

**NORTH BEACH WATER DISTRICT
PACIFIC COUNTY, WASHINGTON**

RESOLUTION NO. 11-2020

**A RESOLUTION OF THE BOARD OF COMMISSIONERS OF THE NORTH BEACH
WATER DISTRICT, PACIFIC COUNTY, WASHINGTON APPROVING A PROPOSAL
AND TASK ORDERS FOR PROFESSIONAL ENGINEERING SERVICES**

WHEREAS, on October 21, 2019 the Board adopted Resolution 15-2019 approving a contract for professional services with Gray and Osborne, Inc. to design a continuous chlorination system for a contract price of \$36,000; and

WHEREAS, the District has installed a temporary chlorination system to provide continuous disinfection to maintain a distribution system chlorine residual and

WHEREAS, the District has been operating the disinfection system as a full-scale pilot for continuous disinfection; and

WHEREAS, the Department of Health (DOH) requires a project report in order to approve the chlorination system as a permanent installation; and

WHEREAS, given the new directive from the DOH, the scope of work as originally contracted for has significantly changed, reducing the amount of the original contract's scope of work and the bid amount; and

WHEREAS, the District also operates a pressure filtration system to treat water from the North Wellfield; and

WHEREAS, the system utilizes a manganese dioxide filter media to remove iron, manganese, and arsenic from the groundwater; and

WHEREAS, the District would like to evaluate certain changes to improve the performance of the treatment system; and

WHEREAS, Gray & Osborne has proposed to provide the engineering services to assist the North Beach Water District with obtaining DOH approval for their new chlorination system and to complete a treatment pilot study for the North Wellfield as set forth in Exhibit A.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the North Beach Water District as follows:

Section 1. The Proposal and Task Orders for Professional Services (Exhibit A) to provide a report on the completed chlorination system to the Department of Health for \$8,900 and design perform and North Wellfield Field pilot study for \$9,400.

Section 2. Authorize and direct the District's General Manager to do any and all things

Resolution – Authorizing actions to protect the health and safety of employees and the public

necessary and to execute and deliver any and all documents which may be required or advisable in order to consummate the above referenced Proposal and Task Orders.

ADOPTED by the Board of Board of Commissioners of the North Beach Water District, Pacific County, Washington, at its regular meeting held on the 22nd day of June 2020.



Brian Sheldon, Position 1



Owen Brake, Position 2



Glenn Ripley, Position 3


**AMENDMENT NO. 1
TO
CONTRACT FOR PROFESSIONAL ENGINEERING SERVICES**

THIS AMENDMENT, by and between the North Beach Water District, Washington, hereinafter referred to as the Agency, and Gray & Osborne, Inc., hereinafter referred to as the Engineer, hereby modifies the contract for engineering services dated (by Agency) _____, for additional services related to the Chlorination System Design and NWF Treatment Pilot Study.

Gray & Osborne shall furnish work related to the chlorination system design and NWF treatment pilot study as indicated in the attached Exhibits A, B-1 and B-2.

IN WITNESS WHEREOF, the parties hereto have executed, or cause to be executed by their duly authorized officials, this AMENDMENT to the Contract for Engineering Services in duplicate on the respective dates indicated below.

GRAY & OSBORNE, INC.

By: 
(Signature)

Name: Michael B. Johnson, P.E., President
GRAY & OSBORNE, INC.

Date: 6/4/2020

"Equal Opportunity/Affirmative Action Employer"

NORTH BEACH WATER DISTRICT

By: 
(Signature)

Name: 
(Print)

Date: 7/1/2020

EXHIBIT "A"

SCOPE OF WORK

NORTH BEACH WATER DISTRICT CHLORINATION SYSTEM DESIGN AND NWF TREATMENT PILOT STUDY

PROJECT OVERVIEW

The North Beach Water District has installed a temporary chlorination system to provide continuous disinfection to maintain a distribution system chlorine residual. The District has been operating the disinfection system as a full-scale pilot for continuous disinfection. The Department of Health (DOH) requires a project report in order to approve the chlorination system as a permanent installation.

The North Beach Water District also operates a pressure filtration system to treat water from the North Wellfield. The system utilizes a manganese dioxide filter media to remove iron, manganese, and arsenic from the groundwater. The District would like to evaluate the following changes to improve the performance of the treatment system:

1. Inject ferric chloride upstream of the filters to improve treatment performance.
2. Replace the filter media to improve treatment performance and allow an increase in hydraulic loading rate.

Gray & Osborne proposes to provide the following engineering services to assist the North Beach Water District with obtaining DOH approval for their new chlorination system and to complete a treatment pilot study for the North Wellfield.

Task 1 – Chlorination System Design

1. Complete Project Report

This item will include completion of a project report in memo format (in accordance with WAC 249-290-110) to summarize the results of the full-scale pilot testing, identify design parameters, and describe a permanent disinfection system for the District. It is anticipated that the temporary chlorination system used in the full-scale pilot will be used to provide permanent chlorination for the water system. The project report will include discussion of the corrosion/water quality implications of maintaining a chlorine residual in the distribution system.

