



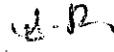
ACTION	TYPE OF ITEM
<input type="checkbox"/> Approved Recommendation	<input checked="" type="checkbox"/> Info/Consent
<input type="checkbox"/> Ord. No(s). _____	<input type="checkbox"/> Report
<input type="checkbox"/> Res. No(s). _____	<input type="checkbox"/> Public Hearing (Info/consent)
<input type="checkbox"/> Other _____	<input type="checkbox"/> Other _____

Prepared By: Anthony Emmert, Water Resources Manager  Agenda Item No. I-19

Reviewed By: City Manager _____ City Attorney SMF Finance JL Other (Specify) _____

DATE: June 15, 2012

TO: City Council

FROM: Rob Roshanian, Interim Public Works Director 

SUBJECT: **Fifth Amendment to Agreement with Aquatic Bioassay and Consulting Laboratories, Inc. for Receiving Water Monitoring Services**

RECOMMENDATION

That City Council approve and authorize the Mayor to execute the Fifth Amendment to the Agreement with Aquatic Bioassay and Consulting Laboratories, Inc. (ABC Labs) to add services to the scope of services, revise the schedule of charges exhibit, increase the amount by \$309,008 for a total of \$1,705,208 for receiving water monitoring services (Agreement No. A-6892) and extend the contract expiration date to June 30, 2013.

DISCUSSION

Wastewater treatment plants which discharge to the Pacific Ocean are required to monitor the ocean water to assure compliance with Federal and State discharge regulations. The Environmental Protection Agency and the Regional Water Quality Control Board provide permit requirements with which the City must comply. In order to meet these requirements, the City hires a qualified firm to perform receiving water monitoring activities and issue reports in conformance with the City's Wastewater Treatment Plant National Pollutant Discharge Elimination System Permit.

The scope of services to be performed by ABC Labs listed in Exhibit A-2 include, but are not limited to, offshore monitoring, benthic monitoring, sediment toxicity monitoring, demersal fish and macroinvertebrate monitoring, annually surveying the ocean outfall, attending quarterly meetings, and preparing and producing reports. In addition to the foregoing scope, the Regional Water Quality Control Board requires development of special studies to address specific water quality concerns. The City proposed that a special Bagged Mussel Array Study be conducted at four (4) sampling points at the City's outfall line sphere and one (1) at the terminus of the new Calleguas Salinity Management Pipeline outfall to assess the contribution of contaminants that bioaccumulate in mussel tissue. This special study will also address the declining populations of routine species used for bioaccumulation. The cost of this study is \$29,768.

On May 15, 2007, the City issued a Request for Proposals to qualified firms to conduct monitoring of the Wastewater Treatment Plant's receiving waters. Based on the firm's technical and professional qualifications, and its previous experience conducting the City's receiving water monitoring program, the Water Resources Division selected ABC Labs to provide the required services. The City and ABC Labs subsequently executed an agreement for one (1) year of monitoring service, with option to extend up to five (5) additional one-year terms. ABC Labs has completed the first five years of monitoring.

Execution of the Fifth Amendment represents the fifth of five (5) one (1) year extensions as approved by Council.

FINANCIAL IMPACT

The estimated cost for services for the Fifth Amendment is not to exceed \$309,008 and will increase the total cost of the Agreement from \$1,396,200 to \$1,705,208. The recommended FY 2012-13 budget includes funds in the Wastewater Treatment Operation Fund Account No. 621-6201-842-8209.

AAE:ls

Attachment #1 – Fifth Amendment to Agreement No. A-6892

FIFTH AMENDMENT TO AGREEMENT FOR PROFESSIONAL SERVICES

This Fifth Amendment ("Fifth Amendment") to the Agreement for Professional Services ("Agreement") is made and entered into in the County of Ventura, State of California, this 26th day of June, 2012, by and between the City of Oxnard, a municipal corporation ("City"), and Aquatic Bioassay and Consulting Laboratories, Inc. ("Consultant"). This Fifth Amendment amends the Agreement entered into on June 19, 2007, by City and Consultant. The Agreement previously has been amended on June 24, 2008, by a First Amendment, on June 16, 2009, by a Second Amendment, on June 8, 2010, by a Third Amendment and on June 28, 2011 by a Fourth Amendment.

