May 10, 2020

Mr. Charles Herbertson P.E. Public Works Director / City Engineer City of Culver City 9770 Culver Boulevard Culver City, CA 90232

#### Via E-Mail

# Subject: Culver Blvd. Filtration & Retention Project PR-002 and Culver Blvd. Realignment Project PZ-460 Request for Authorization of Additional Services Stormwater Capture BMP Monitoring

Dear Mr. Herbertson:

Thank you for the opportunity to provide this proposal for professional services to support the stormwater monitoring activities in conformance with the Culver City Quality Assurance Project Plan (QAPP) that was provided to Michael Baker International (Michael Baker) recently by Mr. Lee Swain P.E. We conducted a detailed review of the QAPP and include the following scope and budget at time and materials; development of the Sampling and Analysis Plan, development of a the Health and Safety Plan, identification of monitoring equipment procurement and installation responsibilities, implementation and maintenance visits, dry weather and wet weather monitoring and sampling, sub consultant laboratory services, preparation of quarterly updates, semi-annual analytical data reports, and annual monitoring reports.

Our Water Quality Team lead by Mr. Dave Mercier P.E. will be working closely with Mr. Swain with the support of our Construction Services Team led by Mr. Kieler Smith P.E CCM, to facilitate procurement and construction of 2 monitoring enclosures with real time flow monitors, and modem during the underground storage facility (USF) construction.

Based upon the general contractor's preliminary construction schedule the USF is scheduled to be complete the first quarter of 2021, and then we will mobilize to capture the specified 3 wet weather and 2 dry weather events as specified in the QAPP.

Our estimated budget includes two options for your consideration as it relates to laboratory testing and analysis of samples; The first option is the full list of proposed samples in the QAPP. The second option excludes the toxicity testing and nutrient analysis. We suggest that the City reach out to the Jurisdictional Team to discuss the criticality of this analysis as it relates to TMDL compliance.

# Task 1 – Sampling and Analysis Plan and Health and Safety Plan

Task 1 includes development of SAP and HSP to assess the Regional BMP based on the existing project Monitoring and Reporting Plan and Quality Assurance Project Plan (QAPP) and the Ballona Creek Watershed Coordinated Integrated Monitoring Program (CIMP).

#### Deliverables:

- One draft and one final SAP
- One draft and one final HSP

Draft SAP and HSP will be submitted to the City and revised to incorporate City's edits/comments after one round of City's review.

#### Assumption:

- One round of review of the draft SAP and HSP
- This task requires coordination with construction management staff to obtain specific information for each proposed monitoring location to develop a detailed SAP and to coordinate with the contractor to procure and install enclosures for the proposed real-time flow monitoring (see Task 2 for details) prior to the completion of the construction of the BMP.

## Task 2 - Equipment Procurement and Installation, Monitoring and Sampling

This task includes site setups and monitoring implementation for 1) real-time flow monitoring<sup>1</sup>, 2) wet and dry weather sampling<sup>2</sup>, 3) bi-monthly maintenance visits<sup>3</sup>.

- Real-time flow monitoring: Conduct continuous monitoring at two BMP inlet locations using a flow meter system installed at each inlet location. The flow meter system consists of a bubbler flow meter and a modem, secured inside of an enclosure with power procured and installed by the General Contractor, Ortiz Enterprises as a change order. Total two flow meter systems are required for two inlet locations.
- 2) Wet and dry weather sampling: Conduct sampling for three wet weather events and two dry weather events. Five locations are proposed in the Monitoring and Reporting Plan (Figure 1). Two of the five locations are within the street outside of the median and will require potentially minimal traffic control delineation quoted under separate cover.

<sup>&</sup>lt;sup>1</sup> Section 3.5.1.1 of the Monitoring and Reporting Plan

<sup>&</sup>lt;sup>2</sup> Section 3.5.1.3 of the Monitoring and Reporting Plan

<sup>&</sup>lt;sup>3</sup> Maintenance monitoring (using a water-level logger at the surface of the soil within the subsurface vault to collect data on the ponding depth and ultimately determine the infiltration rate at the surface) was also proposed in Section 3.5.2 of the Monitoring and Reporting Plan. However due to the design change of the BMP, the infiltration is no longer included in the BMP. Therefore, the maintenance monitoring is removed (personal communication with Mr. Kieler Smith P.E. CCM Michael Baker Construction Manager).

