Revised

Consultant's Scope of Services - Appendix B

Consultant Eligible Services Form

Consultant Firm:			
CONSULTANT is approved for these services:			
Discipline	On-Call	Federally Funded Projects	
Architectural Drafting and Design			
Assessment Engineering			
Certified Access Specialist (CASP) Certification			
Cost Estimating Validation			
Construction Scheduling Analysis			
Electrical Engineering			
Landscaping Architecture			
Plumbing and Mechanical Engineering			
Qualified SWPPP Developer and/or Practitioner			
Surveying			
Traffic Engineering			
Transportation Planning			
Utility Locating			
Water Resource Operators			
Water and Natural Resources Engineering			

Contract Administrator Signature:

CONSULTANT is responsible for all services listed within this scope document for the discipline(s), funding sources and category of service (on-call and/or on-call staff augmentation) which they have been indicated above as well as services listed across discipline.

Delete sections below not eligible/approved above

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Descriptions of Work by Discipline

Architectural Design and Drafting

- 1. Architectural design and drafting, including without limitation the design of County capital projects as well as homes, duplexes, fourplexes and multifamily developments.
- 2. Drawings and Specifications for Schematic Design, Design Development, and/or Construction Document.
- 3. 3D renderings upon request for board presentations.
- 4. Review and respond to architectural RFIs and Submittals during bidding and construction.

Assessment Engineering

- 1. In general, consists of, providing assessment engineering and preparing rate studies for special district services including potable water, wastewater, street lighting, road maintenance, storm drainage, landscape, and other services as may be provided to the various districts in Fresno County. Assessment engineering will be in accordance with Proposition 218 requirements and all other laws and regulations relating to the preparation of assessment engineer reports and rate studies.
- 2. The types of services shall include but are not limited to the following:
 - a. Coordinate with Department staff to obtain all necessary information needed to provide the services requested, such as assessor's files, copies of secured rolls, boundary maps, and budget information.
 - b. Prepare assessment engineer's and special reports which will include the listing of improvements being maintained or constructed, benefit spread methodology, and a listing of parcels being assessed and their corresponding assessment amount. These reports must meet all legal requirements and will provide continued justification for the levies, budgets for levy expenditures by expenditure type, and specific levies for each parcel.
 - c. Sign and stamp all necessary engineer's reports.
 - d. Prepare cost estimate as needed for work assigned from the Department to Assessment Engineer.
 - e. Provide for meetings with the Department for budgets, findings, recommendations, and development review meetings.
 - f. Assist the Department throughout the Proposition 218 process.

- g. Assist the Department, when requested, in addressing property owners or residents with questions concerning charges, fees, assessment, or special taxes, and other related issues.
- h. In addition to any meetings with the Department, the assessment engineer is expected to attend public meetings and hearings to respond to any questions that may be asked concerning the proposed assessment, special tax, or fee.

Certified Access Specialist (CASP) Certification

Site and building accessibility assessment reports to include barrier descriptions, photos, code references, severity, and potential cost impact to remove barrier.

Construction Scheduling Analysis

- 1. Assist in development of schedules.
- 2. Review of County generated schedules
- 3. Provide forensic evaluation of project schedules.

Cost Estimating Validation

- 1. Validate construction cost estimates for apartment complexes
- Validate construction Cost estimating at Schematic, Design Development, and/or Construction Documents
- 3. Recommendations for value engineering

Electrical Engineering

- 1. Electrical Design, Construction Documents, technical specs, and Title 24 calculations. Electrical engineering consultant also will be expected to review and respond to electrical related RFIs and submittals during Bidding and Construction.
- 2. Preliminary evaluation of electrical system and recommendations of existing facilities.
- 3. Provide design of control systems for various water and wastewater treatment facilities.
- 4. Provide telemetry and facility communication studies.
- 5. Provide design of telemetry and facility communication systems using various forms of transmission.

