APPENDIX 3

Professional Engineering Services for the
City of Stockton Stormwater Master Plan

1. PURPOSE

The development and preparation of a comprehensive Stormwater Master Plan shall include hydrologic and hydraulic modeling and analysis, identification of infrastructure needs, development of capital improvement plan with cost estimates for future capital, stakeholder outreach and financial analysis for connection fee rates. All these efforts are to be coordinated with the Community Development Department and the Municipal Utility Department (MUD) to establish Development Impact Fees consistent and that comply with the City’s 2040 General Plan.

2. BACKGROUND

The City is characterized by flat topography with a complex network of streams and rivers running through it. The northern portion of the City is protected by levees, and drainage is typically pumped into receiving waters. The southern portion of the City does not have as many levees and is characterized by many floodplain designations by the Federal Emergency Management Agency (FEMA). The City’s storm drain system includes 626 miles of 4-inch to 96-inch storm drain pipes, 76 pump stations used to pump drainage, 60 of which discharge directly into the receiving waters.

The existing Conceptual Storm Drain Master Plan was adopted by City Council in November 2008 to support the 2035 General Plan. The plan developed sub-watersheds in the general area of the 2035 General Plan boundary with receiving water constraints for stormwater discharges. The master plan required detailed master plans for individual developments to be completed once those developments become ready.

The most recent General Plan Update for 2040 has designated different buildout land uses in comparison with the 2035 General Plan. The MUD staff intend to complete a Citywide storm drainage master plan with hydrologic and hydraulic modeling for existing conditions as well as infrastructure planning for future development. In addition, the City’s current stormwater fee program should be revised based on the updated storm drain master plan, operations and maintenance costs, and future repairs and replacements.

3. SCOPE OF SERVICES, TASKS, AND DELIVERABLES

The City intends for the Storm Drain Master Plan to be a dynamic and useful planning and implementation document. The following are the minimum required services and
deliverables to be included in the Scope of Services, in addition to those listed under Task 9 of the Nexus Study RFP:

**Task 1: Project Management:** Effectively manage the Stormwater Master Plan development in a timely and budget-conscious manner. Hold one additional kick-off meeting and a minimum of five progress meetings with City and the MUD staff specific to the Stormwater Master Plan. These shall be in addition to those listed under Task 7 of the Nexus Study RFP. Progress meetings shall coincide with major milestones in the project.

**Task 2: Review City Policies and Existing Documents:** Evaluate existing policies and standards used in planning and design, regulatory framework, National Pollutant Discharge Elimination System (NPDES) requirements, and water quality objectives. Review plans, projects, and data from existing resources, drainage sheds boundaries and characteristics, GIS and topographic data, and record storm drain improvement plans, storm drain assessment districts documents, areas of benefit (AOB), etc.

List of documents available for review include, but is not limited to:
- 2040 General Plan, Stormwater Master Plan Supplement
- 2008 Conceptual Storm Drain Master Plan
- 2004 Draft Conceptual Storm Drain Master Plan
- 1973 San Joaquin County Storm Drain Master Plan
- 1997 Draft San Joaquin County Hydrology Manual
- City of Stockton Standard Specifications and Plans
- San Joaquin County Improvements Standards
- City of Stockton Stormwater Management Plan
- City of Stockton Stormwater Quality Control Criteria Plan
- City of Stockton GIS Data of Stormwater Infrastructures
- Stormwater Consolidated Storm Drainage Assessment Districts
- Storm Drainage Basin Maintenance Districts

**Task 3: Goals, Strategies, and Priorities:** Identify and confer with the MUD staff and other stakeholders to clearly establish Master Plan goals, strategies, priority criteria, and methodology. The objectives of the study include the following:

- Update inventory
- Assess system deficiencies (Existing and Buildout)
- Develop priorities
- Review stormwater management policies for compliance with NPDES permit

**Task 4: Data Collection and Analysis:** Evaluate existing ground surface topography. Perform topographic survey, as necessary, to determine primary water sheds, sub-basins, and other flow contributors. Review and analyze the condition and capacities of existing storm drain facilities, flooding history, and identify isolated flooding locations.
**Task 5: Hydrologic and Hydraulic Modeling:** Based on the information/data collected and analyzed, develop a hydrologic and hydraulic computer model for the existing land use conditions and future development build out in conformance with the City’s 2040 General Plan. Determine capacity requirements of and plan infrastructure for future development within the 2040 General Plan boundary. Provide a minimum of one day training for City staff on the details of the model, software delivery platform, and methods and methodology for the use and maintenance of the hydraulic model.

**Task 6: Draft and Final Stormwater Master Plan:** Develop and prepare the Draft and Final Citywide Stormwater Master Plan, including primary watersheds and sub-basins, hydrologic and hydraulic evaluations. Identify infrastructure deficiencies at existing facilities, and develop a capital improvement plan with cost estimates for current and future capital costs. The Master Plan shall be formatted and organized to include, at a minimum, the following sections:

- Executive Summary
- Introduction
- Summary of previous master plans
- Existing Conditions
- Design Criteria
- Stormwater Quality
- Analysis of Existing System
- Analysis of Proposed System
- Recommended Improvements
- Cost Estimates
- Capital Improvement Program

**Task 7: Financial Analysis:** As part of the capital improvement plan, develop funding strategies and an optimal financial plan for implementation of Master Plan recommendations for capital projects including repair, rehabilitation and improvement. Work with City staff to integrate appropriate capital and operations costs into the cash flow analysis based on the Master Plan Update. Create framework to communicate and prioritize financial resources required to sustain current and desired assets at appropriate level of service. Develop list of capital improvement projects and include estimated costs and prioritization.

**Task 8: Hydrologic and Hydraulic Model Maintenance and Technical Support:** The MUD staff intend to retain the successful proponent/consultant for model maintenance and technical support for future development or other engineering analysis. This involves ongoing support services on an as-needed basis following completion of the Master Plan. This task involves performing analyses for proposed new development areas as requested by the City, including hydraulic modeling to determine demands on the City’s utility system. The MUD will provide demands supplied by development projects in order
to analyze the storm drain systems using criteria from the updated Master Plan. The consultant shall provide recommendations for any system improvements that may be required as a result of the analysis. Results shall be provided in a brief technical memorandum summarizing the hydraulic evaluation and conclusions. This task shall extend for two (2) years beyond the completion of the Master Plan. The number of development projects requiring analysis support can be assumed as ranging from five to 10 per year.

**Task 9: Stormwater Connection Fee Analysis:** Provide technical support to the City’s Fee / Nexus Study consultant to develop a Citywide Stormwater Connection Fee. Refer to Task 9.g under the Scope of Services for the PFF Nexus Study and Stormwater Connection Fee Study.

**Task 10: Coordination and Plan Development:** Coordinate work activities closely with the MUD staff and other stakeholders throughout the Plan Development process. This may involve meetings with City staff and developers and includes attending City Council and other public meetings to answer questions. This task also includes submitting Master Plan elements for review at various milestones allowing the City team to provide effective and timely feedback and support. The milestones are to be listed in the proposed schedule submitted as part of the proposal.