3) Bi-monthly maintenance visits: Conduct maintenance checkup for the real-time flow monitoring systems and prepare for the wet-weather and dry-weather sampling every other month; total six visits per year.

# Task 2.1 Site Setups for Monitoring and Sampling

This task includes two site visits to prepare the site for the real-time flow monitoring. The real-time flow monitoring is a continuous monitoring of flow at two BMP inlet locations and will be implemented using two sets of flow meter systems. Each system consists of a bubbler flow meter and a modem secured inside of an enclosure and installed at the site. During the site visits, the flow systems will be installed inside of enclosures which will be constructed at the sites <u>prior to</u> the completion of the BMP construction. During the site visits, each of the five sampling locations will also be checked for accessibility and staff will identify and resolve any potential issues to conduct the wet-weather and dry-weather sampling.

## Task 2.2 Wet-Weather Sampling

This task includes sampling for three wet weather events including the first significant rain event of the year at the completion of the USF. Wet weather sampling will include the collection of grab samples at 20-minute intervals over the course of 3 hours that will then be combined into a flow-weighted composite based on discreet flow measurements collected via portable flow meter every 20 minutes during the sampling events.<sup>4</sup> If any of the sampling locations are deeper than 10 feet, it is infeasible to measure flow during the sampling events. In that event, no-flow weighted composite sample will be collected but time-interval composite sample will be collected.

## Task 2.3 Dry-Weather Sampling

This task includes sampling for two dry-weather events. Dry weather sampling will include grab samples and discreet flow measurement, using a flow meter for flow deeper than two inches or a flow estimate at flows shallower than two inches, at all five sampling locations. If any of the sampling locations are deeper than 10 feet, it is infeasible to measure flow and only grab samples will be collected.

Samples from both the wet-weather and dry-weather sampling will be submitted to accredited laboratories for analysis; constituents listed in Tables 3-1, 4-1, and 4-2 of the project QAPP will be analyzed. The list of analytes is presented in Attachment A. The QAAP identifies no specific test for toxicity testing. It is assumed *Ceriodaphnia dubia* test using Test of Signification Toxicity approach, which is consistent with CIMP toxicity testing approach.

Although the QAPP proposed to analyze samples for the full list of analytes presented in Attachment A, not all analytes are directly associated with compliance. The Ballona Creek Watershed is subject to metals, bacteria, trash and toxic sediment TMDLs. <u>Therefore, we suggest that toxicity testing and nutrient analysis</u> are not critical for the TMDL compliance, and we recommend the Jurisdictional Team be consulted for the

<sup>&</sup>lt;sup>4</sup> P. 5 Section 3.5.1.2 of the Monitoring and Reporting Plan

<u>criticality of this analysis as it relates to TMDL for confirmation.</u> We propose two different budgets; with and without the toxicity testing and nutrient analysis for the City's consideration in Appendix B.

A total of 26 samples will be collected for the wet- weather and dry-weather events; five sampling events at five monitoring locations = 25 samples + one field blank<sup>5</sup>. Due to the long list of analytes, the minimum sample volume per sampling location per event is 17 liters. Therefore 85 liters (23 gallons; 17 liters at 5 sampling locations) of samples need to be collected per event.

Sampling crew will deliver samples to three different laboratories for chemical analysis (Physis Environmental Laboratories), microbial analysis (AMS), and toxicity testing (MBC Aquatic Science). The same day delivery of samples is required to meet the short holding time of eight hours for bacteria samples.

Michael Baker will rent (or procure), install, and test the required equipment based on the Monitoring and Reporting Plan, QAPP, and the SAP (to be developed). Upon installation, equipment will be tested and calibrated as needed to assure proper operation.

