Non-Code Ordinance

By: Public Works Department
Introduced: February 8, 2021
Public Hearing: February 22, 2021
Adopted: February 22, 2021
Yes: Brown, Burney, Harvey, Johnson, Rausa, Velock
No: None
Absent: None

City of Wasilla
Ordinance Serial No. 21-04

An Ordinance Of The Wasilla City Council Amending The Fiscal Year 2021 Budget By Appropriating $245,000 From The Water Fund, Fund Balance, For The Ranch Subdivision Water Quality Investigation.

Section 1. Classification. This is a non-code ordinance.

Section 2. Purpose. To amend the fiscal year 2021 budget by appropriating $245,000 from the water fund, fund balance for the Ranch Subdivision Water Quality Investigation.

Section 3. Appropriation of Funds. The funds are appropriated to the following:

The Ranch Water Quality	320-4369-436.45-71	$245,000

Section 4. Source of Funds.

Water Fund, Fund Balance	320-0000-253.20-00	$245,000

Section 5. Effective Date. This ordinance shall take effect upon adoption.

ADOPTED by the Wasilla City Council on February 22, 2021.

Glenda D. Ledford, Mayor

ATTEST:

[SEAL]

Jamie Newman, MMC, City Clerk

City of Wasilla
Legislative Staff Report
Ordinance Serial No. 21-04
(Non-Code Ordinance)

Amending The Fiscal Year 2021 Budget By Appropriating $245,000 From The Water Fund, Fund Balance For The Ranch Subdivision Water Quality Investigation.

Originator: Public Works Director
Date: 1/27/2021 Agenda of: 2/8/2021

Route to:	Department Head	Signature	Date
X	Public Works Director		1/29/21
X	Finance Director		1-29-21
X	Deputy Administrator		1/29/21
X	City Clerk		1/27/2021
X	Mayor		2/1/2021

Fiscal Impact: ☒ yes or ☐ no **Funds Available**: ☒ yes $245,000

Account name/number: The Ranch Water Quality/320-4369-436.45-71
Attachments: Ordinance Serial No. 21-04 (1 page)
Stantec Proposal (11 pages)
ARS Aleut Analytical Proposal (1 page)

Summary Statement: This ordinance is proposed to appropriate funding for a water quality investigation in The Ranch Subdivision and surrounding areas. This area includes Garden Terrace Subdivision and contains approximately 424 residential services. This area has higher than normal reports of intermittent brown water more commonly found during summer months. This tends to be attributed to fire hydrant testing and bore flushing of new pipe where high velocity water in the distribution piping breaks lose pipe scale under high flow conditions. The City responds by flushing nearby hydrants at low flow until the dis-colored water is removed from the system. In addition, this area seems to have other water quality issues that may be attributed to water hardness, high mineral content.

This has been a persistent problem in the area for a number of years and the administration is proposing to conduct a water quality investigation to improve the situation. The administration reached out to the City's current water quality consultant, Stantec to conduct an initial review of the issues and propose a plan to identify the exact nature of the problem. The plan includes an initial meeting with the local community council and a survey of the residents to determine which parts of the system are having problems. These tasks have already occurred. The water quality investigation will next include document review, site inspections, water age estimation, water age testing, hydrant and well testing, and customer water testing and pipe inspections.

Proposed Action: Introduce and set the ordinance for public hearing.

Stantec 725 East Fireweed Lane Suite 200, Anchorage AK 99503-2245

January 21, 2021
File: 204700415

Attention: Archie Giddings
City of Wasilla
290 East Herning Avenue
Wasilla, AK 99654-7091

Reference: Ranch Subdivision Water Quality Investigation
Subject: Professional Service Proposal

Dear Mr. Giddings:

Stantec Consulting Services Inc (Stantec) understands the City of Wasilla (Wasilla, City) seeks assistance to identify the source(s) of reoccurring poor water quality reported in The Ranch Subdivision.

