbell	Design CAD Supervisor	\$149
David Rodriguez	Design CAD Supervisor	\$133
David Ghilarducci	Design CAD Supervisor	\$140
Jim Froelicher	Design CAD Operator	\$108
Brian DeAnda	Design CAD Operator	\$84
Terry Chouinard	Technical Typist/Clerical	\$95
Cathy Joubert	Technical Typist/Clerical	\$91
Additional staff to provide program support will be billed at raw-labor rate x 3.00.		

Consultant fees will be based on the following terms.

1. Professional services will be billed as raw salary times a maximum multiplier of 3.00 plus direct project expenses.
2. Raw salary cost includes direct salary paid to an employee. The multiplier includes compensation for all other salary-related costs including fringe benefits such as sick leave, vacation, holiday pay, unemployment taxes, social security and Medicare taxes, state and local taxes, workman's compensation insurance. The multiplier also compensates for office overhead costs including, but not limited to, general postage and delivery services, general reproduction, rent, office supplies, and insurance.
3. Travel expenses and all other expenses directly related to the Project will be based on actual costs and will not be marked up. Receipts for all costs over \$25 will be maintained and submitted with invoices.
4. Direct project expenses related to technology costs, such as computers, communications and CADD charges will be compensated as an hourly rate charge of \$5.00 per labor hours charged on the project each month.
5. The automobile mileage rate will be based on the IRS established rate times mileage directly attributable to the Project.
6. Subconsultant labor will be marked up by 6%. First-tier subconsultant labor will be marked up by the prime consultant only, and second-tier labor will be marked up by the first-tier subconsultant only. Additional tiers, if any, will be treated similarly. No subconsultant's labor will be marked up by any party other than the one with whom they are contracted (no compounding markups).
7. Monthly invoices will present labor costs and expenses on a per-task basis. Subconsultants will be shown on the invoice as a separate line item under each task on the Consultant's invoice. Mark-up on subconsultants will be shown as a separate line item clearly indicating that the mark-up applies to subconsultant labor costs. Subconsultant invoices will also present labor costs and expenses on a per-task basis.

This page intentionally left blank.

Exhibit B

INSURANCE REQUIREMENTS

Consultant Service Agreement between City of Fresno ("CITY")
and AECOM Technical Services, Inc. ("CONSULTANT")
Schematic Design of the Priority 2 and 3 Regional Transmission Mains
PROJECT TITLE

Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. The most current version of Insurance Services Office (ISO) Commercial General Liability Coverage Form CG 00 01, which shall include insurance for "bodily injury," "property damage" and "personal and advertising injury" with coverage for premises and operations, products and completed operations, and contractual liability.
2. The most current version of Insurance Service Office (ISO) Business Auto Coverage Form CA 00 01, which shall include coverage for all owned, hired, and non-owned automobiles or other licensed vehicles (Code 1- Any Auto).
3. Workers' Compensation insurance as required by the California Labor Code and Employer's Liability Insurance.
4. Professional Liability (Errors and Omissions) insurance appropriate to CONSULTANT'S profession. Architect's and engineer's coverage is to be endorsed to include contractual liability.

Minimum Limits of Insurance

CONSULTANT shall maintain limits of liability of not less than:

1. General Liability:
 - \$1,000,000 per occurrence for bodily injury and property damage
 - \$1,000,000 per occurrence for personal and advertising injury
 - \$2,000,000 aggregate for products and completed operations
 - \$2,000,000 general aggregate applying separately to the work performed under the Agreement
2. Automobile Liability:
 - \$1,000,000 per accident for bodily injury and property damage
3. Employer's Liability:
 - \$1,000,000 each accident for bodily injury
 - \$1,000,000 disease each employee
 - \$1,000,000 disease policy limit

4. Professional Liability (Errors and Omissions):

\$1,000,000 per claim/occurrence

\$2,000,000 policy aggregate

Umbrella or Excess Insurance

In the event CONSULTANT purchases an Umbrella or Excess insurance policy(ies) to meet the "Minimum Limits of Insurance," this insurance policy(ies) shall "follow form" and afford no less coverage than the primary insurance policy(ies).