## Task 2.4 Quarterly Progress Updates

Quarterly progress updates will be provided to the City on the status of the project and monitoring efforts. A short memorandum will be provided regarding sampling events or maintenance visits completed.

#### Deliverables:

• Quarterly progress updates in a technical memorandum summarizing sampling events; no data analysis will be included in the progress updates, which will be performed under Task 3.

#### Assumptions:

- Coordination with construction management staff at the site will be required to obtain necessary information to prepare for the site visits and the installation of the real-time monitoring flow meter systems by the construction contractor <u>prior to the completion of the BMP construction</u>.
- Two enclosure structures at two inlet locations for the real-time flow monitoring will be procured and installed <u>prior to the completion of the BMP construction</u> and not part of this task. Only flow meters and modems will be procured and installed inside of the enclosures as part of the task.
- Two inlet locations are assumed to be within the median where we recommend that the 2 permanent enclosures of the flow meter systems be procured and installed by Ortiz Enterprises, therefore no traffic control is required during maintenance activities.

<sup>&</sup>lt;sup>5</sup> P. 43 of the QAPP one field blank will be collected during the 1<sup>st</sup> sampling event. Although the QAPP proposed to collect a field blank per sampling trip, total 5 blanks samples, for conventional analytes, of which definition was not provided in the QAPP. Instead, we propose collecting only one at the first sampling event and analyze it for the entire list of analytes. Note that in addition to the field blank, laboratory blank and laboratory replicate tests will be still performed as part of laboratory's QA/QC procedures.

- Electrical outlets are assumed available to power the flow meter systems at the two inlet locations for the real-time flow monitoring. Otherwise, solar panel systems should be purchased, which is not part of this task.
- Two site visits are included for the site setups.
- All sampling locations are assumed accessible via manhole.
- One final progress update memorandum quarterly.
- While every effort will be made to conduct all sampling as required by the City, at no time will personnel be allowed to take undue risk to fulfil the sampling.
- Based upon our review of the construction plans traffic control will be required at two sampling locations, in Culver North, West of Arvee and West of Harter Ave. This will be quoted separately; traffic control is not part of this task.

# Task 3 Data Analysis and Reporting

A semi-annual analytical data report will be provided and will include sampling details, analytical data, and will highlight exceedances. An annual monitoring report will be provided that will include an assessment of the BMP effluent results as they compare with relevant watershed and TMDL waste load allocations, and the effectiveness of the BMP in reducing pollutants.

#### Deliverables:

- Semi-annual analytical data report one draft and one final report will be submitted to the City and revised to incorporate City's edits/comments after one round of City's review
- Annual monitoring report: one draft and one final report will be submitted to the City and revised to incorporate City's edits/comments after one round of City's review.

#### Assumption:

- One round of review of the draft semi-annual analytical data report
- One round of review of the draft annual monitoring report

## Reporting Schedule

- Annual monitoring reports submitted by December 15, 2020 (July 1 through June 30 monitoring period)
- A semi-annual analytical data report submitted by December 15, 2020 and June 15, 2021 (July 1 through December 31 monitoring period)
- The reporting schedule may change according to the actual completion date of the BMP construction and the readiness of the site setup for the monitoring initiation.

#### Budget Proposed

Estimated budget is \$185,816 (samples analyzed for the full list proposed in the QAPP) and \$144,086 (samples analyzed for the list excluding toxicity testing and the nutrient analysis, recommended) for the

2020-2021 reporting year. Amount expended will be based on number of events that can be sampled following BMP construction. Budget breakdowns per task are presented in Attachment B.

Please contact me at 949.981.2679 if I may provide additional information or answer any questions you may have. I look forward to your authorization and we look forward to a successful project!