Background

The Ranch Subdivision (Ranch) is located outside of City Limits, to the south east of the City, south of East Fairview and Loop, towards the end of East Nelson Road and East Fetlock Drive. Machetanz Elementary School is located on the southern edge of the subdivision. There are approximately 340 customers in the Ranch. We understand the subdivision was constructed in the 1990's, and the water mains are expected to be ductile iron pipe (DIP). Originally, the subdivision was supplied by a community water system via groundwater wells, but at some point, the Ranch water system was connected to the Wasilla public water system (PWS) via Garden Terrace subdivision immediately north of the Ranch. There are three wells; two of the wells are near the end of the system on Fetlock street and are believed to be isolated and not in use, while the third well produces 100 gallons per minute(gpm)and is located within the subdivision at Nelson and Paddock. This well is used during the day to supplement the water supply and reduce the amount of water drawn from the City.

Reported water quality issues include complaints of turbid and dirty (brown) water. The City does not have complete records, but residents report the problem has being ongoing for 8 to 9 years. Samples provided by the home owners range from pale yellow to opaque brown in color. The City has flushed the mains multiple times, and yet the problems reoccur.

Initial review of residents' complaints and the City's water quality suggest high levels of water hardness and manganese contribute to the water quality problem. Hardness precipitates and can be perceived as grit and cloudiness in the water. High levels of manganese (0.05 +\- mg/l and greater) are associated with turbid and yellow to brown water. However, the hardness and manganese are present throughout the entirety of the City's distribution system, evidently without issue. It isn't clear why the City is seeing such frequent and persistent problems in the Ranch, when the water is the same as elsewhere in the City. It is possible more than one problem exists.

While the Ranch is essentially the end of the Wasilla water system, that alone does not explain the water quality problems. Garden Terrace Subdivision, immediately adjacent to and "upstream" of the Ranch, is on the same water supply and pressure zone as the Ranch, but does not seem to have the same problems.

Reference: Ranch Subdivision Water Quality Investigation
Subject: Professional Service Proposal

This project will attempt to determine the extent and limits of the problem(s) and affected area(s), and attempt to determine the constituents of the contamination. Once that is done, mitigations can be developed.

Many of the homes in the Ranch have onsite water treatment systems consisting of water filtration and water softeners. Onsite treatment systems may complicate the investigation by improving apparent water quality over background levels. The onsite treatment systems may also in some cases contribute to turbidity and color problems, especially if the ion exchange resin is coated with iron, manganese, or scale. Some homeowners have reported their water was initially okay, but are now seeing water problems, with the water getting worse and worse each year. It is possible their water softener resin was initially working well, but has reached end of life and needs to be replaced.

Scope

The first step is identifying who is affected, and to what degree. As part of this, Stantec will confirm which problem(s) are present and where. In an ideal environment, Stantec would contact each of the 340 homeowners in the Ranch Subdivision, examine in-premise piping, and collect water quality samples. That is not practical or economical. Instead, Stantec is proposing to gather anecdotal data on water quality in the subdivision via public involvement. By encouraging self-reporting of complaints, we hope to understand the extent of the problem. Then, with those complaints in hand, combined with City records, Stantec hopes to be able to narrow down the location of the problems, allowing for more focused water quality testing.

The proposed scope consists of:

Task 1 – Public Involvement

Public involvement is expected to include the following. Specific tasks and level of effort are shown in detail on the attached fee proposal.

- Public Meetings - Stantec and City will facilitate periodic public meetings with homeowners in the project area for purpose of collecting project data, reporting project status to residents, and public education. Meetings will be conducted via zoom, and hosted by the Gateway Community Council. Meeting frequency has been assumed at every 2 months, for a total of three meetings. At each meeting Stantec will present a status report and request comments.

- Water Quality Questionnaire - Stantec will prepare and distribute a water quality questionnaire at the first public meeting and via email. The form will be a fillable PDF document. A draft will be provided to the City for comment before distribution.

Reference: Ranch Subdivision Water Quality Investigation
Subject: Professional Service Proposal

- Project Email Address - the email address wasillawater@stantec.com has been established to collect public comments, including the questionnaire. This address should only be used by the public.

