

EXHIBIT “A” – SCOPE OF WORK
WATER TREATMENT AUGMENTATION FEASIBILITY STUDY

I. Services: Consultant will perform a Water Treatment Augmentation Feasibility Study to evaluate treatment alternatives to optimize the Wastewater Treatment Plant (WTP) process to reduce organics and total dissolved solids (TDS) and address increasing concerns with disinfection byproducts (DBP) in the City’s potable water supply (Study). For this Study, Consultant agrees to perform the following “Services”:

A. Water Quality Review and Goal Development

The Consultant will perform a review of water quality data provided by the City for the WTP raw water, WTP finished water and WWTP effluent. Key parameters that will be reviewed will include at least the following parameters: alkalinity, bicarbonate, calcium, carbonate, chloride, iron, magnesium, manganese, pH, silica, sodium, TDS and total organic carbon (TOC). In addition, quarterly DBP data in the WTP finished water and water distribution system will be reviewed. The Consultant will develop a summary table to compare the water quality from various streams and work with City to develop specific water quality goals for select parameters (e.g. hardness, TDS, TOC).

B. Process Alternative Development and Alternative Analysis

Based on the outcome of section A above, the Consultant will perform a review of the existing WTP process and identify opportunities to provide additional treatment processes to address and meet the City’s water quality goals. The Consultant will develop a list of process modifications that may be suitable to address organics and salinity reduction at the WTP. The Consultant will identify pros and cons for each process modifications and prepare a short list of modifications that are feasible and expected to be compatible with the existing treatment process. The short list of modifications will be used to develop up to four process alternatives to be evaluated in this Study.

C. Preliminary Cost Opinion

The Consultant will prepare capital cost estimates for up to four process alternatives. Cost estimates will be generated using the CH2M Parametric Engineering System (CPES™) and will be Class V (+100%/-50%) as defined by the Association for the Advancement of Cost Engineering (AACE) International. The capital cost estimates will include both construction and non-construction costs and presented in a tabular form to the City.

D. Conceptual Site Plan

The Consultant will prepare a conceptual site plan for each of the four process alternatives that will show the location and space requirements of associated process equipment and modifications. Space requirements will be depicted using basic shapes and geometry overlaid on site plans and/or aerial images taken from Google Earth of the WTP. The conceptual site plans will be developed in PowerPoint or Visio and provided to the City as PDFs.

E. Report

The Consultant will prepare a report to summarize and present the work products completed in section A through D above. A draft report will be prepared by the Consultant and submitted to the City for review. The City will prepare one set of consolidated review comments to be addressed by the Consultant in the final report.

F. Project Management and Meetings

The Consultant will perform typical study management responsibilities, which include Study setup, progress reports, and monthly invoicing. Two meetings will be performed in person by the Consultant at the City's offices or facilities. The first meeting will consist of a kickoff meeting and site visit to the City's WTP. The second meeting will be held to present the results of the study prior to submittal of the draft report. Travel expenses are based on this assumption.

G. Assumptions

Consultant will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by City. In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for the Study, Consultant has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive City bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate cost or schedule. Therefore, Consultant makes no warranty that City's actual costs, financial aspects, economic feasibility, or schedules will not vary from Consultant's opinions, analyses, projections, or estimates.

H. Schedule

An estimated Study Schedule is attached as Exhibit A(1).