Sincerely,

Jerome Ruddins, CCM Principal Construction Manager Vice President

INTERNATIONAL

# We Make a Difference

# Underground Storage Facility (8.0 AF) torm Drain Diversion Sepulveda Drain) ARVEE NORTH ROA $\wedge$ CULVER BOULEVARD CULVER BOULEVARD torm Drain Discharge to Harter Drai LEGEND SITE PLAN Sampling Location NOT TO SCALE CITY OF CULVER CITY TE TETRA TECH CULVER BOULEVARD FILTRATION AND RETENTION PROJECT, PR-002 WATER QUALITY MONITORING PLAN craft water Date 12/15/19

## Figure 1. Sampling locations (Source: Monitoring and Reporting Plan).

The sampling location in the middle inside the BMP storage facility is no longer applicable due to the BMP design change and will be removed. Therefore, the sampling will be conducted at total 5 sampling locations.

# Attachment A List of Analytes

Table	Α	Ana	lytes
-------	---	-----	-------

Analyte Type	Analytes	Method	Units
	Total Hardness	SM 2340C	mg/L
	Total suspended solids	SM 2540D	mg/L
	Total dissolved solids	SM 2540C	mg/L
	Suspended Sediment Concentration	ASTMD 3977-97	mg/L
	Settleable Solids	SM 2540 F	mL/L/hr
	Volatile suspended solids	EPA 1684	mg/L
	Water Temperature	NA	NA
Conventional	Dissolved Oxygen	NA	NA
Conventional	рН	NA	NA
	Specific Conductivity	NA	NA
	Turbidity	NA	NA
	Total Alkalinity	SM 2320B	mg/L
	Biochemical oxygen demand	SM-5210B	mg/L
	Chemical oxygen demand	SM 5220D	mg/L
	Total Organic Carbon	SM 5310B	mg/L
	Dissolved Organic Carbon	SM 5310B	mg/L
	Total Nitrogen	NA	NA
	Dissolved Nitrogen	SM 5310 B-N Module	mg/L
	Ammonia as N	SM 4500-NH3 C	mg/L
Nutrients	Nitrate + Nitrite	EPA 300.0	mg/L
	Total Phosphorus as P	SM 4500-P E	mg/L
	Dissolved Phosphorus as P	SM 4500-P E	mg/L
	Orthophosphate as P	SM 4500-PE/EPA 300.0	mg/L
Destado	E. Coli	SM 9221/SM 9223 B	MPN/100mL
Bacteria	Total Coliform	SM 9221/SM 9223 B	MPN/100mL
	Chlordane	EPA 608	ng/L
	Alpha-chlordane	EPA 608	ng/L
	Gamma-chlordane	EPA 608	ng/L
Chlordane	Oxychlordane	EPA 608	ng/L
	Cis-Nonachlor	EPA 608	ng/L
	Trans-Nonachlor	EPA 608	ng/L
	2,4'-DDD	EPA 8270C/EPA 625	ng/L
	2,4'-DDE	EPA 8270C/EPA 625	ng/L
DDT	2,4'-DDT	EPA 8270C/EPA 625	ng/L
DDT	4,4'-DDD	EPA 8270C/EPA 625	ng/L
	4,4'-DDE	EPA 8270C/EPA 625	ng/L
	4,4'-DDT	EPA 8270C/EPA 625	ng/L

Analyte Type	Analytes	Method	Units
PCBs	Arochlor 1016, 1221, 1232, 1242, 1248, 1254, 1260	EPA 8270C/EPA 625/EPA 608	ng/L
	200 PCB congeners	EPA 8270C/EPA 625	ng/L
	acenaphthene	EPA 625	μg/L
	anthracene	EPA 625	μg/L
	biphenyl	EPA 625	μg/L
	naphthalene	EPA 625	μg/L
	2,6-dimethylnaphthalene	EPA 625	μg/L
	fluorene	EPA 625	μg/L
	1-methylnaphthalene	EPA 625	μg/L
	2-methylnaphthalene	EPA 625	μg/L
5411	1-methylphenanthrene	EPA 625	μg/L
PAHs	phenanthrene	EPA 625	μg/L
	benzo(a)anthracene	EPA 625	μg/L
	benzo(a)pyrene	EPA 625	μg/L
	benzo(e)pyrene	EPA 625	μg/L
	chrysene	EPA 625	μg/L
	dibenz(a,h)anthracene	EPA 625	μg/L
	fluoranthene	EPA 625	μg/L
	perylene	EPA 625	μg/L
	pyrene	EPA 625	μg/L
	Total and Dissolved Copper	EPA 200.8	μg/L
	Total and Dissolved Lead	EPA 200.8	μg/L
	Total and Dissolved Zinc	EPA 200.8	μg/L
Metals	Total and Dissolved Cadmium	EPA 200.8	μg/L
	Total and Dissolved Silver	EPA 200.8	μg/L
	Total Mercury	EPA 1631	μg/L
Toxicity	Ceriodaphnia dubia	EPA-821-R-02-013 (1002.0) and EPA-821- R-02-012 (2002.0)	NA