- Community Mailing - the City of Wasilla will also distribute the questionnaire via mail to all customers in the Garden Terrance and the Ranch Subdivisions. Recipients will be encouraged to return the form electronically to the project email address.

- Receive / Follow up on Public Comments - the project budget includes an allowance for one-on-one engagement and follow up with customers after reviewing their water quality self-report.

- Website - Stantec is not providing a website as we do not want to expand "the public" beyond the Ranch, but will help support the City with content if the City wishes to establish one.

- Summary Report - Customer questionnaires, follow-up on comments, meeting summaries and other public involvement results will be compiled into a single summary report for this task.

Deliverables: draft questionnaire, draft meeting materials, draft public involvement summary report (final in appendix to Task 3 report).

Task 2 – Investigations and Water Sampling

This task will include visual investigation and water sampling of both the City systems and selected residences. We will begin with a kickoff meeting with City staff in person or via Teams.

City Systems

- Document Review - Stantec will review available record drawings, complaint history, and prior work orders, in addition to interviews with operations staff. Using this data, we will prepare backgrounds for project figures and maps.

- Site Inspections - visual review of the PRV station and wells feeding and connected to the Ranch, plus general review of the subdivision layout and hydrant locations.

- Water Age Estimation - Stantec will attempt to estimate the water age in the distribution system using data on daily water production, reservoir capacity, system pipe volume, and

Reference: Ranch Subdivision Water Quality Investigation
Subject: Professional Service Proposal

location of customers. Without a water model, this will be a rudimentary, manual computation at best, but water age is probably an important contributing factor.

- Water Age Testing - Samples will be collected from up to 8 locations along the length of the distribution system starting at the northwest well fields and ending within the Ranch. The intent is to determine if water quality is deteriorating with increasing water age. Manganese oxidation is extremely slow, but is conceivably occurring once the water becomes old enough at the very end of the distribution system. We will also do rudimentary jar testing to study effect of water age, and to check for any reaction between the City's supply and the wells in the Ranch.

- Hydrant and Well Testing – Stantec will collect grab samples during hydrant flushing, and well start up at multiple locations in the Ranch. The intent is to sample the system for suspended sediment, and the wells for turbidity and corrosion products. Stantec wants to flow as much water as feasible to "stir things up" and to agitate the well screens. We will discuss best way to do this with the City operations staff prior to the test.

Customer Residences

- Water Testing - based on the results of the questionnaires, Stantec will select approximately 30 residences for water sampling. The project budget includes time for obtaining permission and coordinating access to the home, sample collection, and delivery to the City's testing laboratory. This is intended to help define and localize the problems, and also to verify the water in the home is the same as the water in the street (i.e., the City's pipes) and not impacted by cross connects or faulty onsite treatment equipment.

- Premise Piping Inspections - with permission of the homeowners, Stantec will perform visual inspection of accessible premise piping and onsite treatment systems in approximately 12 homes. Primarily Stantec will be looking for materials of construction, but also for obvious cross connections or sources of plumbing contamination. Stantec will attempt to collect used water filters for physical and chemical examination, backwash and resin samples from water softeners, and service records.

Reference: Ranch Subdivision Water Quality Investigation
Subject: Professional Service Proposal

Water Testing

The analytic battery will be developed and confirmed with the City prior to starting, but for initial purpose Stantec is expecting to analyze mostly for EPA secondary standards, plus a few others, specifically:

- Free and total chlorine
- Color
- Odor
- Turbidity
- Iron
- Manganese
- Hardness
- Ph
- Foaming agents
- Sulfates
- Nitrate / nitrite
- Total coliforms
- Total suspended solids
- Volatile suspended solids
- Langelier index on selected samples
- Copper on selected samples (there is at least one report of green water)
- Microscopic analysis of selected samples
- Samples may be tested twice – 1) as collected; and 2) after filtration (0.5 micron filter). This will determine the proportion of total to precipitated metals or turbidity factors.