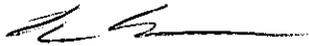
City and Consultant agree as follows:

1. In Section 12 of the Agreement, the expiration date of "June 30, 2012" is deleted and replaced with the date "June 30, 2013."
2. In Section 14a of the Agreement, the figure "1,396,200" is deleted and replaced with figure "1,705,208".
3. Effective July 1, 2012, Exhibit A-1 of the Agreement is deleted and replaced with Exhibit A-2, attached hereto and incorporated herein by this reference.
4. As so amended, the Agreement remains in full force and effect.

CITY OF OXNARD

CONSULTANT

Dr. Thomas E. Holden, Mayor

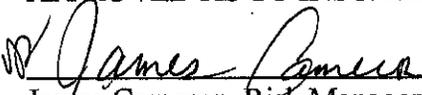


Thomas K. Mikel Jr., Laboratory Director
Aquatic Bioassay and Consulting Laboratories

ATTEST:

APPROVED AS TO INSURANCE

Daniel Martinez, City Clerk



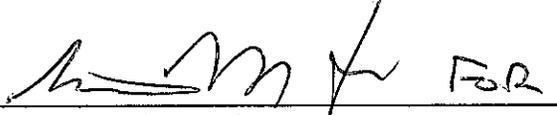
James Cameron, Risk Manager

APPROVED AS TO CONTENT:

APPROVED AS TO FORM:

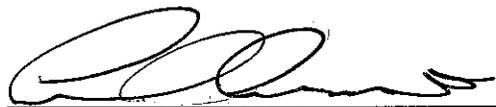


Rob Roshanian, Interim Public Works Director

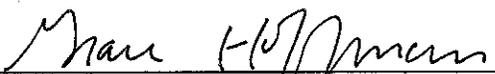


Alan Holmberg, City Attorney

APPROVED AS TO AMOUNT:



Anthony Emmert, Project Manager



Karen R. Burnham, Interim City Manager

EXHIBIT A-2

SCOPE OF WORK

All sampling, analyses and reporting performed by the Consultant shall be conducted in accordance with Attachment E – Monitoring and Reporting Program of the Oxnard Wastewater Treatment Plant’s NPDES Permit No. CA0054097.

Task 1 – Receiving Water Monitoring **(\$125,658)**

Task 1.1 - Consultant shall provide quarterly receiving water quality monitoring at receiving water column monitoring stations RWC-4101 to RWC-4706 for dissolved oxygen, water temperature, light transmittance, salinity, pH, Chlorophyll a and visual observations. Sampling techniques shall follow protocols described in the most current edition of the Field Operations Manual for Marine Water-Column, Benthic, and Trawl Monitoring in Southern California, SCCWRP. Data shall be analyzed to approximate the typical wastewater plume movement and data from 1998 and forward shall be analyzed to determine and map out the wastewater plume movement under different seasonal and weather conditions.

Deliverables	Four (4) Quarterly Receiving Water Monitoring Reports.
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Task 1.2 – Consultant shall provide quarterly receiving water quality monitoring for bacteria and ammonia at 18 receiving water column monitoring stations of RWC-4401 to RWC-4406, RWC-4301 to RWC- 4306, and RWC-4391 to RWC-4396 as follows:

Parameter	Sample Type
Total coliform	Grab, surface, mid-depth and near bottom
Fecal coliform	Grab, surface, mid-depth and near bottom
Enterococcus	Grab, surface, mid-depth and near bottom
Ammonia nitrogen	Grab, surface, mid-depth and near bottom