# INTERNATIONAL

# Attachment B

# ${\sf Estimated}\,{\sf Budget}\,{\sf at}\,{\sf Time}\,{\sf and}\,{\sf Materials}$

#### Table B.1 Proposed Budget with the assumption that samples to be analyzed for the full list proposed.

Task	Task Description	Program	Project	Civil	Environ.	Civil	Budget	Notes
No.		Manager	Manager	Engineer	Analyst	Associate	Total	
		\$230	\$195	\$145	\$135	\$110		
Task 1	Sampling and Analys	is Plan and I	Health and S	afety Plan D				
	Sampling and	1	16		80		\$14,150	Develop SAP; coordination with CM team on the monitoring
	Analysis Plan (SAP)							location configuration to develop a detailed SAP and for the
								location of the 2 enclosures for Ortiz to procure and install for
								the proposed real-time flow monitoring prior to the
								completion of the construction of the BMP
	Health and Safety	1	2		16		\$2,780	Develop HSP
	Plan (HSP)							
Task 2	Equipment Procuren	nent and Ins	tallation, M	onitoring, aı	nd Sampling			
2.1	Site Setups for	1	10	16	32		\$8,820	Two site visits to prepare the site for the real-time flow
	Monitoring and							monitoring: 1 pre-setup visit and 1 site setup visit +
	Sampling							coordination for the site setup preparation
2.2	Wet-Weather							2-Person team; hours for pre-sampling prep, sampling, travel,
	Sampling							sample drop-off at three different laboratories
	Event 1	1	2		14	10	\$3,610	
	Event 2		2		14	10	\$3,380	
	Event 3		2		14	10	\$3,380	
2.3	Dry-Weather Samplin	ng				2-Person team including pre-sampling prep, sampling, travel,		
			-		-			sample drop-off at the laboratories
	Event 1	1	2		14	10	\$3,610	
	Event 2		2		14	10	\$3,380	
2.4	Bi-Monthly				6	24	\$3,450	6 per year
	Maintenance Visits							
2.5	Quarterly progress	1	8		24		\$5,030	
	updates							
	Equipment						\$15,636	See Table B.3
	purchasing/rental							
	Laboratory analysis						\$79,160	26 sample analytical budget for full list- Table B.4, cost + 10%
	Mileage &						\$2,250	\$0.575 per mile, consumables cost +10%
	Consumables							
	Budget							

# We Make a Difference

Task 3	Data Analysis and Re	porting				
	Laboratory		10	40	\$7,350	Coordination with the laboratories and analytical result QC for
	analytical result QC					total 26 sample results
	Semi-annual analytical data report	1	10	80	\$12,980	Prepare a report
	Annual monitoring report	1	16	100	\$16,850	Prepare a report, evaluate BMP effectiveness

# Table B.2 Proposed Budget with the assumption that samples to be analyzed for the full list excluding toxicity testing and nutrient analysis.