Water Filters

Multiple homeowners have reported a typical filter life of 3 months, and that the spent filters are generally black. This is most likely manganese plating out on the filter, but it may be useful to examine the filters, both visually and perhaps chemically. Examination for mineral or biological sediments other than hardness or iron / manganese may be informative. Stantec will collect filters as part of the sample investigation, and review analysis options with the laboratory.

Deliverables: Compilation and summary of testing results. Reporting is provided in Task 3.

Reference: Ranch Subdivision Water Quality Investigation
Subject: Professional Service Proposal

Task 3 – Analysis and Reporting

This task consolidates data and attempts to provide specific, evidence-based definition of the problem(s), and propose mitigations or solutions. The task includes detailed review and analysis of the Task 2 laboratory reports, plotting and charting of data, brainstorming of findings, and review and consultation with Stantec water quality experts.

Deliverables: Draft, and Final Report. There will be at least two review conferences with the City during this task.

Assumptions and Exclusions

The exact nature of the water problem, and the solution(s) are not immediately obvious. Stantec will do our best to figure out the problems and recommend solutions, but it is understood that this scope and budget are the starting point. Additional investigations may be identified during the project; Stantec will advise and update the City as the project unfolds. Assumptions and exclusions include:

- Stantec will require assistance from City staff for access to PRV and well houses, and for operations of fire hydrants and the wells for water sampling.
- Stantec is not performing surveying, geotechnical, or hazardous materials investigations.
- The City does not have a hydraulic model for the distribution system, so Stantec will not be modeling system flows, water age, or water decay. Stantec can provide a separate cost for creating a water model if desired.
- Inspections are limited to visual observation of accessible facilities. There are no current plans to inspect buried pipe.
- Stantec has not included CCTV inspection of the well bores and screens, but may recommend adding this service depending on results of the well testing.
- Project includes identification of potential solutions; design or implementation is not included and can be added be via amendment or separate project.
- Stantec is performing the water sampling; City of Wasilla will be providing analysis via the City's laboratory service contract (ARS Aleut Analytical).
- City will be providing any public mailings, mail merge preparation, or website, etc.
- Project does not include regulatory compliance or permitting activities at this time.

Reference: Ranch Subdivision Water Quality Investigation
Subject: Professional Service Proposal

- The project budget is intended as a series of allowances. With City approval, the budget may be redirected to other services within the scope of this project, for example if specialized testing or study is identified that may be advantageous to the project.

Fee Proposal and Terms

The Work will be performed on a time and materials basis under an agreement to be executed between Stantec and the City. The proposed level of effort and fee are shown on the attached budget worksheet. Rates are standard Stantec rates for 2021. Rates are adjusted annually, and actual effort will be invoiced monthly at the standard rates in effect at the time the work was completed. Stantec will not charge markup on direct expenses or travel (e.g. mileage) costs.

Schedule

Schedule will be dependent upon execution of contract and notice to proceed. Stantec would like to do initial site investigations in February or March. Residential water testing and premise plumbing inspections will be dependent on results of the water quality questionnaires. Some customers are reporting problems year-round, but others seem to indicate the problems are largely in the summer. The intent is to be able to provide the community a status update in March, and indication of substantial progress by mid-summer. Hydrant testing will be conducted in the spring.

Closure

This is a unique and interesting project, and Stantec appreciates the opportunity to help the City solve your water problem. We trust this proposal meets your needs and we are ready to begin immediately upon approval and execution of a contract agreement. If you have any questions please contact me or Stephanie Gould (343-5235, stephanie.gould@stantec.com).

Sincerely,
Stantec Consulting Services Inc,

Dean Syta
Senior Principal
Phone: (907) 343-5260
Fax: (907) 258-4653
dean.syta@stantec.com

Attachment: Fee Proposal
c. file
sdg u:\204700415\promotion\ranch water quality\ranch waterquality scope r2.docx

725 East Fireweed Lane, Suite 200
Anchorage, AK 99503
Fee Estimate
Prepared by: Dean Syta

204700415
Ranch Subdivision - Water Quality Investigation
City of Wasilla
January 21, 2020

Price Per Task Summary

Task	Task Name	Labor	Subcontractors	Expenses	Total
1	Public Involvement	$36,920	$0	$350	$37,270
2	Investigations and Water Sampling	$77,666	$0	$1,250	$78,916
3	Analysis and Reporting	$57,780	$0	$225	$58,005
	Totals	**$172,366**	**$0**	**$1,825**	**$174,191**