- 6. Provide design and integration of Supervisory Control and Data Acquisition systems and facility operating software.
- 7. Provide assistance in interface setup for operating staff interaction and control.
- 8. Provide design of electrical supply for various water and wastewater treatment facilities.
- 9. Provide design of water and wastewater treatment facility electrical systems.
- 10. Prepare PG&E Rule 15/16 Applications.
- 11. Provide assistance in preparation of Rule 16 applications.

Landscape Architecture

- Landscape design, drawings, and specifications, which shall include without limitation: Landscape plans, irrigation systems/plans, planting schedules, and Model Water Efficiency Landscape Ordinance (MWELO). Landscape consultant also is expected to review and respond to related RFIs and Submittals during Bidding and Construction.
- 2. Prepare revegetation and restoration plans to satisfy USACOE, CDFW and/or State Board requirements.

Plumbing and Mechanical Engineering

- 4. Provide Plumbing and Mechanical engineering design, drawings, specifications, and Title 24 calculations. Plumbing and Mechanical consultant will be expected to review and respond to related RFIs and Submittals during Bidding and Construction.
- 2. Preliminary evaluation and recommendations with regard to Plumbing and Mechanical Systems in existing facilities.

Qualified SWPPP Developer and/or Practitioner

- The County is seeking the services of a Consultant to provide SWPPP Consulting services for various facilities projects. The County's objective is to employ a consultant who will offer complete Storm Water management services, including preparing Notices of Intent (NOIs), Storm water Pollution Prevention Plans and storm water consulting.
- 2. Consultants may be called upon to provide Services that may include, but are not limited to the following:
 - a. SWPPP services on multiple sites for the next three years.

- b. Periodical site visits as requested by the County, for example, two visits a month for 36 months (total of 72 days).
- As needed, provide assistance and advise the County in matters associated with the State Water Resource Control Board (visits, violations, and correspondence).
- d. Update and monitor the SMARTS website.
- e. Consultant will be responsible for review and certification of all SWPPPs and information uploaded to SMARTs.
- f. Review and comment on SWPPPs submitted by County contractors.
- g. Develop and/or update SWPPPs for County projects.
- h. Consultant shall have QSD certification.

Surveying

- 1. Provide land records research for boundary determination of existing and proposed County properties and rights-of-way;
- 2. Recover existing monuments including public land survey monuments (section corners, etc.), property corners, rights-of-way monuments and benchmarks;
- 3. Provide retracement surveys;
- 4. Re-establish lost or obliterated corners:
- 5. Set-out and establish coordinates for horizontal and vertical project control points;
- 6. Provide planimetric and topographic site surveys for design purposes including digital terrain modeling for contour interpolation, profile, cross-section and earthwork volume calculations:
- 7. Complete borrow site surveys for earthwork calculations;
- 8. Interpret design plans to extract staking information;
- 9. Provide field staking limits, frequency and offsets of stakes to be determined for each project;
- 10. Provide records filings including, but not limited to, Corner Records and Record-of-Survey; and
- 11. Identify and plot location of water, sewer and gas mains, central steam and other utilities including, but not limited to, buried tanks and septic fields.

Traffic Engineering

- 1. Provide design for signage and striping
- 2. Provide design for roundabouts
- 3. Traffic calming
- 4. Provide traffic signal/pedestrian signal design

Transportation Planning

- 1. Provide transportation planning for the following programs:
 - a. Safe routes to school
 - b. Traffic calming
 - c. Active transportation planning
 - d. Sustainable transportation planning
 - a. Climate adaption planning

Utility Locating

- 1. Excavation to positively identify underground utilities (potholing)
- 2. Collection of invert levels at manholes (sewers) and catch basins (storm drains) identified by the Department
- 3. Collection of top nut information at valve cans identified by the Department
- 4. Restoration of disturbed areas to pre-existing conditions or as required by the Department

