Exhibit "A" - Scope of Work

1. Project Services. Consultant agrees to perform professional services for a project known and described as Pima Wash #8 Wash Stabilization ("Project"). The Services are described in the following subtasks:

Task 1. – Data Collection & Utility Coordination

a. Research and evaluate existing City, County, and private utility information (e.g., as-builts, quarter section maps, GIS) regarding existing facilities such as roadway, drainage, traffic, and utilities. The City will provide available as-builts and other related existing data including right-of-way tract maps.

b. Review the previously completed hydrologic analysis completed for Pima Wash #8. The previously completed hydrologic analysis will be used for this design. Obtain and review recently completed City FLO-2D model.

c. Review the previously completed hydraulic and sedimentation analysis for Pima Wash #8.

d. Request an Arizona Blue Stake ticket as part of the geotechnical investigation to identify existing utilities within the Project limits and request existing utility information.

e. Coordination with utility companies for plan review and obtain necessary utility clearances or relocations to include: submittal of plans, comment resolution forms and review of relocation plans for all affected utility owners.

Task 2. – Coordinate Control, Topo Survey, Right-of-Way and Geotechnical

a. Prepare a survey request and coordinate topographic survey and right of way services with the City and sub-consultant.

b. Review and update the CAD files for control and topographic survey data as well as right-of-way information provided.

c. Verify obtained topographic information at progress meeting.

d. Coordinate geotechnical investigations for drop structure, grade control structures and any bank protection design.

Task 3. – Hydraulic and Scour Analysis

a. Prepare an existing and proposed conditions hydraulic analysis for Pima Wash #8. No additional hydrology is anticipated. The hydraulic analysis is prepared in HEC-RAS. Cross sections from the previously completed analysis are updated using Project topography. The hydraulic analysis is for the 10- and 100-year storm event. Hydraulic analysis is compared to the recently completed City FLO-2D model.

b. Locate and size bank protection at spot locations. The bank protection design is designed to maintain a 100-year water surface elevation a minimum of one (1) foot below the lowest adjacent top of bank elevation.

c. Prepare a Drainage Report to document the analysis. A Draft Drainage Report is submitted with the 60% Submittal. The Consultant will respond to one round of comments for the report. A Final Drainage Report is submitted with the 90% Submittal.

Task 4. – Construction Documents

a. Submit construction documents at three (3) stages, 60%, 90% and Final.

b. Establish a wash construction centerline based on existing survey monuments.

c. Prepare wash stabilization plans and details. The following sheet list is anticipated for the final construction documents:
   i. Cover Sheet (1 Sheet)
   ii. Legend & Notes (1 Sheet)
   iii. Survey and Geometric Control (1 Sheet)
   iv. Typical Sections (1 Sheet)
   v. 1" = 20' Wash Plan & Profile (7 Sheets)
   vi. Miscellaneous Channel Details (2 Sheets)

Task 5. – Project Estimate and Specifications

a. A list of anticipated quantities is prepared and submitted at each design stage.
   i. Present quantities on the plan sheets and in a separate quantities spreadsheet using custom bid items based on City item descriptions.
   ii. An Opinion of Probable Cost (OPC) is provided for these quantities.

b. Technical special provisions are prepared for the 60%, 90%, and Final submittals. The specifications utilize the City format.

Task 6. – Project Management/Pre-Bid Services

a. Project management includes contract management, invoicing, Project schedule development, internal meetings with staff, Quality Control/Quality Assurance, and CADD maintenance.

b. Pre-Bid Services include contractor questions, bid tabulation review/recommendation and issuance of addendums as necessary.

Task 7. - Meetings

a. Attendance at the following meetings as a part of this Project:
   i. Kickoff Design Meeting
   ii. Plan Review Meetings (3 meetings)

b. Design progress meetings are assumed to be attended by the Project Manager in the City's office and any technical support will participate by teleconference.

c. Responsible for preparing meeting agendas, exhibits, and notes.

d. Field reviews are assumed to be conducted on the same days as meetings described above.

e. Any meetings beyond those listed above will be considered additional services.

f. Prepare a summary of comments received following each submittal. The summary includes a response and how it was addressed.

Task 8. – Topo Survey & Right-of-Way

a. Provide topographic survey and right of way throughout the Project limits. This includes:

   i. Project Control
   ii. Right of Way Survey and Mapping
   iii. Aerial Mapping (one foot contours at 1"=40')
   iv. Orthophotography
   v. Field survey for hardscape features
   vi. Mapping will be provided via Autocad

a. Prepare legal descriptions and exhibits for up to three (3) temporary construction easements.

Task 9. – Geotechnical Services

a. Review available published geotechnical reports, topographic information, soil surveys, and aerial photographs of the Project area.

b. Conduct field trip for geologic reconnaissance and mark test pit locations

c. Test Pits (maximum ten (10) feet deep) are performed to determine subsurface conditions and obtain representative samples for laboratory analysis. Approximately five (5) locations are proposed in the wash. Test borings will be blue-staked prior to field services.

d. Laboratory Analysis includes:

   i. Compression
   ii. Swell
   iii. Minus No. 200 Sieve and Plasticity
   iv. Moisture Content/Dry Density Ring Samples

e. A Final Geotechnical Report is provided detailing the results of the field/laboratory testing and recommendations provided for site grading, preparation procedures and thicknesses of pavement and concrete surfaces.

2. Schedule**.** The Services will commence upon receipt of an executed Agreement and will take 18 weeks.

3. Services Not Included.

The following items/services are not included in this scope of work and fee schedule. If these items/services are determined to be required, a separate agreement by contract amendment or new contract shall be coordinated between City and the Consultant.

- Hydrology
- Floodplain revision applications
- Private utility relocation design
- Construction phase services
- Street light design
- Environmental permitting services (401, 404, etc.)
- Other environmental services
- Land acquisition documents
- Public involvement
- Permit or plan review fees