Notes/Assumptions

1 See proposal letter of January 21, 2021 for scope and assumptions.
2 Stantec will collect water quality samples as indicated; testing will be provided by City of Wasilla laboratory contractor - ARS Aleut Anaytical
3 Rates shown are for 2021. T&M tasks will be invoiced at actual standard rates in affect at time work is completed.
4 Submittals will be electronic (PDF) only. Meetings will be via teleconference, and potentially in person if COVID-19 protocals will allow.

Stantec

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Anchorage, AK 99503
Fee Estimate
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204700415
Ranch Subdivision - Water Quality Investigation
City of Wasilla
January 21, 2020

Labor Hours Per Job Classification

Task 1: Public Involvement		QC	Civil					Environmental				Misc			
		Sr. Level 17	D. Syta Sr. Eng. Level 16	B. Miskill Process Eng. Level 16	S. Gould Sr. Eng. Level 14	R. Bronga EIT Level 10	J. Alward Eng. Level 12	R. Cooper Env. Scientist Level 12	J. Marshall Env. Scientist Level 12	Environmental GIS / CAD Tech	A. Badger EIT Level 10	Intern / Student BL5	K. Ross Structural Level 10	L. Schneller Sr. Elect. Level 14	Admin / Clerical
	Sub-Task	$241	$234	$234	$200	$158	$181	$181	$181	$172	$158	$127	$158	$200	$158
1	Initial Startup, Client and Team Meetings		4		2		4		2						2
2	Public Involvement														
3	Public Mtgs 3x throughout 2021 (Zoom)		16		8		16								
4	Receive / Followup on Public Comments		16				32								12
5	Figures / Visualizations / Mtg Materials		4				8			12					
6	Prepare Questionaire		2				2								2
7	Summary report / update reports		8				16								
8															
9															
10															
15	QC and Project Management, Safety Plans	2	8		4		2								4
	Total Labor Hours	2	58	0	14	0	80	0	2	12	0	0	0	0	20
	Labor Costs Subtotal	$482	$13,572	$0	$2,800	$0	$14,480	$0	$362	$2,064	$0	$0	$0	$0	$3,160

SUBCONTRACTORS

Firm	Amount
None	
Subtotal	$0
Markup	10.0%
Subcontractor Subtotal	$0

EXPENSES

Item No.	Item (s)	Qty.	Unit Price	Total Price
1	Printing Allowance	1	$100	$100
2	Site Visit (mileage, field supplies, and disposables)	2	$125	$250
3				$0
4				$0
				$0
				$0
				$0
Expenses Subtotal				$350

NOTES

TOTALS	
Direct Labor Cost	$36,920
Total Subcontractors	$0
Total Expenses	$350
Total Cost	$37,270