Deliverables	Four (4) Quarterly Receiving Water Monitoring Report.
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Task 2 – Benthic Sediments Monitoring **(\$83,772)**

Task 2.1 –Sediment Chemistry Monitoring

Consultant shall annually, during late summer (August/September), monitor sediment at 7 receiving water sediment monitoring stations (RWS-001 to RWS-007) as follows:

All benthic sediment samples shall be taken at each station by means of a 0.1 m² (1.1 ft²) modified Van Veen sediment grab sampler. Sub-samples (upper two centimeters) of sediment from each sample shall be collected and analyzed separately for the following parameters at each station:

1. Total organic carbon (TOC) (mg/kg dry wt);
2. Dissolved sulfides (water soluble) (mg/kg dry wt);
3. Total Kjeldahl nitrogen (mg/kg dry wt);
4. Grain size (sufficiently detailed to calculate percent weight in relation to phi size); and
5. Arsenic; Cadmium; Chromium (total); Copper; Lead; Mercury; Nickel; Silver; Zinc; Cyanide; Phenolic compounds (non-chlorinated); Phenolic compounds (chlorinated); Total halogenated organic compounds; Aldrin and Dieldrin; Endrin; HCH; Chlordane and related compounds; Total DDT; DDT derivatives; Total PCB; PCB derivatives; Toxaphene; Total PAH; PAH derivatives. The data for these parameters shall be expressed in mg/kg dry weight.

Bottom samples for sediment chemistry analyses shall be taken at each benthic station prior to trawl sampling

Deliverables	Annual Receiving Water Monitoring Report.
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Task 2.2 –Benthic Infaunal Monitoring

Consultant shall annually, during late summer (August/September), collect bottom samples for infaunal analyses at benthic stations. Bottom samples for benthic infaunal analyses shall be taken at each benthic station (RWS-001 to RWS-007) prior to trawl sampling.

The following determinations shall be made at each station, where appropriate:

1. Identification of all organisms to lowest possible taxon (usually species); and,
2. Total biomass of:
 - a. Mollusks;
 - b. Echinoderms;
 - c. Annelids/polychaetes;
 - d. Crustaceans; and,
 - e. All other macroinvertebrates.
3. Community structure analysis for benthic infaunal for each station and each replicate; Mean, median, range, standard deviation, and 95% confidence limits, if appropriate, for values determined above. Additional “statistical analyses” may be required to conduct to determine temporal and spatial trends in the marine environment.

Deliverables	Annual Receiving Water Monitoring Report.
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Task 2.3 – Sediment Toxicity Monitoring

Consultant shall conduct sediment toxicity testing annually, during late summer (August/September), at two receiving water sediment monitoring stations (RWS-003 and RWS-007). Three replicate samples shall be collected for testing at each station. Sub-samples (upper two centimeters) shall be taken from each sediment sample and tested with amphipod Eohaustorius - survival end point; using standard protocols approved by the Executive Officer of the Los Angeles Regional Water Quality Control Board.

Task 3 – Fish and Macroinvertebrate Monitoring

(\\$55,848)

Task 3.1 – Population Monitoring. Consultant shall annually, during late summer (August/September), monitor fish and epibenthic macroinvertebrate at three receiving water trawling stations (RWT-001 to RWT-003) as follows:

Trawling methods shall follow the protocols described in the most current edition of the Field Operations Manual for Marine Water-Column, Benthic, and Trawl Monitoring in Southern California, SCCWRP. Fish and macroinvertebrates collected by trawls shall be identified to the lowest taxon possible. At all stations and for each replicate, community structure analysis for fish and macroinvertebrates shall be conducted for fish and macroinvertebrates for each station.

Mean, range, standard deviation, and 95% confidence limits, if appropriate, shall be reported for the values determined in the community analysis. The Discharger may be required to conduct additional “statistical analyses” to determine temporal and spatial trends in the marine environment.