2. Prepare DBP Monitoring Plan

This item includes preparation of a DBP monitoring/sampling plan to include identification of two sampling locations within the District's distribution system and completion of DBP monitoring plan forms provided by DOH. This item will

include use of the District's water system hydraulic model to locate two sampling locations representing maximum water age.

3. Prepare Record Drawings and Construction Completion Report

This item includes completion of record drawings for the installed disinfection system and submission of a construction completion report to DOH.

Task 2 – NWF Treatment Pilot Study

1. Complete Pilot Protocol

This item will include completion of a pilot study protocol describing the materials and methods necessary to construct a pilot scale treatment system to implement the addition of ferric chloride and an increase in hydraulic loading rate (requiring different filter media). The protocol will be submitted to the Department of Health (DOH) for review and approval.

2. Complete Pilot Study

This item consists of completing a pilot study in accordance with the DOH approved pilot testing protocol. It is anticipated that District staff will procure and operate the pilot treatment unit and collect data according to the pilot protocol. The pilot treatment apparatus will consist of ferric chloride feed equipment, a vessel to provide contact time, and a filter vessel containing filtration media. It is anticipated that Katalox Plus and MTM filter media will be evaluated. MTM media is currently used in the filters.

3. Prepare Pilot Study Report

This item includes completion of a pilot study report. The pilot study report will include catalog and analysis of the data collected under Item 2. The pilot study report will be submitted to DOH for review and approval.

BUDGET

Based on the Scope of Work described above, the total estimated cost for engineering services for Task 1 is **\$8,900** as shown in the attached Exhibit B-1. The total estimated cost for engineering services for Task 2 is **\$9,400** as shown in the attached Exhibit B-2. The total estimated cost for engineering services relating to Task 1 and Task 2 is **\$18,300**.

SCHEDULE

Task 1 – Chlorination System Design

Notice to Proceed June 29, 2020
Complete Project Report August 21, 2020
Complete DBP Monitoring Plan August 21, 2020
Complete Record Drawings and Submit CCR August 21, 2020⁽¹⁾
(1) This date may be postponed if modifications to the temporary chlorination system are required.

Task 2 – NWF Treatment Pilot Study

Notice to Proceed June 29, 2020
Complete Pilot Protocol August 14, 2020
Begin Pilot Testing August 17, 2020
Complete Pilot Testing September 11, 2020
Complete Pilot Study Report October 30, 2020

DELIVERABLES

Deliverables will be provided in the following format:

- Project Report – three hard copies, electronic .pdf format
- Pilot Protocol – three hard copies, electronic .pdf format
- Pilot Study Report – three hard copies, electronic .pdf format

ASSUMPTIONS

1. All chlorine residual monitoring data will be provided by North Beach Water District.
2. All required water quality testing will be provided by North Beach Water District.
3. The chlorination system will be constructed by Water District personnel.
4. Procurement and installation of the pilot testing apparatus will be by District personnel.
5. All required water quality testing will be provided by North Beach Water District.

EXHIBIT "B-1"

ENGINEERING SERVICES
SCOPE AND ESTIMATED COST

North Beach Water District - Chlorination System Design

Tasks	Principal Hours	Project Manager Hours	Project Eng. Hours	CADD Technician Hours
1 Complete Project Report	1	16	24	4
2 Prepare DBP Monitoring Plan	1	4	4	2
3 Complete Record Drawings and Submit CCR		2	4	8
Hour Estimate:	2	22	32	14
Fully Burdened Billing Rate Range:*	\$135 to \$200	\$119 to \$200	\$119 to \$148	\$50 to \$132
Estimated Fully Burdened Billing Rate:**	\$170	\$140	\$125	\$95
Fully Burdened Labor Cost:	\$340	\$3,080	\$4,000	\$1,330

Total Fully Burdened Labor Cost:

\$ 8,750

Direct Non-Salary Cost:

Mileage & Expenses (Mileage @ current IRS rate)

\$ 150

TOTAL ESTIMATED COST:

\$ 8,900

* Actual labor cost will be based on each employee's actual rate. Estimated rates are for determining total estimated cost only. Fully burdened billing rates include direct salary cost, overhead, and profit.

EXHIBIT "B-2"

ENGINEERING SERVICES
SCOPE AND ESTIMATED COST

North Beach Water District - NWF Treatment Pilot Study

Tasks	Principal Hours	Project Manager Hours	Project Eng. Hours	CADD Technician Hours
1 Complete Pilot Protocol	1	4	10	4
2 Complete Pilot Testing	1	10	10	
3 Complete Pilot Testing Report	1	10	20	
Hour Estimate:	3	24	40	4
Fully Burdened Billing Rate Range:*	\$135 to \$200	\$119 to \$200	\$119 to \$148	\$50 to \$132
Estimated Fully Burdened Billing Rate:*	\$170	\$140	\$125	\$95
Fully Burdened Labor Cost:	\$510	\$3,360	\$5,000	\$380

Total Fully Burdened Labor Cost:

\$ 9,250

Direct Non-Salary Cost:

Mileage & Expenses (Mileage @ current IRS rate)

\$ 150

TOTAL ESTIMATED COST:

\$ 9,400

* Actual labor cost will be based on each employee's actual rate. Estimated rates are for determining total estimated cost only. Fully burdened billing rates include direct salary cost, overhead, and profit.