Stantec

725 East Fireweed Lane, Suite 200
Anchorage, AK 99503
Fee Estimate
Prepared by: Dean Syta

204700415
Ranch Subdivision - Water Quality Investigation
City of Wasilla
January 21, 2020

Task 2: Investigations and Water Sampling

Labor Hours Per Job Classification

	Sub-Task	Stantec Subject Matter Experts	Civil: D. Syta Sr. Eng. Level 16	Civil: B. Miskill Process Eng. Level 16	Civil: S. Gould Sr. Eng. Level 14	Civil: R. Bronga EIT Level 10	Civil: J. Alward Eng. Level 12	Environmental: R. Cooper Env. Scientist Level 12	Environmental: J. Marshall Env. Scientist Level 12	Environmental: Environmental GIS / CAD Tech	Environmental: A. Badger EIT Level 10	Misc: Intern / Student BL5	Misc: K. Ross Structural Level 10	Misc: L. Schneller Sr. Elect. Level 14	Admin / Clerical
		$241	$234	$234	$200	$158	$181	$181	$181	$172	$158	$127	$158	$200	$158
1	**Investigations**														
2	Review project history, operator interviews, water quality complaints, etc		4				6								
3	Review Record Drawings		4				4								
4	Create project base maps / figures						8			8					
5	Site visit PRV supply, three existing wells		8				8								
6	Water Age Estimations (no water model)	12													
7															
8	**Investigation, Water Sampling, Premise Inspections**														
9	Assume 30 Residental Water Services, TBD		8				60				40				
10	Water Age Sampling / System Transects 8 locations		2				10		10						
11	Sampling, flushing - Ranch hydrants, wells, misc		8				8								
12	Premise Plumbing, Onsite System Inspections (12 homes TBD)		24				24								
13	Scheduling, Permissions, Travel						24				16				
14	Prep, Mob, Laboratory Coordination (6 events)						12				8				
15	Reporting / Data Compilation		8		16		32			24					
16															
17	**QC and Project Management**		8				4								4
	Total Labor Hours	12	74	0	16	0	200	0	10	32	64	0	0	0	4
	Labor Costs Subtotal	$2,892	$17,316	$0	$3,200	$0	$36,200	$0	$1,810	$5,504	$10,112	$0	$0	$0	$632

SUBCONTRACTORS

Firm	Amount
Water Quality Testing - Not included, will be provided by City of Wasilla	
Testing Laboratory	
Subtotal	$0
Markup	0.0%
Subcontractor Subtotal	$0

EXPENSES

Item No.	Item (s)	Qty.	Unit Price	Total Price
1	Site Visit (mileage, field supplies, and disposables)	8	$125	$1,000
2	Printing allowance	1	$100	$100
3	Misc sampling supplies, buckets and jars	1	$150	$150
				$0
				$0
				$0
Expenses Subtotal				$1,250

NOTES

TOTALS

Direct Labor Cost	$77,666
Total Subcontractors	$0
Total Expenses	$1,250
Total Cost	$78,916

Stantec

725 East Fireweed Lane, Suite 200
Anchorage, AK 99503
Fee Estimate
Prepared by: Dean Syta

204700415
Ranch Subdivision - Water Quality Investigation
City of Wasilla
January 21, 2020

Labor Hours Per Job Classification

Task 3: Analysis and Reporting

			Civil					Environmental				Misc			
	Sub-Task	Stantec Subject Matter Experts	D. Syta Sr. Eng. Level 16	B. Miskill Process Eng. Level 16	S. Gould Sr. Eng. Level 14	R. Bronga EIT Level 10	J. Alward Eng. Level 12	R. Cooper Env. Scientist Level 12	J. Marshall Env. Scientist Level 12	Environmental GIS / CAD Tech	A. Badger EIT Level 10	Intern / Student BL5	K. Ross Structural Level 10	L. Schneller Sr. Elect. Level 14	Admin / Clerical
		$241	$234	$234	$200	$158	$181	$181	$181	$172	$158	$127	$158	$200	$158
1	Analysis														
2	Water Quality Test Reports		12		8		16		16						
3	Figures, Visualiztions, Charts		4				4		12	16					
4	Analsyis and Brainstorming, Solutions	16	16				16		4						
5															
6	Report / Findings / Recommendations														
7	Draft		8		16		32			8					8
8	Final		8		8		16			4					4
9															
10	Client / Team Mtgs and Review Conferencess (2 each)	4	8		8		8		4						
11															
12															
13															
14															
15															
16															
17	QC and Project Management		4				4								2
	Total Labor Hours	20	60	0	40	0	96	0	36	28	0	0	0	0	14
	Labor Costs Subtotal	$4,820	$14,040	$0	$8,000	$0	$17,376	$0	$6,516	$4,816	$0	$0	$0	$0	$2,212

SUBCONTRACTORS

Firm	Amount
Water Quality Testing - Not included, will be provided by City of Wasilla	
Testing Laboratory	
Subtotal	$0
Markup	0.0%
Subcontractor Subtotal	$0

EXPENSES

Item No.	Item (s)	Qty.	Unit Price	Total Price
1	Site Visit (mileage, field supplies, and disposables)	1	$125	$125
2	Printing allowance	1	$100	$100
				$0
				$0
				$0
Expenses Subtotal				$225

NOTES

Design of repairs or corrective actions not included at this time.