Abnormalities and disease symptoms shall be described and recorded (e.g., fin erosion, external lesions, tumors, ectoparasites, and color anomalies). The frequency of abnormalities and incidence of disease shall be compared between the ZID boundary and the reference station, and trends in these values shall be measured over time. The results of this inspection shall be included in the monitoring report.

Deliverables	Annual Receiving Water Monitoring Report.
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Task 3.2 – Fish and Invertebrate Tissue Monitoring. Consultant shall annually at the trawling stations, collect by trawls tissue from one demersal fish and by trawls or SCUBA one macroinvertebrate for analysis.

The two species collected shall be of importance to commercial and/or sport fishers or of obvious ecological significance shall be analyzed for priority pollutants (i.e., for bioaccumulation of toxic pollutants). If possible, for the duration of this permit and order, the same species shall be used at all stations.

1. Fish Tissues, as applied to the analysis of priority pollutants, signifies separate analyses for muscle and liver. All tissue samples shall be analyzed for wet weight and percent lipid. Annual testing shall be required in late summer (August/September) and shall include analysis for: Arsenic; Cadmium; Chromium (total); Copper; Lead; Mercury; Nickel; Silver; Zinc; Cyanide; Phenolic compounds (non-chlorinated); Phenolic compounds (chlorinated); Total halogenated organic compounds; Aldrin and Dieldrin; Endrin; HCH; Chlordane and related compounds; Total DDT; DDT derivatives; Total PCB; PCB derivatives; Toxaphene; Total PAH; PAH derivatives. The data for these parameters shall be expressed in mg/kg dry weight.

For fish tissue analysis, individuals of the species of interest shall be combined from the trawls to form a single pooled sample at a station. Three composite samples shall be analyzed for each of the tissue types. Each composite sample shall consist of tissues taken from fish of one species and include at least six individuals. In order to obtain the required number of individuals, additional trawls may be necessary.

Reference specimens for tissue analysis may be collected at a different depth or area beyond the reference station (RWT-003), if necessary. If areas other than RWT-003 are sampled for reference material, data on the location and depth of the sampling point(s) shall be provided to the Los Angeles Regional Water Quality Control Board and the USEPA Region IX.

The following fish species are recommended for the tissue analysis of priority pollutants:

White Croaker (*Genyonemus lineatus*) and Speckled sanddab (*Citharichthys stigmaeus*)

2. Macroinvertebrate tissues, as applied to the analysis of priority pollutants in macroinvertebrates, signifies analyses for muscle or other tissue, if muscle is impractical. All tissue samples shall be analyzed for wet weight and percent lipid.

Annual testing shall be required in late summer (August/September) and shall include analysis for: Arsenic; Cadmium; Chromium (total); Copper; Lead; Mercury; Nickel; Silver; Zinc; Cyanide; Phenolic compounds (non-chlorinated); Phenolic compounds (chlorinated); Total halogenated organic compounds; Aldrin and Dieldrin; Endrin; HCH; Chlordane and related compounds; Total DDT; DDT derivatives; Total PCB; PCB derivatives; Toxaphene; Total PAH; PAH derivatives. The data for these parameters shall be expressed in mg/kg dry weight.

For macroinvertebrate tissue analysis, individuals of the species of interest shall be combined from the trawls to form a single pooled sample at a station. Three composite samples shall be analyzed for each of the tissue types. Each composite sample shall consist of sufficient tissue taken from at least three individual organisms of one species. In order to obtain the required number of individuals, additional trawls may be necessary. When feasible, tissues from organisms of the same species should be analyzed from year to year to facilitate comparability.

Reference specimens for tissue analysis may be collected at a different depth or area beyond the reference station (RWT-003), if necessary. If areas other than RWT-003 are sampled for reference material, data on the location and depth of the sampling point(s) shall be provided to the Los Angeles Regional Water Quality Control Board and USEPA Region IX.