Task	Task Description	Program	Project	Civil	Environ.	Civil	Total	Notes
No.		Manager	Manager	Engineer	Analyst	Associate	Budget	
		\$230	\$195	\$145	\$135	\$110		
Task 1	Sampling and Analys			Safety Plan D				
	Sampling and Analysis Plan (SAP)	1	16		80		\$14,150	Develop SAP; coordination with construction management staff for information on the monitoring location configuration to develop a detailed SAP and to install enclosures for the proposed real-time flow monitoring prior to the completion of the construction of the BMP
	Health and Safety Plan (HSP)	1	2		16		\$2,780	Develop HSP
Task 2	Equipment Procuren	nent and Ins	tallation, M	onitoring, ar	nd Sampling			
2.1	Site Setups for Monitoring and Sampling	1	10	16	32		\$8,820	Two site visits to prepare the site for the real-time flow monitoring: 1 pre-setup visit and 1 site setup visit + coordination for the site setup preparation
2.2	Wet-Weather Sampling							2-Person team; hours for pre-sampling prep, sampling, travel, sample drop-off at three different laboratories
	Event 1	1	2		14	10	\$3,610	
	Event 2		2		14	10	\$3,380	
	Event 3		2		14	10	\$3,380	
2.3	Dry-Weather Samplir	ng						2-Person team including pre-sampling prep, sampling, travel, sample drop-off at the laboratories
	Event 1	1	2		14	10	\$3,610	
	Event 2		2		14	10	\$3,380	
2.4	Bi-Monthly Maintenance Visits				6	24	\$3 <b>,</b> 450	6 per year
2.5	Quarterly progress updates	1	8		24		\$5,030	
	Equipment purchasing/rental						\$15,636	See Table B.3
	Laboratory analysis						\$37,430	26 sample analytical costs for the full list- excluding toxicity testing and nutrient analysis; see Table B.4.
	Mileage& Consumables Budget						\$2,250	\$0.575 per mile; consumables cost +10%
Task 3	Data Analysis and Re	eporting						

# We Make a Difference

Laboratory analytical result QC		10	40		\$7,350	Coordination with the laboratories and analytical result QC for total 26 sample results
Semi-annual analytical data report, June & Dec	1	10	80		\$12,980	Prepare a report
Annual monitoring report, July 1 – June 30 – Due Dec 15	1	16	100		\$16,850	Prepare a report, evaluate BMP effectiveness
Total Budget:						

# Table B.3 Equipment Budget

Purpose	Equipment Name	Equipment Description	Budget	No.	Total	Notes
Sampling	High Roof Cargo Van Rental	Enterprise High Roof Cargo Van	\$193	5	\$965	Per day, includes 200 miles, tax, gas, insurance. A van is required to transport the large sample volumes. (Analyte list requires a minimum of 16.5 liters per sample)
Real-time flow monitoring	Signature flow meter with built in bubbler, plus modem	ISCO quote	\$6,058	2	\$12,116	Requires monthly cellular fee (estimated \$25/month) cost +10%
Real-time flow monitoring	FlowLink software	ISCO quote	\$355	1	\$355	Software purchase for download flow data from the Signature flow meter, cost +10%
Sampling/Field measurement during a sampling event	Various meters and pumps; hardware	Rental fee for meters and pumps required for onsite monitoring elements	\$440	5	\$2,200	Onsite monitoring requires various specialty items for site configuration and constituents, cost + 10%
Total					\$15,636	