Deductibles and Self-Insured Retentions

CONSULTANT shall be responsible for payment of any deductibles contained in any insurance policy(ies) required hereunder and CONSULTANT shall also be responsible for payment of any self-insured retentions. Any deductibles or self-insured retentions must be declared to, and approved by, the CITY'S Risk Manager or his/her designee. At the option of the CITY'S Risk Manager or his/her designee, either (i) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects CITY, its officers, officials, employees, agents and volunteers; or (ii) CONSULTANT shall provide a financial guarantee, satisfactory to CITY'S Risk Manager or his/her designee, guaranteeing payment of losses and related investigations, claim administration and defense expenses. At no time shall CITY be responsible for the payment of any deductibles or self-insured retentions.

Other Insurance Provisions

The General Liability and Automobile Liability insurance policies are to contain, or be endorsed to contain, the following provisions:

1. CITY, its officers, officials, employees, agents and volunteers are to be covered as additional insureds.
2. The coverage shall contain no special limitations on the scope of protection afforded to CITY, its officers, officials, employees, agents and volunteers.
3. CONSULTANT'S insurance coverage shall be primary and no contribution shall be required of CITY.

The Workers' Compensation insurance policy is to contain, or be endorsed to contain, the following provision: CONSULTANT and its insurer shall waive any right of subrogation against CITY, its officers, officials, employees, agents and volunteers.

If the Professional Liability (Errors and Omissions) insurance policy is written on a claims-made form:

1. The retroactive date must be shown, and must be before the effective date of the Agreement or the commencement of work by CONSULTANT.
2. Insurance must be maintained and evidence of insurance must be provided for at least 5 years after any expiration or termination of the Agreement or, in the

alternative, the policy shall be endorsed to provide not less than a 5-year discovery period.

3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the effective date of the Agreement or the commencement of work by CONSULTANT, CONSULTANT must purchase extended reporting coverage for a minimum of 5 years following the expiration or termination of the Agreement.
4. A copy of the claims reporting requirements must be submitted to CITY for review.
5. These requirements shall survive expiration or termination of the Agreement.

All policies of insurance required hereunder shall be endorsed to provide that the coverage shall not be cancelled, non-renewed, reduced in coverage or in limits except after 30 calendar day written notice by certified mail, return receipt requested, has been given to CITY. Upon issuance by the insurer, broker, or agent of a notice of cancellation, non-renewal, or reduction in coverage or in limits, CONSULTANT shall furnish CITY with a new certificate and applicable endorsements for such policy(ies). In the event any policy is due to expire during the work to be performed for CITY, CONSULTANT shall provide a new certificate, and applicable endorsements, evidencing renewal of such policy not less than 15 calendar days prior to the expiration date of the expiring policy.

Acceptability of Insurers

All policies of insurance required hereunder shall be placed with an insurance company(ies) admitted by the California Insurance Commissioner to do business in the State of California and rated not less than "A-VII" in Best's Insurance Rating Guide; or authorized by CITY'S Risk Manager.

Verification of Coverage

CONSULTANT shall furnish CITY with all certificate(s) and **applicable endorsements** effecting coverage required hereunder. All certificates and **applicable endorsements** are to be received and approved by the CITY'S Risk Manager or his/her designee prior to CITY'S execution of the Agreement and before work commences.

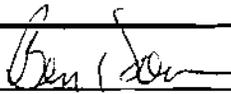
Exhibit C

DISCLOSURE OF CONFLICT OF INTEREST

Schematic Design of the Priority 2 and 3 Regional Transmission Mains
PROJECT TITLE

		YES*	NO
1	Are you currently in litigation with the City of Fresno or any of its agents?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Do you represent any firm, organization or person who is in litigation with the City of Fresno?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Do you currently represent or perform work for any clients who do business with the City of Fresno?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Are you or any of your principals, managers or professionals, owners or investors in a business which does business with the City of Fresno, or in a business which is in litigation with the City of Fresno?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Are you or any of your principals, managers or professionals, related by blood or marriage to any City of Fresno employee who has any significant role in the subject matter of this service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Do you or any of your subcontractors have, or expect to have, any interest, direct or indirect, in any other contract in connection with this Project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
* If the answer to any question is yes, please explain in full below.			

Explanation: _____



 Signature

 2/6/14

 Date

 Ben Horn

 (name)

 AECOM Technical Services, Inc.

 (company)

 1360 E. Spruce Avenue, Suite 101

 (address)

 Fresno, CA 93720

 (city state zip)

Additional page(s) attached.