Water and Natural Resources Engineering

- 1. .Groundwater Resources Planning and Analysis
 - a. Sustainable Groundwater Management Act compliance and Groundwater Sustainability Plan development
 - b. Conjunctive use program planning, development, and implementation
 - c. Aquifer Storage and Recovery (ASR), in-lieu recharge, surface recharge, and water banking program planning, development, and implementation

- d. Groundwater substitution and water transfer program development
- e. Water master plans, water supply assessments, integrated water resources management, salt and nutrient management
- f. Local to regional hydrogeologic conceptual models, groundwater/surface water model development, and sustainable yield analysis
- g. Surface water and groundwater interaction (e.g., exchange between surface water features and underlying groundwater)
- h. Water budget analyses
- i. Groundwater recharge area mapping
- j. Aquifer test design, implementation, and analysis
- k. Groundwater monitoring plan development, data collection and management, and reporting
- I. Groundwater flow and transport modeling
- m. Land subsidence data collection and interpretation
- n. CEQA and NEPA impact analysis, mitigation development, and technical support
- 2. Wells and Pump Stations Design and Construction Management
 - Full-service planning, permitting, specification preparation, engineering design, and construction services associated with new wells and pump stations
 - b. Hydrogeologic investigations and site characterization
 - c. Monitoring well design and construction oversight
 - Development of compliance strategies and permit acquisition, including
 CEQA compliance and water supply permitting at the local, state and
 federal level
 - e. Groundwater well siting and design
 - f. Well drilling and testing program design, implementation, and oversight

- g. Well repair and modification program development
- h. System-head operating analysis and efficient bowl selection
- i. Well pump components design and inspection (lineshaft and submersible)
- j. Pump station facility design
- k. Well field analysis and optimization for simultaneous well operation
- I. Pumping plant and well efficiency testing and analysis
- m. Aquifer storage and recovery (ASR) wells and pump stations
- n. Stormwater collection and infiltration systems
- 3. Treatment, Storage and Distribution Services Planning, Design, and Construction Management
 - a. Full-service planning, permitting, engineering design, and construction services
 - Groundwater treatment technologies and design for drinking water including removal of arsenic, hexavalent chromium, total dissolved solids/salinity, nitrate, organic constituents, iron, and manganese.
 - c. Surface water treatment feasibility and design for municipal drinking water
 - d. Point-of-Use (POU) and Point-of-Entry (POE) permitting and design for small drinking water systems
 - e. Disinfection systems including liquid/gas chlorination, chloramination, UV treatment and onsite generation
 - f. Chemical treatment systems including fluoridation, caustic and acid systems
 - g. Water storage tanks and reservoirs
 - h. Booster pump stations
 - i. Water main pipeline, distribution systems and pressure reducing stations

- j. Distribution system hydraulic modeling and analysis
- k. Water Master Plans, water system master planning and CapitalImprovement Plan development
- I. Urban Water Management Plans
- Permitting assistance for municipal public water systems, drinking water
 treatment plants and facility designs
- n. Pilot testing and feasibility studies

4. Environmental Services

- a. Salt and nutrient (including nitrate) management and planning
- b. Hydrogeologic vulnerability analysis and assessment (agricultural lands, etc.)
- c. Groundwater flow and transport modeling
- d. Groundwater monitoring plan development, data collection and management, and reporting
- e. CEQA and NEPA impact analysis, mitigation development, and technical support
- f. Regulatory compliance monitoring and reporting
- g. Groundwater, surface water, and soil sampling

5. Proposition 218 Services/Grant writing, implementation, and monitoring

- a. Prepare studies in compliance with Proposition 218
- b. Identify and secure funding resources
- c. Assist in implementing projects
- d. Grant reporting

6. Modeling Services

- a. Conceptual, analytical, empirical, and numerical models
- b. Comprehensive groundwater basin resources evaluations
- c. Water budget analysis
- d. Well field optimization and basin development
- e. Aquifer management and conjunctive use evaluations
- f. Surface water and groundwater interaction (e.g., exchange between surface water features and underlying groundwater)
- g. Land subsidence
- h. Solute transport and groundwater quality (e.g., migration time, speciation)
- i. Non-point source contamination (e.g., salinity, nitrate)
- j. Vadose zone processes

7. Data Management Systems

a. Development of a data management system

On-Call Services

Technical Reports

Applies to all disciplines

Description of Work

Prepare a detailed preliminary engineering report for the project in Department format. The report shall contain all necessary information in sufficient detail to propose the project design.