TOTALS	
Direct Labor Cost	$57,780
Total Subcontractors	$0
Total Expenses	$225
Total Cost	$58,005

ARS Aleut Analytical, LLC
3710 Woodland Dr. Suite 900
Anchorage, AK 99517
Phone: 907-258-2155
Fax: 907-258-6634

QUOTE

QUOTE NUMBER: Q-01251
QUOTE DATE: 1/26/2021
QUOTE EXPIRES: 12/31/2021
PAGE: 1

REQUESTED BY:

Archie Giddings
City of Wasilla
290 E. Herning Ave.

Wasilla, AK 99654

PROJECT NUMBER: City of Wasilla Water Utility Additional Testing
PO NUMBER:
REPORTING LEVEL: 1
EDD REQUIRED:

COMMENTS:

ITEM NUMBER	DESCRIPTION	TAT Days	UNIT PRICE	QUANTITY	EXTENSION
WCH-PH-AQ	4500-H-B/4500-H-B (Aqueous) - pH	10	30.00	60	$1,800.00
WCH-ODOR-AQ	2150B/2150B (Aqueous) - Odor @ 60C	10	60.00	60	$3,600.00
WCH-NO2NO3-AQ	4500-NO3E (Aqueous) - Nitrate+Nitrite pres	10	30.00	60	$1,800.00
WCH-COLOR-AQ	2120B/2120B (Aqueous) - True Color	10	40.00	60	$2,400.00
WCH-TUR-AQ	2130B/2130B (Aqueous) - Turbidity	10	28.00	60	$1,680.00
WCH-TSS-AQ	2540D/2540D (Aqueous) - TSS	10	43.00	60	$2,580.00
WCH-Chlorine-AQ	4500-ClG/4500-ClG (Aqueous) - Free Chlorine	10	28.00	60	$1,680.00
WCH-Chlorine-AQ	4500-ClG/4500-ClG (Aqueous) - Total Residual Chlorin	10	28.00	60	$1,680.00
MET-200.7-AQ	200.7 (Aqueous) - 200.7 metals - Fe, Mn, Ca, Mg (4 Analytes)	15	106.00	60	$6,360.00
MCR-9223BPA-AQ	9223B-PA (Aqueous) - Coliforms in DW	5	30.00	60	$1,800.00
WCH-MBAS-AQ	Surfactants (MBAS)	10	350.00	60	$21,000.00
WCH-HARDNESS-AQ	Hardness By Calculation	15	10.00	60	$600.00
MET-200.8-AQ	Total Metals by ICP-MS (Aqueous) Cu (1 Analyte)	15	45.00	60	$2,700.00
MET-200.8-AQ	200.8 (Aqueous) - 200.8 Ca only (1 Analyte)	15	0.00	60	$0.00
WCH-ALK-AQ	2320B/2320B (Aqueous) - Total Alkalinity	10	0.00	60	$0.00
WCH-LANGELIER-AQ	2330B (Aqueous) - Langelier Index	15	102.00	60	$6,120.00
WCH-TDS-AQ	2540C/2540C (Aqueous) - TDS	10	0.00	60	$0.00
WCH-IC300.0-AQ	Anions by IC (Aqueous) - Sulfate (1 Analyte)	15	33.00	60	$1,980.00
WCH-TVSS-AQ	Total Volatile Suspended Solids	15	45.00	60	$2,700.00
MSC-A-001	200.7 - Fe, Mn Filter samples		25.00	60	$1,500.00
MET-200.7DIS-AQ	Dissolved Metals by ICP (Aqueous) - Fe, Mn (2 Analytes)	15	62.00	60	$3,720.00
SDP-A-001	Sample Disposal		2.50	600	$1,500.00
MSC-A-001	MIcroscopic Analysis and report		50.00	60	$3,000.00
				Total:	**$70,200.00**