The following macroinvertebrate species are recommended for the tissue analysis of priority pollutants:

Sandstar (*Astropecten* spp)
Shrimp (*Crangon* spp)
Crab (*Cancer* spp)

Deliverables	Annual Receiving Water Monitoring Report.
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Task 4 – Special Study: Bagged Mussel Array **(\$29,768)**

Consultant shall deploy replicate mussel arrays at four stations during a three month period from the summer to early fall of 2012 (Table 1). Station SS2 will be located at the terminus of the Oxnard outfall in the zone of initial dilution (ZID). Station SS1 will be located 2 kilometers (Km) SE of the terminus and SS4 will be 2 Km to the NW. Station SS3 will be located at the terminus of the new Calleguas Salinity Management Pipeline outfall to assess its contribution of contaminants bioaccumulating in mussel tissue.

The bottom depth at each site might vary somewhat depending on topography, but the bagged mussels will be hung 5 meters from the surface at each site. This depth should put them in proximity to the freshwater effluent field which is buoyant and rises toward the surface. Also, it will ensure they are deep enough to avoid small boat traffic. Coordinates for sites may change somewhat once operations begin.

Table 1. Special study station locations, depths and distances.

Station Name	Station Depth (m)	Latitude	Longitude	Distance to terminus (Km)	Direction from terminus
SS1	16	34.112075	-119.173604	2	SE
SS2	16	34.122610	-119.191266	0	-
SS3	16	34.124061	-119.199514	0.8	W
SS4	16	34.133522	-119.208543	2	NW

The list of chemical constituents to be analyzed for is specified in the City of Oxnard's NPDES permit. The data for these parameters shall be expressed in mg/kg dry weight. These are listed below.

Metals

Arsenic; Cadmium; Chromium (total); Copper; Lead; Mercury; Nickel; Silver; Zinc

Organics

Cyanide; Phenolic compounds (non-chlorinated); Phenolic compounds (chlorinated); Total halogenated organic compounds; Aldrin and Dieldrin; Endrin; HCH; Chlordane and related compounds; Total DDT; DDT derivatives; Total PCB; PCB derivatives; Toxaphene; Total PAH; PAH derivatives.

In addition, before dissection the total shell length will be measured. The total tissue weight of each composite sample will also be measured.

Contaminant concentrations will be compared among stations by ANOVA and appropriate multiple comparison tests. Data will be transformed where necessary to meet assumptions of normality and unequal variances. Data concentrations from each site will be compared to concentrations measured by the NOAA Status and Trends program (NOAA 2010, Sericano et al. 1995) and by several discharge agencies (Hunt 2002, Aquatic Bioassay 1999 to 2010).

Deliverables	Special Study Section added to Annual Receiving Water Monitoring Report.
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Task 5 – Annual Outfall and Diffuser Inspection**(\$13,962)**

Consultant shall conduct an outfall and diffuser survey in October or November. This inspection shall consist of:

1. An examination of the outfall and diffuser port system for plugs, leaks, rotation, and flow distribution. A detailed structural analysis of the pipes every five years submitted with the ROWD shall be conducted using underwater television/videotape and submarine visual inspection, where appropriate, to provide a comprehensive report on the discharge pipe systems from shallow water to their respective termini. The annual visual inspection shall be conducted on the external condition of the outfall, diffuser, and ballast systems.

2. A visual inspection at and in the vicinity of the outfall and diffuser port system to determine thickness of any “cloud” of unsettled solids, bottom flora and fauna, and any other biological and physical conditions. Inspections shall include general observations and photographic records of the outfall pipe and the surrounding ocean bottom. A report (including photographs) discussing the above information shall be submitted with the Annual Summary Report to this Regional Board.

Deliverables	Annual Outfall and Diffuser Inspection Report.
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Consultant shall submit deliverables according to the following schedule:

Sampling Frequency	Monitoring Period	Receiving Water Monitoring Report Due Date
Quarterly	January 1 – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 8 August 8 November 8 February 8
Semiannually	January 1 – June 30 July 1 – December 31	August 8 February 8
Annually	January 1 – December 31	April 8