Requirements of Specified Services

- 1. Ascertain the requirements for Technical Reports through meetings with the PROJECT ADMINISTRATOR and a review of existing information on the PROJECT(S).
- 2. The CONSULTANT shall prepare and submit technical reports to the PROJECT ADMINISTRATOR for each assigned PROJECT. Technical reports shall be prepared in accordance with the appropriate format required by local, state and federal laws, regulations and guidelines.
- 3. When requested by the PROJECT ADMINISTRATOR, the CONSULTANT shall attend meetings with the COUNTY, federal, state and/or local representatives to discuss and review the technical report. The CONSULTANT shall prepare brief minutes of meetings attended and promptly submit the minutes to the PROJECT ADMINISTRATOR within seven (7) days.
- 4. The CONSULTANT shall submit each technical report to the PROJECT ADMINISTRATOR for transmittal to other appropriate agencies for their review and approval. The CONSULTANT shall revise and resubmit each technical report as necessary until approved by all appropriate agencies.
- 5. The CONSULTANT shall prepare and submit technical studies and estimates in the formats, quantities, and delivery methods delineated in Appendix C. The CONSULTANT shall verify compatible format and quantity prior to final delivery.

Preparation of Various Reports and Studies

Applies to all disciplines.

Description of Work

1. Analyze project budget;

- 2. Review existing engineering reports from the Department as available;
- 3. Prepare a detailed project cost estimate, which shall identify the components and requirements of the project; and
 - 4. Prepare a detailed report or study in Department format.

Preliminary Engineering

Applies to the following disciplines:

Electrical Engineering	Landscape Architecture
Plumbing and Mechanical Engineering	Traffic Engineering
Water and Natural Resources	Architectural Design and Drafting
Engineering	

Description of Work

- 1. Prepare a detailed preliminary engineering report for the project in Department format. The report shall contain all necessary information in sufficient detail to propose the project design; and
- 2. Prepare site plans and grading plans identifying basis of bearing, location of benchmark used and source of elevation (vertical) datum.

Prepare Design Plans, Technical Specifications and Construction Estimate

Applies to the following disciplines:

Electrical Engineering	Landscape Architecture
Plumbing and Mechanical Engineering	Traffic Engineering
Water and Natural Resources	Architectural Design and Drafting
Engineering	

General Description of Work

- 1. Complete fully the project designs to include comprehensive construction plans, earthwork volumes, required permits, technical specifications, cross-sections and final opinion of probable construction cost (Engineer's Estimate) for construction.
- 2. Apply urban design principals that meet the needs of the individual communities.
- 3. Submit the recommended construction period for bidding purposes to the County for approval and identify materials and equipment requiring long delivery times that will control the length of the construction Agreement.

4. Prepare addenda as necessary for bid documents.

Requirements of Specified Services When Requested

The CONSULTANT shall:

- 1. Ascertain the requirements for the assigned PROJECT(S) through meetings with the PROJECT ADMINISTRATOR and a review of an existing schematic layout of the PROJECT(S).
- 2. Ascertain any requirements, unforeseen criteria, or issues for the PROJECT(S) that may be unknown to the PROJECT ADMINISTRATOR and communicate these requirements, criteria, or issues to the PROJECT ADMINISTRATOR.
- 3. Design the PROJECT(S) to conform to requirements of the reviewing agencies having jurisdiction over the PROJECT(S).
- 4. Design PROJECT(S) to include mitigation measures as required or specified in the environmental documents.
- 5. Monitor and keep the PROJECT ADMINISTRATOR informed regarding the impact of design issues on the PROJECT budget. Upon the written request, the CONSULTANT shall incorporate into the design, such reasonable design and operational changes as the PROJECT ADMINISTRATOR deems appropriate as a result of the COUNTY'S review processes and impact on each PROJECT budget or estimate.
- 6. Assist the COUNTY in determining all permits that may be required for the PROJECT and prepare all necessary permits for the COUNTY'S submittal to outside agencies.
- 7. Work with the PROJECT ADMINISTRATOR to ensure that the plans, specifications and estimate meet all requirements to be advertised for construction bids.
- 8. If required by approval agencies or PROJECT ADMINISTRATOR, submit to the COUNTY in the appropriate agency forms, the PROJECT background information and recommended testing and inspection list for materials to be used, identifying type, quantity, frequency, and schedule, for each PROJECT. Submit required numbers of sets of plans, specifications, and other documents required by approval agencies to the PROJECT ADMINISTRATOR.
- 9. Submit to the PROJECT ADMINISTRATOR plans, specifications and estimates for review in the formats, quantities, and delivery methods delineated in Appendix C. Prior to submission of plans, the CONSULTANT shall request from the PROJECT ADMINISTRATOR examples of acceptable drafting format and reproducible standards. Verification of compatible format will be required prior to final file delivery. The PROJECT ADMINISTRATOR, at his/her discretion, may reject a submittal that is determined insufficient.

10. The original drawings and specifications index sheet shall be stamped by a seal with the CONSULTANT'S and subconsultant's license numbers and/or signed in accordance with the California Business and Professions Code.

Construction Observation

Applies to the following disciplines:

Certified Access Specialist (CASP)	Cost Estimating Validation
Certification	
Electrical Engineering	Landscape Architecture
Plumbing and Mechanical Engineering	Traffic Engineering
Qualified SWPPP Developer and/or	Water and Natural Resources
Practitioner	Engineering
Professional Project Scheduler	Architectural Design and Drafting

General Description of Work

- 1. Attend the pre-construction conference scheduled by the Department; and
- 2. Provide services during construction including, but not limited to:
- a. Make recommendations to the Department on all claims of the Department or construction contractor and all other matters relating to the execution and progress of work, including interpretation of the Agreement documents.
- b. Review and make recommendations for samples, schedules, shop drawings and other submissions for general conformance with the design concept of the project and for general compliance with the plans and specifications and information given by the consultant's contract documents.
- c. Respond timely to requests from the Department and contractor for information needed from consultant in order to clarify construction plans and specification to review the contractor's estimates for all other charges.
- d. Recommend and prepare necessary change orders and associated engineer's estimate.
- e. Assist the Department, at the Department's express, written authorization, with any claim resolution process involving the Department's construction contractor and the Department, including serving as a witness in connection with any legal proceedings or dispute resolution processes required by law.

Requirements of Specified Services When Requested

The CONSULTANT shall:

- 1. When requested by the PROJECT ADMINISTRATOR, attend meetings with the COUNTY, and/or any federal, state and/or local representatives. The CONSULTANT shall prepare brief minutes of all meetings attended and promptly submit those minutes to the PROJECT ADMINISTRATOR within seven (7) calendar days.
- 2. Make recommendations to the COUNTY on all claims of the COUNTY or the construction contractor and all other matters relating to the execution and progress of work, including interpretation of the contract documents for the PROJECT.
- 3. Within seven (7) calendar days of the COUNTY'S request, review and make recommendations for samples, schedules, shop drawings, and other submissions for general conformance with the design concept of the PROJECT(S) and for general compliance with the plans and specifications and information provided by the contract documents for the PROJECT.
- 4. Within two (2) working days, respond to requests from the PROJECT ADMINISTRATOR for information needed from the CONSULTANT in order to clarify construction plans and specifications and to review the construction contractor's cost estimates for all change orders.
- 5. Recommend and assist in the preparation of such change orders as deemed necessary with supporting documentation, calculations and estimate, for review and issuance of change orders by the COUNTY Construction Engineer to obtain appropriate agency acceptance and approval.
- 6. At intervals appropriate to the stage of construction, or as otherwise deemed necessary by the CONSULTANT, visit the site of the PROJECT(S) as necessary to become familiar generally with the progress and quality of the work and to determine whether the work is proceeding in general accordance with the contract documents. The CONSULTANT shall not be required to make exhaustive or continuous onsite inspections but shall give direction to the Construction Inspector as hereinafter more specifically provided. The CONSULTANT shall not be responsible for the construction contractor's failure to carry out the construction work in accordance with the contract documents. However, the CONSULTANT shall immediately advise the PROJECT ADMINISTRATOR of any known or observed deviation from the contract documents.
- 7. Not have control over or charge of, and shall not be responsible for construction means, methods, techniques, sequence, or procedure, or for the safety precautions, programs, or equipment in use in connection with the work, since these are solely the construction contractor's responsibility under the contract for construction.
- 8. Submit progress reports on each specific PROJECT in accordance with the task order. These reports shall be submitted at least once a month. The report shall be sufficiently detailed for PROJECT ADMINISTRATOR to determine if the CONSULTANT is performing to expectations or is on schedule, to provide

communication of interim findings, and so sufficiently address any difficulties or special problems encountered so remedies can be developed.

- 9. Advise the PROJECT ADMINISTRATOR of defects and deficiencies observed in the work of the construction contractor and may recommend that the DIRECTOR reject work as failing to conform to the contract documents.
- 10. Conduct site visits and field observations to facilitate recommendations by the CONSULTANT regarding:
 - a. dates of substantial completion
 - b. dates of final completion
 - c. the DIRECTOR'S acceptance of the work
- d. the DIRECTOR'S filing of the Notice of Completion and Issuance of Final Certificate for payment
 - e. other issues which may require site visits
 - 11. Control of Construction Project Site

The COUNTY agrees that in accordance with generally accepted practices, the COUNTY'S construction contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction projects; including safety of all persons and property, and that this requirement shall be made to apply continuously during projects and not be limited to normal working hours. The CONSULTANT shall not have control over or charge of, and shall not be responsible for, project means, methods, techniques, sequences or procedures, as these are solely the responsibility of the construction contractor. The CONSULTANT shall not have the authority to stop or reject the work of the construction contractor.

Project Design

Applies to the following disciplines:

Electrical Engineering	Landscape Architecture
Architectural Design and Drafting	

Description of Work

Provide complete designs and produce biddable plan sets and accompanying specifications for various projects using Civil 3D software, AutoCAD, Revit, as

requested or approved by the County. All designs should apply urban design principles that meet the needs of the individual communities. The projects include:

- 1. Road reconstruction projects
- 2. Congestion mitigation air quality shoulder improvement projects
- 3. Hot mix asphalt overlay projects
- 4. Road projects employing in-situ reclamation processes
- 5. Bituminous seal coats and slurry seals
- 6. Bridge rehabilitation
- 7. Bridge replacement
- 8. Bridge scour mitigation
- 9. Water system projects
- 10. Wastewater system projects
- 11. Landfill Projects
- 12. Interior Tenant Improvements
- 13. New buildings

Engineering Support

Applies to all disciplines.

Description of Work

- 1. Provide technical data for the preparation of various funding paperwork.
- 2. Provide technical data for the preparation of various permit applications.
- 3. Provide technical data for the preparation of cooperative agreements.
- 4. Provide technical data for the preparation of utility agreements.
- 5. Prepare and stamp legal descriptions for the acquisition of right of way.
- 6. Conduct meetings with property owners regarding projects
- 7. Review of existing designs for compliance with development plans

- 8. Provide presentation materials for the Board of Supervisors to be presented by COUNTY staff.
 - 9. Prepare various tables, maps, charts and diagrams.
 - 10. Provide technical support for request for proposal processes.
 - 11. Serve as a plan checker and independent quantity checker.