# INTERNATIONAL

# Table B.4 Laboratory Analytical Budget

Aqueous	Performance-Based Method	Budget (per sample)		
CONVENTIONAL POLLUTANTS				
Total Hardness as CaCO3	SM 2340 B	\$	30	
Total Suspended Solids	SM 2540 D	\$	30	
Total Dissolved Solids	SM 2540 C	\$	30	
Suspended Sediment Concentration	ASTM D3977-97B	\$	55	
Suspended Sediment Concentration	ASTM D3977-97C	\$	110	
Settleable Solids	SM 2540 F	\$	30	
Volatile Suspended Solids	EPA 160.4	\$	30	
Total Alkalinity	SM 2320 B	\$	30	
Biochemical Oxygen Demand (BOD)	SM 5210-B	\$	55	
Chemical Oxygen Demand (COD)	SM 5220-D	\$	55	
Total Organic Carbon	SM 5310 B	\$	45	
Dissolved Organic Carbon	SM 5310 B	\$	50	
NUTRIENTS				
Total Nitrogen	SM 5310 B-N Module	\$	45	
Dissolved Nitrogen	SM 5310 B-N Module	\$	55	
Ammonia as N	SM 4500-NH3 D	\$	30	
Nitrate as N	EPA 300.0	\$	30	
Nitrite as N	EPA 300.0	\$	30	
Total Phosphorus	SM 4500-P E	\$	45	
Total Dissolved Phosphorus	SM 4500-P E	\$	50	
Orthophosphate as P	EPA 300.0	\$	30	
BACTERIA				
E. coli	SM 9221/SM 9223 B	ę	55	
Total Coliforms	SM 9221/SM 9223 B	\$	100	
Possible Outside of Business Hours Fee and/or Sample Surcharge		\$	350	
ORGANOCHLORINE PESTICIDES and PCBs				
Chlorinated Pesticides (DDTs and Chlordanes)		\$	195	
2,4'-DDD	EPA 625		nc.	
2,4'-DDE	EPA 625	ng/L		
2,4'-DDT	EPA 625	ng/L		
4,4'-DDD	EPA 625	inc.		
4,4'-DDE	EPA 625	ng/L		
4,4'-DDT	EPA 625	ng/L		
Chlordane-alpha	EPA 625	ng/L		
Chlordane-gamma	EPA 625	n	g/L	
cis-Nonachlor	EPA 625	n	g/L	
Oxychlordane	EPA 625	n	g/L	
trans-Nonachlor	EPA 625	n	g/L	

PCB Aroclors (7)	EPA 625		inc.
PCB Congeners - Low Res (57)	EPA 625		inc.
PCB Congeners - High Res (209)	EPA 1668 A	\$	895
PAHs			
PAHs	EPA 625	\$	235
1-Methylnaphthalene	EPA 625		inc.
1-Methylphenanthrene	EPA 625		inc.
2,3,5-Trimethylnaphthalene	EPA 625		inc.
2,6-Dimethylnaphthalene	EPA 625		inc.
2-Methylnaphthalene	EPA 625		inc.
Acenaphthene	EPA 625		inc.
Acenaphthylene	EPA 625		inc.
Anthracene	EPA 625		inc.
Benz[a]anthracene	EPA 625		inc.
Benzo[a]pyrene	EPA 625		inc.
Benzo[b]fluoranthene	EPA 625		inc.
Benzo[e]pyrene	EPA 625		inc.
Benzo[g,h,i]perylene	EPA 625		inc.
Benzo[k]fluoranthene	EPA 625		inc.
Biphenyl	EPA 625		inc.
Chrysene	EPA 625		inc.
Dibenz[a,h]anthracene	EPA 625		inc.
Dibenzothiophene	EPA 625		inc.
Fluoranthene	EPA 625		inc.
Fluorene	EPA 625		inc.
Indeno[1,2,3-cd]pyrene	EPA 625		inc.
Naphthalene	EPA 625		inc.
Perylene	EPA 625		inc.
Phenanthrene	EPA 625		inc.
Pyrene	EPA 625		inc.
METALS (Total & Dissolved			
Total & Dissolved Trace Metals by EPA 200.8		\$	195
Cadmium (Cd)	EPA 200.8		inc.
Copper (Cu)	EPA 200.8		inc.
Lead (Pb)	EPA 200.8		inc.
Silver (Ag)	EPA 200.8		inc.
Zinc (Zn)	EPA 200.8		inc.
Trace Mercury (Total & Dissolved)	EPA 1631E	\$	105
ΤΟΧΙCITY			
Ceriodaphnia dubia	EPA-821-R-02-013 (1002.0)	\$	1,290
CLIENT SUPPORT SERVICES		В	udget
CEDEN-Compatible EDD Format Fee (per report)		\$	60

Chemistry Sublab CEDEN-Compatible EDD Format Fee (per report)		\$ 40
Courier Services - Regulard Bus. Hours (round-trip)		\$ 60
Courier Services - After-Hours (round-trip)		\$ 90
	Total budget per sample	\$ 2,985
	Total budget per 5 events	\$ 79,160